

APPENDIX
to
Additional study
regarding birds and bats impact assessment of the
Dorobantu –Topolog wind farm



PREPARED BY : S.C. AS ORIMEX NEW S.R.L.

ORDERED BY: S.C. LAND POWER S.R.L.

2013

INTELLECTUAL PROPERTY:

**This material cannot be reproduced or used without the written approval of the author.
Beneficiary may publish this study on its website and on the website of the institution
which is funding the project.**

CONTENT

| | |
|--|-----|
| APPENDIX 1. EXCERPTS FROM THE MONITORING DATA SHEETS (January 2012 - February 2013)..... | 2 |
| APPENDIX 2. EXCERPTS FROM THE MONITORING DATA SHEETS (March 2013 - June 2013)..... | 55 |
| APPENDIX 3. DESCRIPTIONS OF THE SPECIES LISTED IN STANDARD DATA FORM OF SPA PADUREA BABADAG..... | 77 |
| APPENDIX 4. DESCRIPTIONS OF THE SPECIES LISTED IN ANN. 4 B OF GEO 57/2007..... | 125 |
| ANNEX 5. DESCRIPTIONS OF THE MIGRATORY SPECIES LISTED IN ANNEX 1 OF LAW 13/1998 | 142 |
| APPENDIX 6. DESCRIPTIONS OF THE TARGET BAT SPECIES..... | 143 |
| APPENDIX 7. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2006..... | 159 |
| APPENDIX 8. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2007..... | 160 |
| APPENDIX 9. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2008..... | 161 |
| APPENDIX 10. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2009..... | 162 |
| APPENDIX 11. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2010..... | 163 |
| APPENDIX 12. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2011..... | 164 |
| APPENDIX 13. CALCULATION OF COLLISION RISK | 165 |

**APPENDIX 1. EXCERPTS FROM THE MONITORING DATA SHEETS (January
2012 - February 2013)**

14 JANUARY 2012

Wind direction and velocity: NW, 2 m/s

Temperature: +5 °C

Atmospheric pressure: 756 mmHg

Sky: cloudy

Active search in the wind farm perimeter

General observations

Start time: 12.00

Finish time :16.30

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|------------------|
| 1. | 12:25 | <i>Circus cyaneus</i> | 1 | 50 | 250 | NE |
| 2. | 12:47 | <i>Passer domesticus</i> | 64 | 130 | 40 | On the ground |
| 3. | 13:10 | <i>Corvus cornix</i> | 26 | 20 | 5 | in trees |
| 4. | 13:30 | <i>Corvus frugilegus</i> | 3 | 50 | 6 | On the ground |
| 5. | 13:31 | <i>Corvus monedula</i> | 5 | 20 | 0 | On the ground |
| 6. | 13:55 | <i>Carduelis carduelis</i> | 34 | 150 | 80 | NE |
| 7. | 14:20 | <i>Corvus cornix</i> | 17 | 300 | 150 | NE |
| 8. | 14:31 | <i>Corvus frugilegus</i> | 18 | 100 | 150 | S |
| 9. | 14:32 | <i>Passer montanus</i> | 28 | 80 | 30 | N |
| 10. | 14:35 | <i>Corvus monedula</i> | 11 | 50 | 100 | SE |
| 11. | 14:55 | <i>Pica pica</i> | 13 | 30 | 20 | in bushes |
| 12. | 14:55 | <i>Dentrocopos medius</i> | 2 | 20 | 4 | in trees |
| 13. | 15:01 | <i>Sturnus vulgaris</i> | 95 | 100 | 100 | in bushes |
| 14. | 15:02 | <i>Buteo buteo</i> | 1 | 150 | 100 | N |
| 15. | 15:05 | <i>Dentrocopos major</i> | 2 | 100 | 40 | SW |
| 16. | 15:35 | <i>Dentrocopos medius</i> | 1 | 100 | 20 | S |
| 17. | 15:45 | <i>Buteo buteo</i> | 1 | 200 | 8 | in trees |
| 18. | 16:01 | <i>Corvus cornix</i> | 18 | 40 | 5 | in trees |
| 19. | 16:15 | <i>Buteo rufinus</i> | 1 | 230 | 200 | N |

27 FEBRUARY 2012

Wind direction and velocity: NNW, 5m/s

Temperature: +4°C

Atmospheric pressure: 760 mmHg

Sky: cloudy

Active search in the wind farm perimeter

General observations

Start time: 12.30

Finish time : 16.30

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:45 | <i>Corvus frugilegus</i> | 8 | 50 | 200 | SE |
| 2 | 13:06 | <i>Corvus monedula</i> | 14 | 30 | 0 | NE |
| 3 | 13:25 | <i>Buteo rufinus</i> | 1 | 200 | 150 | NE |
| 4 | 14:02 | <i>Circus cyaneus</i> | 2 | 40 | 10 | On the ground |
| 5 | 14:03 | <i>Alauda arvensis</i> | 3 | 100 | 200 | N |
| 6 | 14:15 | <i>Corvus cornix</i> | 22 | 30 | 0 | N |
| 7 | 14:33 | <i>Carduelis cannabina</i> | 8 | 50 | 50 | SE |
| 8 | 14:55 | <i>Corvus frugilegus</i> | 36 | 40 | 10 | On the ground |
| 9 | 15:20 | <i>Carduelis carduelis</i> | 45 | 50 | 150 | On the ground |
| 10 | 15:20 | <i>Corvus monedula</i> | 11 | 10 | 0 | N |
| 11 | 15:35 | <i>Buteo buteo</i> | 2 | 150 | 150 | On the ground |
| 12 | 16:15 | <i>Dendrocopos medius</i> | 1 | 60 | 20 | in bushes |

13 MARCH 2012

Wind direction and velocity: NNW, 4m/s

Temperature: +9°C

Atmospheric pressure: 765 mmHg

Sky: clear

VP1

Start time: 12:21

Finish time: 18:03

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|------------------|--------------------|--|-------------------|------------------|
| 1 | 13:01 | <i>Pica pica</i> | 1 | 175 | - | on the ground |

| | | | | | | |
|----|-------|--------------------------|----|-----|-------|------------------|
| 2 | 13:02 | <i>Circus cyaneus</i> | 1 | 300 | 250 | N |
| 3 | 14:10 | <i>Corvus cornix</i> | 2 | 200 | - | on the ground |
| 4 | 14:56 | <i>Corvus frugilegus</i> | 1 | 200 | - | on the ground |
| 5 | 15:10 | <i>Galerida cristata</i> | 2 | 150 | - | on the ground |
| 6 | 15:13 | <i>Pica pica</i> | 1 | 150 | - | on the ground |
| 7 | 15:20 | <i>Miliaria calandra</i> | 1 | 150 | 10-15 | W |
| 8 | 16:20 | <i>Passer domesticus</i> | 15 | 250 | 15-20 | NE-E |
| 9 | 16:40 | <i>Pica pica</i> | 2 | 250 | - | on the ground |
| 10 | 17:02 | <i>Sturnus vulgaris</i> | 41 | 200 | 7 | on the ground, E |

VP2

Start time: 12:41

Finish time: 18:15

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:50 | <i>Buteo buteo</i> | 1 | 400 | 200 | N |
| 2 | 13:35 | <i>Carduelis carduelis</i> | 5 | 250 | 20-25 | SW-NE |
| 3 | 13:45 | <i>Galerida cristata</i> | 1 | 200 | - | on the ground |
| 4 | 14:02 | <i>Corvus cornix</i> | 2 | 100 | - | on the ground |
| 5 | 14:15 | <i>Pica pica</i> | 1 | 60 | 15 | E-S |
| 6 | 14:32 | <i>Pica pica</i> | 2 | 80 | 15 | E-SW |
| 7 | 14:45 | <i>Corvus frugilegus</i> | 4 | 75 | | on the ground |
| 8 | 15:10 | <i>Dendrocopos major</i> | 1 | 250 | 25 | N-E |
| 9 | 15:31 | <i>Falco tinnunculus</i> | 1 | 250 | 100 | N-E |
| 10 | 15:48 | <i>Galerida cristata</i> | 1 | 150 | - | on the ground |
| 11 | 16:00 | <i>Pica pica</i> | 2 | 100 | 10-15 | SW |
| 12 | 16:05 | <i>Carduelis carduelis</i> | 9 | 150 | 15-20 | E-W |
| 13 | 16:07 | <i>Passer domesticus</i> | 11 | 100 | 10-15 | NE-SW |
| 14 | 16:10 | <i>Pica pica</i> | 2 | 250 | 40 | N-SW |
| 15 | 16:15 | <i>Galerida cristata</i> | 2 | 100 | 10 | SW-E |
| 16 | 16:32 | <i>Perdix perdix</i> | 7 | 70 | - | on the ground |
| 17 | 17:02 | <i>Pica pica</i> | 2 | 50 | - | on the ground |
| 18 | 17:15 | <i>Sturnus vulgaris</i> | 15 | 80 | 15-20 | E-W |

VP3

Start time: 13:06

Finish time: 18:31

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|--------------------------------|
| 1 | 13:45 | <i>Alauda arvensis</i> | 2 | 215 | 15 | SW-NE |
| 2 | 14:10 | <i>Corvus cornix</i> | 6 | 220 | - | Agricultural terrain |
| 3 | 14:45 | <i>Pica pica</i> | 4 | 150 | - | On the ground |
| 4 | 15:02 | <i>Corvus frugilegus</i> | 13 | 100; 200 | 0;10 | On the ground; E-SW |
| 5 | 15:15 | <i>Galerida cristata</i> | 2 | 150 | 8 | On the ground, taking off , SW |
| 6 | 15:23 | <i>Passer domesticus</i> | 16 | 200 | 12 | SV-V |
| 7 | 16:01 | <i>Pica pica</i> | 1 | 250 | - | On the ground |
| 8 | 16:15 | <i>Perdix perdix</i> | 5 | 217 | - | On the ground |

| | | | | | | (W) |
|---|-------|------------------|---|-----|---|---------------------------------|
| 9 | 16:32 | <i>Pica pica</i> | 1 | 230 | - | On the ground in search of food |

20 MARCH

Wind direction and velocity: N, 4m/s

Temperature: +15°C

Atmospheric pressure: 773 mmHg

Sky: clear

VP1

Start time: 12:07

Finish time: 18:45

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|------------------------------------|
| 1 | 12:59 | <i>Alauda arvensis</i> | 2 | 20 | - | On the ground |
| 2 | 13:10 | <i>Buteo buteo</i> | 1 | 200 | - | On the ground |
| 3 | 13:20 | <i>Calandrella brachydactyla</i> | 1 | 150 | 10 | S-N |
| 4 | 13:26 | <i>Pica pica</i> | 1 | 100 | - | On the ground |
| 5 | 14:02 | <i>Miliaria calandra</i> | 1 | 150 | - | On the ground |
| 6 | 14:03 | <i>Galerida cristata</i> | 4 | 100; 200 | 15-20 | NE-SE; NNE-S |
| 7 | 14:10 | <i>Carduelis carduelis</i> | 8 | 250 | 20-25 | E-W |
| 8 | 14:20 | <i>Falco tinnunculus</i> | 1 | 250 | 100 | N-S |
| 9 | 14:23 | <i>Calandrella brachydactyla</i> | 1 | 100 | - | On the ground |
| 10 | 14:25 | <i>Fringilla coelebs</i> | 1 | 300 | 5 m | W |
| 11 | 15:20 | <i>Calandrella brachydactyla</i> | 1 | 200 | 15-20 | Vertical flight |
| 12 | 15:35 | <i>Miliaria calandra</i> | 1 | 120 | 20-25 | Vertical flight |
| 13 | 16:00 | <i>Fringilla coelebs</i> | 1 | 100 | 15-20 | E-W |
| 14 | 16:20 | <i>Passer montanus</i> | 8 | 150 | 20-25 | N-S |
| 15 | 17:10 | <i>Calandrella brachydactyla</i> | 2 | 70 | 20-25 | On the ground (E), vertical flight |
| 16 | 17:20 | <i>Phasianus colchicus</i> | 1 | 300 | 10 | N-W |
| 17 | 17:35 | <i>Pica pica</i> | 3 | 250 | 10 | N-W |

VP2

Start time: 12:33

Finish time: 17:11

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|-------------------|
| 1 | 12:40 | <i>Buteo buteo</i> | 1 | 90 | - | On the ground (E) |
| 2 | 12:45 | <i>Calandrella brachydactyla</i> | 1 | 50 | - | On the ground |
| 3 | 13:00 | <i>Carduelis chloris</i> | 2 | 80 | - | On the ground |

| | | | | | | |
|----|-------|----------------------------|---|-----|-------|---|
| | | | | | | (W) |
| 4 | 13:12 | <i>Buteo buteo</i> | 1 | 300 | 300 | N |
| 5 | 13:25 | <i>Corvus monedula</i> | 9 | 300 | 20-25 | N-E |
| 6 | 13:55 | <i>Falco tinnunculus</i> | 1 | 350 | 150 | N-E-W-N |
| 7 | 14:05 | <i>Garrulus glandarius</i> | 1 | 150 | - | In tree (NE) |
| 8 | 14:59 | <i>Galerida cristata</i> | 4 | 100 | - | On the ground (SW), flying toward the W |
| 9 | 15:15 | <i>Miliaria calandra</i> | 1 | 100 | - | On the ground |
| 10 | 15:35 | <i>Passer domesticus</i> | 4 | 150 | 10-15 | W-E |
| 11 | 16:10 | <i>Pica pica</i> | 1 | 100 | 10-15 | E |

VP3

Start time: 12:57

Finish time: 17:23

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|-------------------------------------|
| 1 | 13:12 | <i>Alauda arvensis</i> | 1 | 65 | - | On the ground |
| 2 | 13:25 | <i>Calandrella brachydactyla</i> | 1 | 80 | 20 | Vertical flight |
| 3 | 13:55 | <i>Corvus frugilegus</i> | 16 | 250 | 8 | NE-SE |
| 4 | 14:22 | <i>Passer domesticus</i> | 12 | 250-300 | 10 | NE-SE |
| 5 | 14:34 | <i>Pica pica</i> | 2 | 200 | | On the ground |
| 6 | 15:01 | <i>Galerida cristata</i> | 1 | 100 | 10-15 | E-SW |
| 7 | 15:10 | <i>Miliaria calandra</i> | 1 | 80 | 20-25 | S |
| 8 | 15:45 | <i>Pica pica</i> | 1 | 100 | 10-13 | On the ground, flying toward the NE |
| 9 | 16:55 | <i>Passer domesticus</i> | 5 | 150 | 10-15 | W |
| 10 | 17:20 | <i>Pica pica</i> | 1 | 100 | | On the ground |

25 MARCH

Wind direction and velocity: SSW, 7m/s

Temperature: +19°C

Atmospheric pressure: 764 mmHg

Sky: clear

VP1

Start time: 12:21

Finish time: 16:42

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:12 | <i>Buteo buteo</i> | 1 | 350 | 300 | N-NE-N |
| 2 | 13:00 | <i>Calandrella brachydactyla</i> | 1 | 200 | - | On the ground |
| 3 | 13:15 | <i>Miliaria calandra</i> | 1 | 200 | - | On the ground |

| | | | | | | |
|----|-------|--------------------------|----|-----|------|------------------------------|
| 4 | 13:33 | <i>Pica pica</i> | 1 | 250 | - | On the ground (NNE) |
| 5 | 13:45 | <i>Upupa epops</i> | 1 | 350 | - | In tree (W) |
| 6 | 14:02 | <i>Corvus cornix</i> | 5 | 400 | 7-10 | SW-NE |
| 7 | 14:15 | <i>Upupa epops</i> | 1 | 250 | - | On the ground (W) |
| 8 | 14:23 | <i>Corvus frugilegus</i> | 40 | 400 | - | On the ground |
| 9 | 14:34 | <i>Pica pica</i> | 1 | 400 | - | On the ground |
| 10 | 14:55 | <i>Galerida cristata</i> | 2 | 450 | - | On the ground |
| 11 | 15:02 | <i>Upupa epops</i> | 1 | 500 | 8-10 | Agricultural field, flying N |
| 12 | 15:15 | <i>Miliaria calandra</i> | 1 | 150 | - | On the ground |
| 13 | 15:28 | <i>Miliaria calandra</i> | 1 | 250 | - | On the ground, flying W |

VP2

Start time: 12:26

Finish time: 17:03

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|---|
| 1 | 12:31 | <i>Falco tinnunculus</i> | 1 | 650 | 100 | N-E-S-N |
| 2 | 12:35 | <i>Buteo rufinus</i> | 1 | 650 | 300 | N-E-S-N |
| 3 | 12:38 | <i>Upupa epops</i> | 1 | 150 | - | On the ground (W) |
| 4 | 13:00 | <i>Pica pica</i> | 1 | 250 | - | In shrubs (E) |
| 5 | 13:10 | <i>Calandrella brachydactyla</i> | 1 | 250 | 20 m | E |
| 6 | 13:20 | <i>Corvus cornix</i> | 4 | 300 | - | Near road (S-E) |
| 7 | 13:33 | <i>Falco tinnunculus</i> | 1 | 300 | 70 | N |
| 8 | 13:55 | <i>Upupa epops</i> | 1 | 300 | 10 | W-N |
| 9 | 14:02 | <i>Galerida cristata</i> | 4 | 250 | 10 | E-N |
| 10 | 14:25 | <i>Upupa epops</i> | 2 | 200 | - | On the ground |
| 11 | 14:55 | <i>Calandrella brachydactyla</i> | 2 | 150 | 20-25 | Vertical flight, singing; on the ground |
| 12 | 15:15 | <i>Passer montanus</i> | 9 | 250 | - | On the ground (S-E) |
| 13 | 15:33 | <i>Galerida cristata</i> | 1 | 300 | - | On the ground |
| 14 | 16:01 | <i>Pica pica</i> | 1 | 250 | - | W-SE |
| 15 | 16:25 | <i>Galerida cristata</i> | 1 | 30 | - | W |

VP3

Start time: 12:45

Finish time: 17:36

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|-------------------|
| 1 | 12:59 | <i>Calandrella brachydactyla</i> | 1 | 250 | - | On the ground (W) |
| 2 | 13:13 | <i>Corvus cornix</i> | 1 | 200 | 15-20 | E-W, singing |

| | | | | | | |
|----|-------|--------------------------|----|-----|-------|---|
| 3 | 13:20 | <i>Upupa epops</i> | 1 | 300 | 4 | In flight |
| 4 | 14:25 | <i>Passer montanus</i> | 8 | 400 | 10-15 | S-W |
| 5 | 14:31 | <i>Corvus frugilegus</i> | 14 | 400 | 15-20 | S-W |
| 6 | 14:45 | <i>Miliaria calandra</i> | 1 | 350 | - | On the ground |
| 7 | 14:55 | <i>Upupa epops</i> | 1 | 300 | - | On the ground (N) |
| 8 | 15:59 | <i>Corvus cornix</i> | 1 | 350 | - | On the ground |
| 9 | 16:03 | <i>Passer montanus</i> | 4 | 350 | 12-25 | W |
| 10 | 16:12 | <i>Corvus cornix</i> | 1 | 250 | - | On the ground |
| 11 | 16:15 | <i>Miliaria calandra</i> | 1 | 200 | 20-25 | Vertical flight, singing |
| 12 | 16:20 | <i>Pica pica</i> | 2 | 300 | 20 | On the ground, taking off W; SW |
| 13 | 16:35 | <i>Passer domesticus</i> | 1 | 250 | 20-25 | S - taking off |
| 14 | 16:45 | <i>Passer montanus</i> | 5 | 300 | 20-25 | W-E, sitting in agricultural field, flying SE |
| 15 | 17:10 | <i>Pica pica</i> | 1 | 250 | - | On the ground |

10 APRIL 2012

Wind direction and velocity: NNW, 4m/s

Temperature: +12 °C

Atmospheric pressure: 760 mmHg

Sky: clear

VP1

Start time: 14:31

Finish time: 18:03

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|----------------------------|
| 1 | 14:38 | <i>Buteo rufinus</i> | 1 | 50 | 250 | NW |
| 2 | 14:42 | <i>Calandrella brachydactyla</i> | 1 | 15 | 0 - 40 | On the ground |
| 3 | 15:07 | <i>Upupa epops</i> | 1 | 60 | 20 | NE |
| 4 | 15:38 | <i>Pica pica</i> | 1 | 20 | 30 | W |
| 5 | 16:24 | <i>Corvus cornix</i> | 6 | 300 | - | On the ground |
| 6 | 16:24 | <i>Corvus frugilegus</i> | 27 | 300 | - | On the ground, in movement |
| 7 | 16:41 | <i>Pica pica</i> | 2 | 10 | 15 | N |
| 8 | 17:11 | <i>Galerida cristata</i> | 1 | 30 | - | On the ground |
| 9 | 17:56 | <i>Pica pica</i> | 1 | 200 | 40 | SE |

VP2

Start time: 14:44

Finish time: 18:12

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|------------------|
| 1 | 15:13 | <i>Carduelis carduelis</i> | 4 | 10 | 5 | N |
| 2 | 15:46 | <i>Pica pica</i> | 2 | 370 | 20 | SE |
| 3 | 16:08 | <i>Sturnus vulgaris</i> | 10 | 650 | 40 | NE |
| 4 | 17:12 | <i>Corvus cornix</i> | 2 | 50 | 10 | W |
| 5 | 17:29 | <i>Falco tinnunculus</i> | 1 | 150 | 50-100 | SW |
| 6 | 17:34 | <i>Lanius minor</i> | 1 | 250 | 2 | SE-N |
| 7 | 17:45 | <i>Oenanthe oenanthe</i> | 1 | 20 | - | On the ground |
| 8 | 17:47 | <i>Passer domesticus</i> | 4 | 80 | 5 | E |
| 9 | 17:53 | <i>Oenanthe oenanthe</i> | 1 | 40 | - | On the ground |

VP3

Start time: 14:56

Finish time: 18:22

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|--------------------------------|
| 1 | 14:57 | <i>Calandrella brachydactyla</i> | 1 | 50 | 0-15 | vertical flight, singing |
| 2 | 15:03 | <i>Miliaria calandra</i> | 1 | 25 | 2 | NE |
| 3 | 15:46 | <i>Corvus cornix</i> | 1 | 150 | 5-7 | E |
| 4 | 15:48 | <i>Pica pica</i> | 1 | 200 | - | On the ground |
| 5 | 16:24 | <i>Corvus frugilegus</i> | 1 | 400 | - | On the ground |
| 6 | 16:31 | <i>Hirundo rustica</i> | 1 | 70 | 1-50 | N-W-S |
| 7 | 17:12 | <i>Phasianus colchicus</i> | 1 | 300 | - | On the ground, near the forest |
| 8 | 17:39 | <i>Oenanthe oenanthe</i> | 1 | 20 | 0;5 | N |
| 9 | 18:10 | <i>Passer domesticus</i> | 4 | 60 | 2 | SE |

12 APRIL

Wind direction and velocity: SSE, 8 m/s

Temperature +13 °C

Atmospheric pressure: 755 mmHg

Sky: mostly clear

Transect 1

Start time: 8:32

Finish time: 11:17

| Obs. no | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|---------|------|-------------------------------|----------------------------|--------------------|----------|---|
| 1 | 8:34 | 43 m | <i>Garrulus glandarius</i> | 2 | Forest | In flight and stationary on young trees |
| 2 | 8:37 | 85 m | <i>Lanius minor</i> | 1 | Shrubs | Stationary |

| | | | | | | |
|----|--------|----------|----------------------------------|---|-----------|---|
| | | | | | | in shrubs |
| 3 | 8:41 | 158 m | <i>Alauda arvensis</i> | 1 | Grassland | In flight, singing |
| 4 | 8:43 | 182 m | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight, singing |
| 5 | 8:44 | 191 m | <i>Pica pica</i> | 1 | Grassland | in flight |
| 6 | 8:49 | 220 m | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight, singing |
| 7 | 8:55 | 251 m | <i>Carduelis cannabina</i> | 5 | Grassland | In flight. compact group of birds |
| 8 | 8:59 | 314 m | <i>Lanius collurio</i> | 1 | Grassland | In flight |
| 9 | 9:00 | 327 m | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight |
| 10 | 9:02 | 351 m | <i>Miliaria calandra</i> | 1 | Grassland | Stationary in shrubs |
| 11 | 9:04 | 371 m | <i>Alauda arvensis</i> | 2 | Grassland | On the ground and in flight |
| 12 | 9: 05 | 382 m | <i>Oenanthe oenanthe</i> | 4 | Grassland | On the ground |
| 13 | 9:06 | 419 m | <i>Melanocorypha calandra</i> | 1 | Grassland | On the ground. Observing from a mound |
| 14 | 9:09 | 494 m | <i>Perdix perdix</i> | 7 | Grassland | Flying from their hiding places |
| 15 | 9:14 | 578 m | <i>Upupa epops</i> | 1 | Grassland | In shrubs |
| | 9:17 | 634 m | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight |
| 16 | 9:19 | 653 m | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight |
| 17 | 9:20 | 678 m | <i>Pica pica</i> | 4 | Grassland | In flight |
| 18 | 9:22 | 701 m | <i>Alauda arvensis</i> | 1 | Grassland | In flight, singing |
| 19 | 9:25 | 757 m | <i>Melanocorypha calandra</i> | 2 | Grassland | On the ground |
| 20 | 9:27 | 835 m | <i>Pica pica</i> | 2 | Grassland | In flight |
| 21 | 9:31 | 923 m | <i>Miliaria calandra</i> | 1 | Grassland | In flight, at low heights |
| 22 | 9:38 | 1,075 km | <i>Calandrella brachydactyla</i> | 2 | Grassland | In flight, singing |
| 23 | 9:44 | 1,19 km | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight, singing |
| 24 | 10:01 | 1,49 km | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight, singing |
| 25 | 10:18 | 1,85 km | <i>Lanius minor</i> | 1 | Grassland | In shrubs |
| 26 | 10:19 | 1,88 km | <i>Upupa epops</i> | 1 | Grassland | In flight |
| 27 | 10:25 | 2,01 km | <i>Hirundo rustica</i> | 7 | Grassland | They hunt at low heights in group |
| 28 | 10:39 | 2,29 km | <i>Miliaria calandra</i> | 2 | Grassland | In flight |
| 29 | 10:57 | 2,58 km | <i>Corvus coronix</i> | 1 | Grassland | In flight towards the agricultural terrains |
| 30 | 10: 59 | 2,63 km | <i>Pica pica</i> | 2 | Grassland | In flight |

Transect 2

Start time: 8:20

Finish time: 10:39

| Obs. No. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|--------------------------------|--------------------|-----------|-------------------------------------|
| 1 | 8:24 | 51 m | <i>Galerida cristata</i> | 3 | Grassland | On the ground. In search of food |
| 2 | 8:29 | 137m | <i>Miliaria calandra</i> | 1 | Grassland | In shrubs |
| 3 | 8:36 | 207 m | <i>Alauda arvensis</i> | 1 | Arable | In flight, singing |
| 4 | 8:43 | 312 m | <i>Melanochorypha calandra</i> | 1 | Grassland | In flight, close to ground level |
| 5 | 8:57 | 420 m | <i>Calandrella</i> | 1 | Arable | In flight, singing |

| | | | | | | |
|----|-------|---------|----------------------------------|---|-----------|--|
| | | | <i>brachydactyla</i> | | | |
| 6 | 9:04 | 482 m | <i>Calandrella brachydactyla</i> | 4 | Arable | In flight |
| 7 | 9:13 | 621 m | <i>Corvus frugilegus</i> | 2 | Arable | On the ground. In search of food |
| 8 | 9:15 | 703 m | <i>Alauda arvensis</i> | 1 | Grassland | In flight, singing |
| 9 | 9:18 | 776 m | <i>Passer montanus</i> | 6 | Grassland | Compact flock, in flight |
| 10 | 9:34 | 1,21 km | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 11 | 9:47 | 1,47 km | <i>Calandrella brachydactyla</i> | 2 | Arable | In flight |
| 12 | 9: 52 | 1,61 km | <i>Pica pica</i> | 2 | Arable | In flight |
| 13 | 9: 55 | 1,74 km | <i>Carduelis carduelis</i> | 8 | Arable | Flock in flight |
| 14 | 9: 59 | 1,86 km | <i>Calandrella brachydactyla</i> | 1 | Arable | On the ground |
| 15 | 10:06 | 2,14 km | <i>Calandrella brachydactyla</i> | 4 | Arable | In flight, singing |
| 16 | 10:12 | 2,3 km | <i>Dendrocopos major</i> | 2 | forest | Pair in flight, at the level of the shrubs |
| 17 | 10:15 | 2,44 km | <i>Dendrocopos medius</i> | 1 | forest | Stationary |
| 18 | 10:27 | 2,7 km | <i>Fringilla coelebs</i> | 1 | forest | Stationary, singing |

Transect 3

Start time: 8:06

Finish time: 11:42

| Obs. No. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|----------------------------------|--------------------|-----------|---|
| 1 | 8:08 | 53 m | <i>Pica pica</i> | 2 | Grassland | On the ground. |
| 2 | 8:10 | 92 | <i>Alauda arvensis</i> | 1 | Grassland | In flight, singing |
| 3 | 8:13 | 168 | <i>Lanius minor</i> | 2 | Grassland | Stationary in shrubs |
| 4 | 8:16 | 223 m | <i>Alauda arvensis</i> | 1 | Grassland | On the ground. |
| 5 | 8:20 | 298 m | <i>Miliaria calandra</i> | 1 | Grassland | In flight |
| 6 | 8:21 | 307 m | <i>Miliaria calandra</i> | 1 | Grassland | In flight |
| 7 | 8:23 | 348 m | <i>Oenanthe oenanthe</i> | 3 | Grassland | On the ground. 1 male and 2 females |
| 8 | 8:27 | 398 m | <i>Passer montanus</i> | 14 | Grassland | In flight |
| 9 | 8:34 | 528 m | <i>Galerida cristata</i> | 1 | Grassland | On the ground. |
| 10 | 8:37 | 577 m | <i>Miliaria calandra</i> | 1 | Grassland | Stationary in shrubs |
| 11 | 8:39 | 604 m | <i>Miliaria calandra</i> | 3 | Grassland | Stationary in shrubs |
| 12 | 8:44 | 723 m | <i>Galerida cristata</i> | 4 | Grassland | On the ground and in flight |
| 13 | 8:46 | 786 m | <i>Oenanthe oenanthe</i> | 1 | Grassland | On the ground. |
| 14 | 8:47 | 823 m | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight |
| 15 | 8:48 | 844 m | <i>Lanius minor</i> | 2 | Grassland | In flight through shrubs |
| 16 | 8:53 | 977 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight, singing |
| 17 | 8:57 | 1,06 km | <i>Corvus monedula</i> | 17 | Arable | On the ground, following |

| | | | | | | |
|----|-------|---------|----------------------------------|----|-----------|-----------------------------|
| | | | | | | agricultural machinery |
| 18 | 8:58 | 1,1 km | <i>Oenanthe oenanthe</i> | 1 | Grassland | On the ground |
| 19 | 8:58 | 1,12 km | <i>Lanius collurio</i> | 1 | Grassland | In flight |
| 20 | 9:03 | 1,24 km | <i>Oenanthe oenanthe</i> | 2 | Grassland | In flight |
| 21 | 9:07 | 1,35 km | <i>Alauda arvensis</i> | 1 | Grassland | On the ground |
| 22 | 9:11 | 1,46 km | <i>Oenanthe oenanthe</i> | 2 | Grassland | On the ground |
| 23 | 9:12 | 1,5 km | <i>Carduelis chloris</i> | 9 | Grassland | Group. Stationary in shrubs |
| 24 | 9:17 | 1,59 km | <i>Pica pica</i> | 1 | Grassland | In flight |
| 25 | 9:17 | 1,6 km | <i>Galerida cristata</i> | 1 | Grassland | On the ground |
| 26 | 9:28 | 1,85 km | <i>Passer montanus</i> | 4 | Arable | In flight |
| 27 | 9:32 | 1,91 km | <i>Calandrella brachydactyla</i> | 1 | Arable | On the ground |
| 28 | 9:34 | 1,98 km | <i>Pica pica</i> | 3 | Arable | In flight |
| 29 | 9:39 | 2,12 km | <i>Corvus frugilegus</i> | 23 | Arable | On the ground |
| 30 | 9:39 | 2,12 km | <i>Corvus cornix</i> | 8 | Arable | On the ground |
| 31 | 9:51 | 2,4 km | <i>Miliaria calandra</i> | 1 | Grassland | In flight |
| 32 | 10:06 | 2,75 km | <i>Buteo rufinus</i> | 1 | Grassland | Glide in large circles |
| 33 | 10:07 | 2,8 km | <i>Carduelis carduelis</i> | 4 | Grassland | In flight |
| 34 | 10:16 | 3,05 km | <i>Lanius minor</i> | 1 | shrubs | Stationary |
| 35 | 10:29 | 3,3 km | <i>Galerida cristata</i> | 1 | Grassland | In flight |
| 36 | 10:30 | 3,37 km | <i>Merops apiaster</i> | 4 | shrubs | Stationary and in flight |
| 37 | 10:37 | 3,52 km | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight, singing |
| 38 | 10:37 | 3,58 km | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight, singing |
| 39 | 10:54 | 3,96 km | <i>Dendrocopos medius</i> | 2 | forest | pair in flight |
| 40 | 11:08 | 4.3 km | <i>Upupa epops</i> | 1 | forest | In flight |
| 41 | 11:22 | 4.61 km | <i>Dendrocopos medius</i> | 1 | forest | Stationary |

Transect 4

Start time: 7:54

Finish time: 10:06

| Obs. No. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|----------------------------------|--------------------|-----------|-------------------------|
| 1 | 7:58 | 92 m | <i>Passer domesticus</i> | 15 | Arable | In flight at low height |
| 2 | 8:01 | 134 m | <i>Passer domesticus</i> | 9 | Arable | In flight |
| 3 | 8:15 | 335 m | <i>Pica pica</i> | 1 | Arable | In flight |
| 4 | 8:17 | 370 m | <i>Galerida cristata</i> | 1 | Arable | On the ground |
| 5 | 8:18 | 428 m | <i>Miliaria calandra</i> | 1 | Grassland | On the ground |
| 6 | 8:18 | 434 m | <i>Pica pica</i> | 1 | Grassland | In flight |
| 7 | 8:19 | 451 m | <i>Oenanthe oenanthe</i> | 4 | Grassland | On the ground |
| 8 | 8:23 | 546 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 9 | 8:24 | 553 m | <i>Pica pica</i> | 1 | Arable | On the ground |
| 10 | 8:24 | 650 m | <i>Galerida cristata</i> | 2 | Arable | In flight |
| 11 | 8:27 | 724 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 12 | 8:31 | 786 m | <i>Pica pica</i> | 2 | Arable | In flight |
| 13 | 8:38 | 940 m | <i>Upupa epops</i> | 1 | Arable | In flight |
| 14 | 8:47 | 1,17 km | <i>Calandrella</i> | 1 | Arable | On the ground |

| | | | | | | |
|----|-------|---------|--------------------------------------|----|-----------|--------------------------|
| | | | <i>brachydactyla</i> | | | and in flight |
| 15 | 8:59 | 1,47 km | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight, singing |
| 16 | 9:06 | 1,64 km | <i>Pica pica</i> | 2 | Arable | In flight |
| 17 | 9:08 | 1,68 km | <i>Passer domesticus</i> | 18 | Arable | On the ground |
| 18 | 9:08 | 1,68 km | <i>Passer montanus</i> | 9 | Arable | On the ground |
| 19 | 9:14 | 1,75 km | <i>Pica pica</i> | 1 | Arable | In flight |
| 20 | 9:51 | 2,56 km | <i>Carduelis cannabina</i> | 7 | Grassland | In flight |
| 21 | 10:11 | 2,85 km | <i>Upupa epops</i> | 2 | Grassland | Stationary; in shrubs |
| 22 | 10:16 | 2,92 km | <i>Pica pica</i> | 4 | Grassland | In flight |

25 APRIL

Wind direction and velocity: S, 11 m/s

Temperature: +23°C

Atmospheric pressure: 758 mmHg

Sky: clear

VP1

Start time: 12:17

Finish time: 16:32

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|--------------------------|
| 1 | 12:17 | <i>Corvus cornix</i> | 2 | 250 | 20 | SSW |
| 2 | 13:23 | <i>Passer montanus</i> | 2 | 100 | - | On the ground - foraging |
| 3 | 14:00 | <i>Corvus frugilegus</i> | 1 | 200 | 30 | S-SW |
| 4 | 14:55 | <i>Pica pica</i> | 1 | 250 | - | On the ground - moving |
| 5 | 15:02 | <i>Oenanthe oenanthe</i> | 1 | 90 | - | On the ground |
| 6 | 16:15 | <i>Pica pica</i> | 1 | 250 | 35 | SW-NW |

VP2

Start time: 12:25

Finish time: 16:46

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:25 | <i>Buteo rufinus</i> | 1 | 300 | 200 | N-E-W-N |
| 2 | 13:55 | <i>Corvus frugilegus</i> | 2 | | - | On the ground |
| 3 | 14:20 | <i>Pica pica</i> | 1 | 120 | - | On the ground |
| 4 | 14:31 | <i>Corvus monedula</i> | 6 | 150 | 30-40 | W-S-E, SSW-E |
| 5 | 14:35 | <i>Passer domesticus</i> | 2 | 80 | - | On the ground |
| 6 | 15:05 | <i>Perdix perdix</i> | 1 | 400 | - | On the ground |
| 7 | 15:35 | <i>Pica pica</i> | 2 | 90 | - | On the ground |

VP3

Start time: 12:47

Finish time: 17:01

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:47 | <i>Passer montanus</i> | 2 | 130 | 30 | W-S |
| 2 | 14:32 | <i>Corvus cornix</i> | 4 | 200 | - | On the ground |
| 3 | 14:55 | <i>Hirundo rustica</i> | 1 | 300 | 35 | SW-W |
| 4 | 15:01 | <i>Sturnus vulgaris</i> | 6 | 200 | 20 | E-S |
| 5 | 15:45 | <i>Passer domesticus</i> | 7 | 200 | 50 | W-S |
| 6 | 16:01 | <i>Pica pica</i> | 2 | 250 | - | On the ground |

27 APRIL

Wind direction and velocity: ENE, 3 m/s

Temperature: +25°C

Atmospheric pressure: 765 mmHg

Sky: clear

VP1

Start time: 13:14

Finish time: 16:33

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|-------------------------|
| 1 | 13:10 | <i>Oenanthe oenanthe</i> | 1 | 50 | 20 | S |
| 2 | 13:30 | <i>Upupa epops</i> | 1 | 350 | 40 | N-E |
| 3 | 13:31 | <i>Corvus cornix</i> | 4 | 250 | | On agricultural terrain |
| 4 | 14:55 | <i>Hirundo rustica</i> | 1 | 180 | 35 | SW-NW |
| 5 | 14:03 | <i>Passer domesticus</i> | 2 | 150 | 55 | W |
| 6 | 15:35 | <i>Pica pica</i> | 1 | 100 | | On the ground |

VP2

Start time: 13:21

Finish time: 16:45

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 13:25 | <i>Sturnus vulgaris</i> | 4 | 200 | 50 | S-E |
| 2 | 12:45 | <i>Corvus cornix</i> | 2 | 350 | 60 | N |
| 3 | 13:06 | <i>Corvus frugilegus</i> | 8 | 350 | 55 | NW |
| 4 | 14:02 | <i>Pica pica</i> | 1 | 200 | - | On the ground |
| 5 | 14:33 | <i>Oenanthe oenanthe</i> | 1 | 150 | 15 | E |
| 6 | 15:20 | <i>Passer montanus</i> | 2 | 50 | - | On the ground |

VP3

Start time: 13:35

Finish time: 17:03

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|--------------------------|
| 1 | 14:15 | <i>Passer domesticus</i> | 5 | 150 | 2m | SE |
| 2 | 14:55 | <i>Corvus cornix</i> | 4 | 85 | - | on agricultural terrain |
| 3 | 15:20 | <i>Sturnus vulgaris</i> | 1 | 100 | 25 | N-W |
| 4 | 16:15 | <i>Hirundo rustica</i> | 2 | 150 | 30-45 | NW |
| 5 | 16:35 | <i>Pica pica</i> | 1 | 35 | - | on the ground, near road |

30 APRIL

Wind direction and velocity: ENE, 2 m/s

Temperature: +30°C

Atmospheric pressure: 763 mmHg

Sky: clear

VP1

Start time: 12:08

Finish time: 17:12

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|-------------------------------|
| 1 | 12:20 | <i>Upupa epops</i> | 1 | 250 | 20 | N, at the level of the shrubs |
| 2 | 12:55 | <i>Pica pica</i> | 2 | 200 | 25 | S-SE |
| 3 | 13:55 | <i>Corvus cornix</i> | 4 | 300 | 30 | E-W |
| 4 | 14:22 | <i>Corvus frugilegus</i> | 1 | 300 | 30 | W |
| 5 | 15:15 | <i>Corvus monedula</i> | 1 | 250 | 25 | W |
| 6 | 16:01 | <i>Passer montanus</i> | 2 | 200 | 30 | S-W |

VP2

Start time: 12:23

Finish time: 17:11

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|-----------------------|
| 1 | 12:30 | <i>Pica pica</i> | 2 | 100 | 25 | E |
| 2 | 13:05 | <i>Phasianus colchicus</i> | 1 | 450 | - | Stationary. by forest |
| 3 | 13:45 | <i>Falco tinnunculus</i> | 1 | 600 | 150 | N-E-S-N |
| 4 | 13:47 | <i>Corvus cornix</i> | 2 | 250 | 45 | N-E |
| 5 | 13:50 | <i>Corvus monedula</i> | 10 | 200 | 40 | S |
| 6 | 15:06 | <i>Oenanthe oenanthe</i> | 1 | 70 | - | on the ground |
| 7 | 15:30 | <i>Passer montanus</i> | 3 | 30 | 15 | E |

VP3

Start time: 12:42

Finish time: 17:33

| Obs. No. | Hour | Species | No. of individuals | Approximate distance to the observer | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--------------------------------------|-------------------|------------------|
| 1 | 13:01 | <i>Corvus cornix</i> | 4 | 80 | 25 | NW-SE |
| 2 | 14:00 | <i>Corvus frugilegus</i> | 5 | 100 | 30 | NW |
| 3 | 14:35 | <i>Hirundo rustica</i> | 2 | 20 | 15-20 | S-NW |
| 4 | 15:15 | <i>Passer domesticus</i> | 7 | 60 | - | on the ground |
| 5 | 16:10 | <i>Pica pica</i> | 4 | 100 | 10-15 | SE |
| 6 | 16:12 | <i>Sturnus vulgaris</i> | 4 | 120 | - | on the ground |

11 MAY

Wind direction and velocity: NE, 5 m/s

Temperature: +30 °C

Atmospheric pressure: 765 mmHg

Sky: mostly clear

VP2

Start time: 10:03

Finish time: 18:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer | Flying Height (m) | Flight Direction |
|----------|-------|-------------------------------|--------------------|--------------------------------------|-------------------|-----------------------------------|
| 1 | 10:04 | <i>Pica pica</i> | 1 | 35 m | 15 m | NE |
| 2 | 11:16 | <i>Pica pica</i> | 1 | 300 m | 5 m | N |
| 3 | 11:29 | <i>Buteo buteo</i> | 1 | 250 m | 300 m | S-NE |
| 4 | 11:52 | <i>Corvus cornix</i> | 2 | 500-600 m | 8 -10 m | W |
| 5 | 11:57 | <i>Melanocorypha calandra</i> | 1 | 20 m | 10 m | flight vertical and around the VP |
| 6 | 12:23 | <i>Falco tinnunculus</i> | 1 | 80 m | 50 m | SW |
| 7 | 12:46 | <i>Oenanthe oenanthe</i> | 2 | 10 m | - | On the ground |
| 8 | 12:48 | <i>Pica pica</i> | 2 | 400 m | 10 m | S |
| 9 | 12:55 | <i>Upupa epops</i> | 1 | 300 m | 5 m | V-N |
| 10 | 13:41 | <i>Buteo rufinus</i> | 2 | 50 m | 300 m | E-NW |
| 11 | 13:48 | <i>Fringilla coelebs</i> | 1 | 5 m | | W |
| 12 | 14:03 | <i>Falco tinnunculus</i> | 2 | 100 m | 0-100 m | SSE-N-NW |
| 13 | 14:10 | <i>Merops apiaster</i> | 2 | 250 m | 50-100 m | N |
| 14 | 14:26 | <i>Sturnus vulgaris</i> | 8 | 200 m | 40 m | E |
| 15 | 14:35 | <i>Pica pica</i> | 1 | 1000 m | 10 m | SW-SE |
| 16 | 14:39 | <i>Buteo buteo</i> | 1 | 100 m | 400 -500 m | NW |
| 17 | 14:57 | <i>Carduelis carduelis</i> | 9 | 20 m | 2 m | SE |
| 18 | 15:03 | <i>Corvus cornix</i> | 4 | 70 m | 10 m | E |
| 19 | 15:24 | <i>Dendrocopos</i> | 2 | 15 m | 2 m | NE |

| | | | | | | |
|----|-------|--------------------------|----|-------|-------|---------------------|
| | | <i>medius</i> | | | | |
| 20 | 15:49 | <i>Falco tinnunculus</i> | 1 | 80 m | 150 m | NNW |
| 21 | 15:56 | <i>Lanius minor</i> | 2 | 50 m | 2,5 m | S-E |
| 22 | 16:10 | <i>Oenanthe oenanthe</i> | 2 | 8 m | - | On the ground |
| 23 | 16:17 | <i>Passer montanus</i> | 23 | 20 m | 2-3 m | Compact flock, SSW |
| 24 | 16:24 | <i>Corvus cornix</i> | 1 | 600 m | - | On the ground |
| 25 | 16:48 | <i>Lanius collurio</i> | 1 | 30 m | 2 m | N, area with shrubs |
| 26 | 17:11 | <i>Corvus cornix</i> | 1 | 800 m | - | On the ground |
| 27 | 17:29 | <i>Falco tinnunculus</i> | 2 | 400 m | - | S, pair in flight |
| 28 | 17:33 | <i>Lanius minor</i> | 2 | 70 m | 1 m | S |
| 29 | 17:51 | <i>Pica pica</i> | 4 | 5 m | 20 m | E |
| 30 | 17:52 | <i>Lanius collurio</i> | 1 | 200 m | 1-2 m | NW |

VP3

Start time: 10:45

Finish time: 18:15

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer | Flying Height (m) | Flight Direction |
|----------|--------|--|--------------------|--------------------------------------|-------------------|---------------------------------|
| 1 | 10:46 | <i>Alauda arvensis</i> | 2 | 40 m; 70 m | 0-30 m | Vertical flight |
| 2 | 10:49 | <i>Melanocorypha calandra</i> | 1 | 25 m | 0-20 m | SW |
| 3 | 11:13 | <i>Coracias garrulus</i> | 1 | 150 m | 25 m | W |
| 4 | 11:28 | <i>Pica pica</i> | 1 | 80 m | - | On the ground |
| 5 | 11:49 | <i>Galerida cristata</i> | 2 | 15 m | 0,5 m | NE |
| 6 | 11:57 | <i>Falco tinnunculus</i> | 1 | 120 m | 0 - 50 m | W-S-E |
| 7 | 12:06 | <i>Pica pica</i> | 2 | 300 m | 5 m | N |
| 8 | 12:18 | <i>Calandrella brachydactyla</i> | 1 | 12 m | 4 m | SW |
| 9 | 12:44 | <i>Buteo buteo</i> | 1 | 250 m | 300 m | NE |
| 10 | 13:25 | <i>Merops apiaster</i> | 2 | 200 m | 5 m | NW |
| 11 | 13:27 | <i>Pica pica</i> | 1 | 320 m | 10 m | W |
| 12 | 14:10 | <i>Corvus cornix</i> + <i>Corvus frugilegus</i> | 4+5 | 1000 m | - | Mixed flock stationary in field |
| 13 | 14:31 | <i>Upupa epops</i> | 2 | 300 m | 3 m | N |
| 14 | 14:45 | <i>Falco tinnunculus</i> | 1 | 50 m | 20 m | NW |
| 15 | 15:28 | <i>Calandrella brachydactyla</i> | 1 | 30 m | 15 m | E |
| 16 | 15:33 | <i>Passer domesticus</i> | 5 | 90 m | 2 m | SE |
| 17 | 16:12 | <i>Pica pica</i> | 1 | 10 m | 8 m | SW |
| 18 | 16: 24 | <i>Sturnus vulgaris</i> | 40 | 250 m | 60 m | SE |
| 19 | 17:16 | <i>Upupa epops</i> | 1 | 800 m | 2 m | NW |

| | | | | | | |
|----|-------|----------------------------|---|--------|------|------|
| 20 | 17:37 | <i>Merops apiaster</i> | 4 | 100 m | 3 m | N-SW |
| 21 | 18:11 | <i>Garrulus glandarius</i> | 1 | 1200 m | 4 m | W |
| 22 | 18:13 | <i>Pica pica</i> | 1 | 50 m | 15 m | E |

22 May

Wind direction and velocity: S, 6 m/s

Temperature: +24 °C

Atmospheric pressure: 757 mmHg

Sky: mostly clear

Transect 1

Start time: 9:31

Finish time: 11:54

| Obs. no. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|-------|-------------------------------|----------------------------------|--------------------|-----------|-----------------------------------|
| 1 | 9:33 | 42 m | <i>Lanius minor</i> | 2 | Shrubs | Stationary |
| 2 | 9:47 | 125 m | <i>Alauda arvensis</i> | 1 | Grassland | In flight, singing |
| 3 | 9:50 | 220 m | <i>Melanocorypha calandra</i> | 1 | Grassland | In flight singing |
| 4 | 9:54 | 321 m | <i>Melanocorypha calandra</i> | 1 | Grassland | On the ground |
| 5 | 9:58 | 395 m | <i>Lanius collurio</i> | 2 | Grassland | In flight |
| 6 | 9:59 | 411 m | <i>Miliaria calandra</i> | 1 | Grassland | Stationary, in shrubs |
| 7 | 10:01 | 433 m | <i>Miliaria calandra</i> | 1 | Grassland | Stationary, in shrubs |
| 8 | 10:04 | 446 m | <i>Alauda arvensis</i> | 1 | Grassland | In flight singing |
| 9 | 10:06 | 473 m | <i>Lanius minor</i> | 1 | Grassland | In flight |
| 10 | 10:08 | 503 m | <i>Upupa epops</i> | 1 | Grassland | In flight |
| 11 | 10:09 | 531 m | <i>Pica pica</i> | 2 | Grassland | In flight |
| 12 | 10:10 | 549 m | <i>Melanocorypha calandra</i> | 1 | Grassland | Stationary |
| 13 | 10:13 | 635 m | <i>Merops apiaster</i> | 4 | Grassland | Stationary, in shrubs |
| 14 | 10:20 | 827 m | <i>Pica pica</i> | 1 | Grassland | In flight |
| 15 | 10:26 | 1028 m | <i>Calandrella brachydactyla</i> | 1 | arable | In flight, singing |
| 16 | 10:31 | 1166 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight, singing |
| 17 | 10:38 | 1326 m | <i>Pica pica</i> | 1 | Arable | In flight |
| 18 | 10:41 | 1381 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 19 | 10:45 | 1469 m | <i>Oenanthe oenanthe</i> | 2 | Grassland | Pair on the ground |
| 20 | 10:46 | 1497 m | <i>Pica pica</i> | 2 | Grassland | In flight |
| 21 | 10:47 | 1511 m | <i>Dendrocopos major</i> | 1 | forest | In flight |
| 22 | 10:48 | 1537 m | <i>Calandrella brachydactyla</i> | 4 | Arable | Group in flight and on the ground |

| | | | | | | |
|----|-------|--------|----------------------------|---|-----------|-----------------------------|
| 23 | 10:51 | 1608 m | <i>Passer montanus</i> | 7 | Arable | On the ground |
| 24 | 10:57 | 1756 m | <i>Lanius minor</i> | 1 | Grassland | In flight |
| 25 | 11:13 | 1960 m | <i>Phasianus colchicus</i> | 2 | Forest | Pair, at the edge of forest |
| 26 | 11:18 | 2094 m | <i>Pica pica</i> | 4 | Grassland | On the ground |
| 27 | 11:22 | 2197 m | <i>Upupa epops</i> | 2 | Grassland | In flight and on the ground |
| 28 | 11:29 | 2352 m | <i>Fringilla coelebs</i> | 1 | Grassland | In shrubs |
| 29 | 11:37 | 2518 m | <i>Upupa epops</i> | 1 | Grassland | In flight |

Transect 2

Start time: 8:05

Finish time: 10:24

| Obs. no. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|----------------------------------|--------------------|-----------|---|
| 1 | 8:06 | 33 m | <i>Passer domesticus</i> | 12 | Grassland | In flight |
| 2 | 8:08 | 62 m | <i>Alauda arvensis</i> | 1 | Grassland | On the ground |
| 3 | 8:11 | 113 m | <i>Oenanthe oenanthe</i> | 1 | Grassland | On the ground |
| 4 | 8:13 | 132 m | <i>Alauda arvensis</i> | 1 | Grassland | In flight |
| 5 | 8:14 | 156 m | <i>Pica pica</i> | 3 | Arable | In flight |
| 6 | 8:17 | 201 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 7 | 8:17 | 202 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 8 | 8:23 | 348 m | <i>Calandrella brachydactyla</i> | 1 | Arable | On the ground |
| 9 | 8:26 | 417 m | <i>Coracias garrulus</i> | 1 | Arable | In flight |
| 10 | | | <i>Pica pica</i> | 1 | Arable | |
| 11 | 8:26 | 419 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 12 | 8:33 | 562 m | <i>Pica pica</i> | 1 | Arable | In flight |
| 13 | 8:35 | 591 m | <i>Galerida cristata</i> | 1 | Arable | On the ground |
| 14 | 8:41 | 724 m | <i>Pica pica</i> | 1 | Grassland | In flight |
| 15 | 8:44 | 792 m | <i>Melanocorypha calandra</i> | 1 | Grassland | In flight |
| 16 | 8:49 | 927 m | <i>Calandrella brachydactyla</i> | 2 | Arable | In flight, singing |
| 17 | 8:56 | 1095 m | <i>Perdix perdix</i> | 2 | Arable | On the ground, crossing the agricultural land |
| 18 | 8:58 | 1172 m | <i>Pica pica</i> | 2 | Arable | In flight |
| 19 | 9:03 | 1251 m | <i>Corvus frugilegus</i> | 2 | Arable | In flight |
| 20 | 9:09 | 1418 m | <i>Pica pica</i> | 1 | Arable | In flight |
| 21 | 9:12 | 1483 m | <i>Corvus frugilegus</i> | 1 | Arable | On the ground |
| 22 | 9:17 | 1594 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 23 | 9:21 | 1676 m | <i>Galerida cristata</i> | 3 | Arable | In flight |
| 24 | 9:32 | 1811 m | <i>Pica pica</i> | 2 | Arable | In flight |

| | | | | | | |
|----|-------|--------|---------------------------|---|-----------|---|
| 25 | 9:35 | 1893 m | <i>Upupa epops</i> | 1 | Arable | In flight |
| 26 | 9:40 | 1964 m | <i>Corvus frugilegus</i> | 9 | Arable | On the ground |
| 27 | 9:40 | 1964 m | <i>Corvus cornix</i> | 3 | Arable | On the ground |
| 28 | 9:45 | 2060 m | <i>Galerida cristata</i> | 2 | Arable | On the ground |
| 29 | 9:48 | 2139 m | <i>Pica pica</i> | 1 | Arable | In flight |
| 30 | 9:53 | 2261 m | <i>Dendrocopos medius</i> | 1 | Forest | In flight, by the edge of the wood |
| 31 | 10:01 | 2417 m | <i>Lanius collurio</i> | 1 | Grassland | Stationary, in shrubs |
| 32 | 10:04 | 2483 m | <i>Perdix perdix</i> | 5 | Grassland | In flight |
| 33 | 10:21 | 2862 m | <i>Upupa epops</i> | 4 | Grassland | In flight and on the ground in the vicinity of the forest |

Transect 3

Start time: 7:56

Finish time: 12:03

| Obs. no. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|----------------------------------|--------------------|-----------|--------------------------------|
| 1 | 8:02 | 73 m | <i>Pica pica</i> | 5 | Arable | In flight |
| 2 | 8:03 | 89 m | <i>Miliaria calandra</i> | 1 | Grassland | stationary, in shrubs |
| 3 | 8:05 | 133 m | <i>Melanocorypha calandra</i> | 1 | Grassland | In flight, singing |
| 4 | 8:07 | 155 m | <i>Merops apiaster</i> | 1 | Grassland | In flight |
| 5 | 8:07 | 161 m | <i>Lanius minor</i> | 2 | Grassland | In flight |
| 6 | 8:12 | 225 m | <i>Alauda arvensis</i> | 1 | Grassland | On the ground, singing |
| 7 | 8:14 | 265 m | <i>Galerida cristata</i> | 1 | Grassland | On the ground, on a rock |
| 8 | 8:17 | 297 m | <i>Passer montanus</i> | 6 | Grassland | In flight |
| 9 | 8:20 | 337 m | <i>Upupa epops</i> | 1 | Grassland | In flight |
| 10 | 8:20 | 340 m | <i>Upupa epops</i> | 1 | Grassland | In flight |
| 11 | 8:21 | 358 m | <i>Melanocorypha calandra</i> | 2 | Grassland | On the ground |
| 12 | 8:22 | 396 m | <i>Pica pica</i> | 1 | Grassland | In flight |
| 13 | 8:24 | 417 m | <i>Falco tinnunculus</i> | 1 | Grassland | In flight |
| 14 | 8:30 | 536 m | <i>Corvus cornix</i> | 2 | Grassland | On the ground |
| 15 | 8:36 | 662 m | <i>Galerida cristata</i> | 2 | Grassland | On the ground |
| 16 | 8:41 | 744 m | <i>Passer montanus</i> | 2 | Grassland | In flight |
| 17 | 8:44 | 792 m | <i>Alauda arvensis</i> | 1 | Grassland | On the ground |
| 18 | 8:45 | 815 m | <i>Miliaria calandra</i> | 1 | Grassland | In flight |
| 19 | 8:49 | 905 m | <i>Lanius minor</i> | 1 | Grassland | In flight |
| 20 | 8:54 | 1041m | <i>Pica pica</i> | 1 | Arable | In flight |
| 21 | 8:58 | 1146 m | <i>Oenanthe oenanthe</i> | 3 | Grassland | On the ground, in rockery area |
| 22 | 9:02 | 1202 m | <i>Galerida cristata</i> | 2 | Grassland | On the ground |
| 23 | 9:05 | 1241 m | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight |
| 24 | 9:08 | 1290 m | <i>Lanius collurio</i> | 2 | Grassland | In flight |

| | | | | | | |
|----|-------|--------|----------------------------------|----|-----------|--------------------------------------|
| 25 | 9:09 | 1316 m | <i>Alauda arvensis</i> | 1 | Grassland | In flight singing |
| 26 | 9:11 | 1363 m | <i>Merops apiaster</i> | 1 | Grassland | In flight |
| 27 | 9:11 | 1369 m | <i>Pica pica</i> | 1 | Grassland | In flight |
| 28 | 9:12 | 1384 m | <i>Oenanthe oenanthe</i> | 1 | Grassland | On the ground |
| 29 | 9:14 | 1410 m | <i>Upupa epops</i> | 1 | Grassland | In flight |
| 30 | 9:15 | 1428 m | <i>Pica pica</i> | 1 | Grassland | In flight |
| 31 | 9:17 | 1460 m | <i>Lanius collurio</i> | 2 | Grassland | In flight |
| 32 | 9:18 | 1483 m | <i>Oenanthe oenanthe</i> | 1 | Grassland | In flight |
| 33 | 9:20 | 1524 m | <i>Alauda arvensis</i> | 1 | Grassland | On the ground. Without singing |
| 34 | 9:23 | 1608 m | <i>Oenanthe oenanthe</i> | 2 | Grassland | On the ground |
| 35 | 9:26 | 1697 m | <i>Pica pica</i> | 1 | Grassland | On the ground |
| 36 | 9:28 | 1731 m | <i>Lanius minor</i> | 1 | Grassland | Stationary, in shrubs |
| 37 | 9:29 | 1752 m | <i>Galerida cristata</i> | 1 | Grassland | Grassland |
| 38 | 9:32 | 1838 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight, singing |
| 39 | 9:40 | 1979 m | <i>Calandrella brachydactyla</i> | 1 | Arable | On the ground |
| 40 | 9:54 | 2277 m | <i>Oenanthe oenanthe</i> | 2 | Grassland | In flight and on the ground |
| 41 | 9:58 | 2354 m | <i>Corvus cornix</i> | 4 | Grassland | In flight |
| 42 | 10:01 | 2416 m | <i>Falco tinnunculus</i> | 1 | Grassland | In flight, stationary, active flight |
| 43 | 10:09 | 2586 m | <i>Melanocorypha calandra</i> | 1 | Grassland | On the ground |
| 44 | 10:16 | 2740 m | <i>Hirundo rustica</i> | 9 | Grassland | in flight at low heights |
| 45 | 10:27 | 3038 m | <i>Lanius minor</i> | 2 | Shrubs | Stationary and in flight |
| 46 | 10:29 | 3119 m | <i>Pica pica</i> | 1 | Shrubs | Stationary |
| 47 | 10:30 | 3128 m | <i>Lanius collurio</i> | 1 | Shrubs | In flight |
| 48 | 10:34 | 3214 m | <i>Miliaria calandra</i> | 1 | Shrubs | Stationary |
| 49 | 10:42 | 3348 m | <i>Perdix perdix</i> | 7 | Shrubs | In flight |
| 50 | 10:44 | 3395 m | <i>Upupa epops</i> | 1 | Shrubs | In flight |
| 51 | 10:47 | 3476 m | <i>Upupa epops</i> | 1 | Shrubs | In flight |
| 52 | 10:47 | 3485 m | <i>Lanius minor</i> | 2 | Shrubs | Stationary and in flight |
| 53 | 10:56 | 3712 m | <i>Carduelis cannabina</i> | 4 | Shrubs | Compact flock in flight |
| 54 | 10:59 | 3794 m | <i>Coracias garrulus</i> | 1 | Shrubs | In flight |
| 55 | 11:05 | 3977 m | <i>Fringilla coelebs</i> | 2 | Shrubs | In shrubs |
| 56 | 11:10 | 4120 m | <i>Sturnus vulgaris</i> | 50 | Grassland | flock passing over the grassland |
| 57 | 11:22 | 4356 m | <i>Melanocorypha calandra</i> | 1 | Arable | In flight |
| 58 | 11:24 | 4410 m | <i>Pica pica</i> | 1 | Arable | In flight |
| 59 | 11:27 | 4481 m | <i>Merops apiaster</i> | 1 | Grassland | In flight. Hunting insects |
| 60 | 11:31 | 4537 m | <i>Upupa epops</i> | 1 | Grassland | In flight |
| 61 | 11:36 | 4654 m | <i>Lanius minor</i> | 1 | Grassland | In flight |
| 62 | 11:39 | 4733 m | <i>Pica pica</i> | 4 | Arable | In flight |
| 63 | 11:44 | 4863 m | <i>Passer montanus</i> | 12 | Arable | In flight |
| 64 | 11:46 | 4892 m | <i>Lanius minor</i> | 2 | Shrubs | In flight |

Transect 4

Start time: 7:46

Finish time: 10:07

| Obs. no. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|--|--------------------|-----------|---|
| 1 | 7:47 | 16 m | <i>Passer domesticus</i> + <i>Passer montanus</i> | 38 | Arable | on the road stationary in shrubs |
| 2 | 7:53 | 139 m | <i>Galerida cristata</i> | 3 | Arable | On the ground |
| 3 | 7:54 | 152 m | <i>Upupa epops</i> | 1 | Arable | In flight |
| 4 | 7:56 | 190 m | <i>Pica pica</i> | 4 | Grassland | In flight |
| 5 | 7:56 | 203 m | <i>Lanius minor</i> | 1 | Grassland | In flight |
| 6 | 7:57 | 225 m | <i>Alauda arvensis</i> | 1 | Grassland | On the ground |
| 7 | 7:59 | 262 m | <i>Pica pica</i> | 4 | Arable | In flight |
| 8 | 8:02 | 317 m | <i>Calandrella brachydactyla</i> | 2 | Arable | On the ground |
| 9 | 8:04 | 351 m | <i>Melanocorypha calandra</i> | 1 | Arable | In flight |
| 10 | 8:05 | 374 m | <i>Galerida cristata</i> | 3 | Grassland | On the ground |
| 11 | 8:07 | 409 m | <i>Melanocorypha calandra</i> | 1 | Grassland | On the ground |
| 12 | 8:08 | 430 m | <i>Oenanthe oenanthe</i> | 1 | Grassland | On the ground |
| 13 | 8:09 | 452 m | <i>Lanius collurio</i> | 1 | Grassland | In flight |
| 14 | 8:10 | 469 m | <i>Oenanthe oenanthe</i> | 3 | Grassland | On the ground |
| 15 | 8:12 | 526 m | <i>Pica pica</i> | 1 | Grassland | In flight |
| 16 | 8:15 | 563 m | <i>Melanocorypha calandra</i> | 1 | Arable | In flight |
| 17 | 8:16 | 586 m | <i>Upupa epops</i> | 1 | Arable | In flight |
| 18 | 8:16 | 594 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 19 | 8:17 | 627 m | <i>Upupa epops</i> | 1 | Arable | In flight |
| 20 | 8:19 | 671 m | <i>Corvus frugilegus</i> | 12 | Arable | Mixed flock with <i>Corvus cornix</i> |
| 21 | 8:19 | 671 m | <i>Corvus cornix</i> | 4 | Arable | Mixed flock with <i>Corvus frugilegus</i> |
| 22 | 8:22 | 715 m | <i>Alauda arvensis</i> | 1 | Arable | In flight, singing |
| 23 | 8:24 | 769 m | <i>Pica pica</i> | 3 | Arable | In flight |
| 24 | 8:28 | 854 m | <i>Calandrella brachydactyla</i> | 1 | Arable | In flight |
| 25 | 8:35 | 1035 m | <i>Melanocorypha calandra</i> | 1 | Arable | On the ground |
| 26 | 8:39 | 1121 m | <i>Melanocorypha calandra</i> | 1 | Arable | In flight |
| 27 | 8:42 | 1198 m | <i>Buteo buteo</i> | 1 | Arable | Gliding in large circles |
| 28 | 8:49 | 1368 m | <i>Pica pica</i> | 2 | Arable | In flight |
| 29 | 9:01 | 1609 m | <i>Galerida cristata</i> | 2 | Arable | On the ground |
| 30 | 9:12 | 1817 m | <i>Melanocorypha calandra</i> | 1 | Arable | In flight, singing |
| 31 | 9:26 | 2116 m | <i>Corvus monedula</i> | 19 | Arable | On the ground |
| 32 | 9:30 | 2218 m | <i>Upupa epops</i> | 1 | Grassland | In flight |
| 33 | 9:34 | 2309 m | <i>Pica pica</i> | 1 | Grassland | In flight |
| 34 | 9:39 | 2411 m | <i>Lanius collurio</i> | 1 | Grassland | Stationary in |

| | | | | | | |
|----|-------|--------|---------------------------|---|-----------|------------------------------|
| | | | | | | shrubs |
| 35 | 9:43 | 2516 m | <i>Galerida cristata</i> | 4 | Grassland | In flight and on the ground |
| 36 | 9:46 | 2593 m | <i>Alauda arvensis</i> | 1 | Grassland | On the ground |
| 37 | 9:47 | 2613 m | <i>Pica pica</i> | 3 | Grassland | In flight |
| 38 | 9:47 | 2618 m | <i>Lanius minor</i> | 2 | Grassland | In flight |
| 39 | 9:52 | 2694 m | <i>Lanius collurio</i> | 2 | Grassland | Stationary and in flight |
| 40 | 9:53 | 2715 m | <i>Miliaria calandra</i> | 1 | Arable | On the ground |
| 41 | 9:57 | 2792 m | <i>Carduelis chloris</i> | 6 | Shrubs | In flight |
| 42 | 9:58 | 2819 m | <i>Lanius minor</i> | 5 | Shrubs | Stationary and in flight |
| 43 | 10:05 | 2978 m | <i>Dendrocopos medius</i> | 2 | Shrubs | In flight towards settlement |
| 44 | 10:06 | 2993 m | <i>Upupa epops</i> | 5 | Shrubs | In flight |

9 JUNE

Wind direction and velocity: SSE, 7 m/s

Temperature: +27 °C

Atmospheric pressure: 762 mmHg

Sky: clear

Transect 1

Start time: 9:02

Finish time: 11:23

| Obs. No. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|--------------------------|--------------------|-----------|---------------------------------|
| 1. | 9:02 | 6 m | <i>Perdix perdix</i> | 6 | arable | On the ground |
| 2. | 9:03 | 26 m | <i>Miliaria calandra</i> | 1 | arable | In flight |
| 3. | 9:04 | 52 m | <i>Fringilla coelebs</i> | 5 | forest | Flying at the edge of the woods |
| 4. | 9:05 | 72 m | <i>Lanius collurio</i> | 2 | forest | Pairs, stationary in trees |
| 5. | 9:05 | 89 m | <i>Lanius minor</i> | 2 | forest | Flying at the edge of the woods |
| 6. | 9:06 | 101 m | <i>Merops apiaster</i> | 2 | grassland | In flight |
| 7. | 9:07 | 126 m | <i>Oenanthe oenanthe</i> | 1 | grassland | On the ground |
| 8. | 9:13 | 278 m | <i>Miliaria calandra</i> | 1 | grassland | In flight |
| 9. | 9:17 | 376 m | <i>Upupa epops</i> | 2 | grassland | On the ground |
| 10. | 9:23 | 532 m | <i>Alauda arvensis</i> | 1 | grassland | In flight, singing |
| 11. | 9:23 | 548 m | <i>Upupa epops</i> | 2 | grassland | On the ground, foraging |
| 12. | 9:27 | 639 m | <i>Oenanthe oenanthe</i> | 1 | grassland | Stationary |
| 13. | 9:27 | 639 m | <i>Lanius collurio</i> | 2 | grassland | In pairs, on the ground |
| 14. | 9:31 | 752 m | <i>Pica pica</i> | 1 | grassland | In flight |
| 15. | 9:38 | 936 m | <i>Corvus monedula</i> | 2 | arable | In flight |
| 16. | 9:38 | 942 m | <i>Passer montanus</i> | 5 | arable | Flying in groups |

| | | | | | | |
|-----|-------|--------|----------------------------------|---|-----------|-------------------------------------|
| 17. | 9:41 | 1024 m | <i>Calandrella brachydactyla</i> | 1 | arable | Stationary |
| 18. | 9:47 | 1183 m | <i>Corvus frugilegus</i> | 3 | arable | Foraging |
| 19. | 9:49 | 1229 m | <i>Corvus monedula</i> | 1 | arable | Foraging |
| 20. | 9:49 | 1232 m | <i>Passer montanus</i> | 5 | arable | Stationary on the ground |
| 21. | 9:51 | 1306 m | <i>Merops apiaster</i> | 1 | arable | Stationary |
| 22. | 9:56 | 1436 m | <i>Carduelis carduelis</i> | 2 | arable | In flight |
| 23. | 10:02 | 1580 m | <i>Corvus monedula</i> | 1 | arable | On the ground |
| 24. | 10:04 | 1625 m | <i>Merops apiaster</i> | 1 | grassland | On the ground, foraging |
| 25. | 10:07 | 1691 m | <i>Miliaria calandra</i> | 1 | grassland | Singing on tree branch |
| 26. | 10:09 | 1731 m | <i>Oenanthe oenanthe</i> | 2 | grassland | Pairs on the ground |
| 27. | 10:12 | 1813 m | <i>Lanius collurio</i> | 4 | grassland | Pairs in trees |
| 28. | 10:12 | 1813 m | <i>Lanius minor</i> | 1 | grassland | In trees |
| 29. | 10:15 | 1876 m | <i>Lanius minor</i> | 2 | grassland | In flight, stationary on the ground |
| 30. | 10:18 | 1957 m | <i>Dendrocopos major</i> | 2 | grassland | In flight |
| 31. | 10:20 | 2017 m | <i>Merops apiaster</i> | 5 | grassland | Flying in groups |
| 32. | 10:22 | 2076 m | <i>Upupa epops</i> | 1 | grassland | On the ground |
| 33. | 10:25 | 2157 m | <i>Coracias garrulus</i> | 1 | grassland | On the ground |
| 34. | 10:27 | 2212 m | <i>Garrulus glandarius</i> | 1 | grassland | In flight |
| 35. | 10:30 | 2288 m | <i>Lanius collurio</i> | 2 | grassland | In trees, singing |
| 36. | 10:31 | 2301 m | <i>Lanius collurio</i> | 1 | grassland | On the ground |
| 37. | 10:31 | 2301 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 38. | 10:33 | 2351 m | <i>Carduelis cannabina</i> | 4 | grassland | Flying in groups |
| 39. | 10:33 | 2351 m | <i>Carduelis carduelis</i> | 1 | grassland | Stationary on the ground |
| 40. | 10:35 | 2401 m | <i>Dendrocopos medius</i> | 1 | grassland | Stationary in trees |
| 41. | 10:39 | 2496 m | <i>Hirundo rustica</i> | 1 | grassland | In flight |
| 42. | 10:41 | 2547 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 43. | 10:45 | 2651 m | <i>Lanius minor</i> | 1 | grassland | Stationary on the ground |
| 44. | 10:48 | 2732 m | <i>Merops apiaster</i> | 1 | grassland | In trees, singing |
| 45. | 10:53 | 2859 m | <i>Pica pica</i> | 1 | grassland | In flight |

Transect 2

Start time: 8:35

Finish time: 10:34

| Obs. No. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|----------------------------|--------------------|-----------|------------------------|
| 1. | 8:36 | 10 m | <i>Passer montanus</i> | 10 | arable | In flight |
| 2. | 8:36 | | <i>Passer domesticus</i> | 4 | | |
| 3. | 8:38 | 54 m | <i>Galerida cristata</i> | 2 | grassland | On the ground |
| 4. | 8:40 | 90 m | <i>Oenanthe oenanthe</i> | 2 | grassland | On the ground, singing |
| 5. | 8:41 | 112 m | <i>Carduelis cannabina</i> | 6 | grassland | In flight |

| | | | | | | |
|-----|-------|--------|----------------------------------|----|-----------|--------------------------------------|
| 6. | 8:43 | 152 m | <i>Oenanthe oenanthe</i> | 3 | arable | In trees, on the ground singing |
| 7. | 8:44 | 171 m | <i>Alauda arvensis</i> | 2 | arable | In flight |
| 8. | 8:46 | 228 m | <i>Melanocorypha calandra</i> | 4 | arable | In flight, on the ground, in pairs |
| 9. | 8:48 | 272 m | <i>Corvus cornix</i> | 10 | arable | Stationary |
| 10. | 8:52 | 356 m | <i>Calandrella brachydactyla</i> | 1 | arable | Stationary |
| 11. | 8:52 | 360 m | <i>Calandrella brachydactyla</i> | 2 | arable | In flight, singing |
| 12. | 8:55 | 432 m | <i>Hirundo rustica</i> | 3 | arable | In flight |
| 13. | 9:11 | 779 m | <i>Perdix perdix</i> | 1 | grassland | Stationary |
| 14. | 9:12 | 796 m | <i>Galerida cristata</i> | 4 | grassland | On the ground, in flight |
| 15. | 9:13 | 813 m | <i>Lanius minor</i> | 2 | grassland | On the ground |
| 16. | 9:14 | 854 m | <i>Upupa epops</i> | 1 | grassland | In flight |
| 17. | 9:14 | 854 m | <i>Merops apiaster</i> | 1 | grassland | In flight |
| 18. | 9:17 | 917 m | <i>Pica pica</i> | 10 | arable | In flight |
| 19. | 9:21 | 1010 m | <i>Calandrella brachydactyla</i> | 1 | arable | In flight |
| 20. | 9:24 | 1083 m | <i>Merops apiaster</i> | 3 | arable | In flight, hunting for insects |
| 21. | 9:26 | 1147 m | <i>Buteo buteo</i> | 1 | arable | In flight |
| 22. | 9:29 | 1279 m | <i>Sturnus vulgaris</i> | 28 | arable | Flocks in flight |
| 23. | 9:32 | 1364 m | <i>Passer montanus</i> | 2 | arable | In flight |
| 24. | 9:35 | 1447 m | <i>Corvus monedula</i> | 10 | arable | In flight |
| 25. | 9:44 | 1663 m | <i>Merops apiaster</i> | 2 | arable | In flight |
| 26. | 9:46 | 1710 m | <i>Upupa epops</i> | 1 | arable | In flight |
| 27. | 9:48 | 1765 m | <i>Carduelis carduelis</i> | 2 | arable | In flight |
| 28. | 9:52 | 1863 m | <i>Coracias garrulus</i> | 1 | arable | In flight |
| 29. | 9:56 | 1971 m | <i>Miliaria calandra</i> | 1 | arable | In flight, singing |
| 30. | 10:03 | 2131 m | <i>Corvus frugilegus</i> | 9 | arable | On the ground |
| 31. | 10:06 | 2196 m | <i>Coracias garrulus</i> | 1 | arable | In flight |
| 32. | 10:10 | 2301 m | <i>Lanius collurio</i> | 2 | grassland | Stationary, in shrubs |
| 33. | 10:10 | 2316 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 34. | 10:11 | 2330 m | <i>Lanius collurio</i> | 1 | grassland | Stationary, in shrubs |
| 35. | 10:11 | 2349 m | <i>Dendrocopos major</i> | 1 | grassland | Stationary, in shrubs |
| 36. | 10:12 | 2369 m | <i>Dendrocopos medius</i> | 1 | grassland | In flight at the skirts of the woods |
| 37. | 10:13 | 2391 m | <i>Fringilla coelebs</i> | 4 | grassland | Stationary, in shrubs |
| 38. | 10:15 | 2438 m | <i>Carduelis chloris</i> | 3 | grassland | Stationary |
| 39. | 10:19 | 2556 m | <i>Lanius minor</i> | 2 | grassland | In flight |
| 40. | 10:20 | 2572 m | <i>Lanius minor</i> | 2 | grassland | Stationary, in shrubs |
| 41. | 10:20 | 2583 m | <i>Upupa epops</i> | 1 | grassland | Stationary |
| 42. | 10:22 | 2637 m | <i>Upupa epops</i> | 2 | arable | In flight |
| 43. | 10:23 | 2662 m | <i>Upupa epops</i> | 1 | arable | In flight |

Transect 3

Start time: 8:03

Finish time: 11:28

| Obs. No. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|----------------------------------|--------------------|-----------|---|
| 1. | 8:04 | 20 m | <i>Calandrella brachydactyla</i> | 2 | arable | On the ground |
| 2. | 8:07 | 82 m | <i>Melanocorypha calandra</i> | 1 | arable | In flight, singing |
| 3. | 8:07 | 96 m | <i>Alauda arvensis</i> | 1 | arable | In flight |
| 4. | 8:09 | 141 m | <i>Miliaria calandra</i> | 2 | grassland | On the ground |
| 5. | 8:11 | 196 m | <i>Upupa epops</i> | 1 | grassland | On the ground |
| 6. | 8:13 | 253 m | <i>Lanius collurio</i> | 1 | shrubs | In flight |
| 7. | 8:15 | 306 m | <i>Coracias garrulus</i> | 1 | grassland | In flight |
| 8. | 8:18 | 381 m | <i>Oenanthe oenanthe</i> | 1 | grassland | On the ground |
| 9. | 8:20 | 425 m | <i>Merops apiaster</i> | 2 | grassland | On the ground |
| 10. | 8:21 | 453 m | <i>Upupa epops</i> | 2 | grassland | In flight |
| 11. | 8:23 | 512 m | <i>Lanius minor</i> | 1 | shrubs | In flight |
| 12. | 8:24 | 532 m | <i>Carduelis carduelis</i> | 2 | grassland | In flight |
| 13. | 8:24 | 546 m | <i>Upupa epops</i> | 1 | grassland | On the ground, Foraging |
| 14. | 8:26 | 588 m | <i>Corvus monedula</i> | 2 | grassland | On the ground |
| 15. | 8:28 | 624 m | <i>Passer montanus</i> | 7 | grassland | Flocks, in flight |
| 16. | 8:29 | 654 m | <i>Pica pica</i> | 2 | grassland | In flight, with stops on the ground |
| 17. | 8:31 | 698 m | <i>Oenanthe oenanthe</i> | 2 | grassland | On the ground, pairs |
| 18. | 8:33 | 732 m | <i>Galerida cristata</i> | 1 | grassland | On the ground, singing |
| 19. | 8:33 | 733 m | <i>Galerida cristata</i> | 3 | grassland | On the ground |
| 20. | 8:34 | 751 m | <i>Carduelis carduelis</i> | 2 | grassland | In flight |
| 21. | 8:34 | 764 m | <i>Passer domesticus</i> | 5 | grassland | On the ground |
| 22. | 8:34 | 766 m | <i>Merops apiaster</i> | 1 | grassland | In flight, singing |
| 23. | 8:35 | 784 m | <i>Oenanthe oenanthe</i> | 2 | grassland | In flight |
| 24. | 8:37 | 826 m | <i>Galerida cristata</i> | 1 | grassland | On the ground |
| 25. | 8:40 | 909 m | <i>Lanius collurio</i> | 1 | grassland | On the ground |
| 26. | 8:43 | 978 m | <i>Corvus cornix</i> | 1 | arable | In flight |
| 27. | 8:44 | 993 m | <i>Passer montanus</i> | 8 | arable | On the ground, Foraging |
| 28. | 8:44 | 1008 m | <i>Corvus frugilegus</i> | 2 | arable | On the ground, in a group |
| | | | <i>Corvus monedula</i> | 2 | arable | |
| 29. | 8:46 | 1051 m | <i>Melanocorypha calandra</i> | 3 | arable | On the ground |
| 30. | 8:47 | 1072 m | <i>Perdix perdix</i> | 2 | grassland | On the ground |
| 31. | 8:51 | 1178 m | <i>Oenanthe oenanthe</i> | 1 | grassland | In flight |
| 32. | 8:53 | 1231 m | <i>Lanius minor</i> | 1 | grassland | On the ground |
| 33. | 8:56 | 1304 m | <i>Miliaria calandra</i> | 2 | grassland | In flight |
| 34. | 9:00 | 1411 m | <i>Carduelis cannabina</i> | 2 | grassland | In flight |
| 35. | 9:03 | 1493 m | <i>Oenanthe oenanthe</i> | 3 | grassland | 2 In flight, 1 stationary on the ground |
| 36. | 9:06 | 1564 m | <i>Merops apiaster</i> | 4 | grassland | 1 pair on the ground, 1 pair in flight |
| 37. | 9:10 | 1679 m | <i>Upupa epops</i> | 2 | grassland | On the ground |
| 38. | 9:17 | 1859 m | <i>Buteo buteo</i> | 1 | arable | On the ground |
| 39. | 9:20 | 1925 m | <i>Calandrella brachydactyla</i> | 3 | arable | On the ground |
| 40. | 9:25 | 2049 m | <i>Carduelis cannabina</i> | 4 | grassland | In flight |
| 41. | 9:27 | 2103 m | <i>Alauda arvensis</i> | 1 | grassland | On the ground |
| 42. | 9:28 | 2131 m | <i>Carduelis chloris</i> | 1 | grassland | On the ground |

| | | | | | | |
|-----|-------|--------|-------------------------------|----|-----------|---|
| 43. | 9:30 | 2176 m | <i>Lanius minor</i> | 2 | grassland | In flight |
| 44. | 9:33 | 2249 m | <i>Lanius collurio</i> | 2 | grassland | In flight |
| 45. | 9:35 | 2319 m | <i>Perdix perdix</i> | 3 | grassland | On the ground |
| 46. | 9:40 | 2446 m | <i>Miliaria calandra</i> | 3 | shrubs | In shrubs, singing |
| 47. | 9:46 | 2599 m | <i>Oenanthe oenanthe</i> | 3 | shrubs | 2 in shrubs, 1 in flight |
| 48. | 9:52 | 2767 m | <i>Pica pica</i> | 5 | grassland | On the ground |
| 49. | 9:52 | 2780 m | <i>Pica pica</i> | 2 | grassland | In flight |
| 50. | 9:58 | 2915 m | <i>Melanocorypha calandra</i> | 1 | grassland | On the ground, singing |
| 51. | 10:01 | 3003 m | <i>Fringilla coelebs</i> | 5 | grassland | In shrubs, singing |
| 52. | 10:03 | 3052 m | <i>Merops apiaster</i> | 4 | shrubs | In shrubs, singing |
| 53. | 10:04 | 3086 m | <i>Lanius minor</i> | 2 | shrubs | In shrubs |
| 54. | 10:05 | 3108 m | <i>Oenanthe oenanthe</i> | 1 | shrubs | In flight |
| 55. | 10:06 | 3129 m | <i>Lanius collurio</i> | 4 | shrubs | 2 In flight, 1 on the ground, 1 in shrubs |
| 56. | 10:11 | 3253 m | <i>Carduelis chloris</i> | 3 | grassland | On the ground |
| 57. | 10:18 | 3433 m | <i>Corvus cornix</i> | 6 | arable | Group on the ground |
| | | | <i>Corvus frugilegus</i> | 8 | arable | |
| 58. | 10:19 | 3451 m | <i>Corvus monedula</i> | 7 | arable | On the ground |
| 59. | 10:21 | 3512 m | <i>Corvus monedula</i> | 3 | arable | In flight |
| 60. | 10:21 | 3522 m | <i>Hirundo rustica</i> | 2 | arable | In flight |
| 61. | 10:24 | 3589 m | <i>Sturnus vulgaris</i> | 35 | arable | Flock in flight |
| 62. | 10:24 | 3597 m | <i>Pica pica</i> | 3 | arable | In flight |
| 63. | 10:26 | 3659 m | <i>Melanocorypha calandra</i> | 2 | arable | On the ground, singing |
| 64. | 10:37 | 3921 m | <i>Lanius minor</i> | 3 | forest | In trees, 1 singing |
| 65. | 10:52 | 4302 m | <i>Lanius minor</i> | 1 | forest | In flight along the forest edge |
| 66. | 11:02 | 4543 m | <i>Lanius collurio</i> | 2 | forest | 1 on the ground, 1 in tree |

Transect 4

Start time: 7:30

Finish time: 9:48

| Obs. No. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|----------------------------|--------------------|-----------|---------------------|
| 1. | 7:31 | 17 m | <i>Passer domesticus</i> | 8 | arable | Flock on the ground |
| | | | <i>Passer montanus</i> | 3 | arable | |
| 2. | 7:32 | 46 m | <i>Pica pica</i> | 3 | arable | In flight |
| 3. | 7:34 | 83 m | <i>Sturnus vulgaris</i> | 9 | arable | In flight |
| 4. | 7:35 | 113 m | <i>Galerida cristata</i> | 2 | arable | In flight |
| 5. | 7:36 | 145 m | <i>Corvus monedula</i> | 6 | arable | On the ground |
| 6. | 7:37 | 145 m | <i>Corvus frugilegus</i> | 3 | arable | In flight |
| 7. | 7:38 | 161m | <i>Corvus cornix</i> | 5 | arable | In flight |
| 8. | 7:39 | 189 m | <i>Upupa epops</i> | 2 | arable | In flight |
| 9. | 7:42 | 265 m | <i>Carduelis carduelis</i> | 5 | arable | On the ground |
| 10. | 7:44 | 311 m | <i>Carduelis cannabina</i> | 3 | grassland | In flight, singing |

| | | | | | | |
|-----|------|--------|----------------------------------|---|-----------|-------------------------|
| 11. | 7:47 | 398 m | <i>Hirundo rustica</i> | 3 | grassland | In flight, singing |
| 12. | 7:48 | 413 m | <i>Passer montanus</i> | 5 | grassland | On the ground, Foraging |
| 13. | 7:48 | 428 m | <i>Upupa epops</i> | 2 | grassland | On the ground |
| 14. | 7:49 | 433 m | <i>Lanius collurio</i> | 1 | grassland | In flight |
| 15. | 7:49 | 446 m | <i>Oenanthe oenanthe</i> | 3 | grassland | On the ground |
| 16. | 7:50 | 468 m | <i>Merops apiaster</i> | 3 | grassland | On the ground |
| 17. | 7:50 | 473 m | <i>Lanius collurio</i> | 1 | grassland | Stationary |
| 18. | 7:52 | 525 m | <i>Carduelis chloris</i> | 2 | arable | On the ground |
| 19. | 7:53 | 552 m | <i>Alauda arvensis</i> | 2 | arable | On the ground |
| 20. | 7:59 | 692 m | <i>Calandrella brachydactyla</i> | 3 | arable | In flight |
| 21. | 7:59 | 692 m | <i>Lanius minor</i> | 1 | arable | In flight |
| 22. | 8:01 | 722 m | <i>Melanocorypha calandra</i> | 2 | arable | In flight, singing |
| 23. | 8:02 | 751 m | <i>Melanocorypha calandra</i> | 1 | arable | On the ground, singing |
| 24. | 8:03 | 774 m | <i>Melanocorypha calandra</i> | 2 | arable | On the ground |
| 25. | 8:07 | 892 m | <i>Falco tinnunculus</i> | 1 | arable | On the ground |
| 26. | 8:11 | 994 m | <i>Corvus frugilegus</i> | 7 | arable | On the ground |
| 27. | 8:13 | 1053 m | <i>Miliaria calandra</i> | 1 | arable | In flight |
| 28. | 8:17 | 1136 m | <i>Upupa epops</i> | 1 | arable | Stationary |
| 29. | 8:23 | 1286 m | <i>Pica pica</i> | 3 | arable | On the ground |
| 30. | 8:25 | 1342 m | <i>Corvus cornix</i> | 5 | arable | On the ground |
| 31. | 8:36 | 1591 m | <i>Alauda arvensis</i> | 1 | arable | On the ground |
| 32. | 8:42 | 1736 m | <i>Oenanthe oenanthe</i> | 1 | arable | On the ground |
| 33. | 8:48 | 1885 m | <i>Upupa epops</i> | 1 | arable | On the ground, singing |
| 34. | 8:55 | 2053 m | <i>Lanius collurio</i> | 1 | arable | In flight |
| 35. | 8:59 | 2170 m | <i>Corvus monedula</i> | 4 | arable | On the ground |
| 36. | 9:01 | 2231 m | <i>Pica pica</i> | 3 | grassland | On the ground |
| 37. | 9:06 | 2357 m | <i>Carduelis cannabina</i> | 2 | grassland | On the ground |
| 38. | 9:08 | 2407 m | <i>Merops apiaster</i> | 2 | grassland | In shrubs |
| 39. | 9:09 | 2432 m | <i>Miliaria calandra</i> | 2 | grassland | In shrubs |
| 40. | 9:12 | 2513 m | <i>Oenanthe oenanthe</i> | 1 | grassland | In shrubs |
| 41. | 9:14 | 2592 m | <i>Passer montanus</i> | 5 | grassland | On the ground |
| 42. | 9:16 | 2631 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 43. | 9:18 | 2675 m | <i>Lanius collurio</i> | 2 | grassland | Stationary |
| 44. | 9:19 | 2692 m | <i>Lanius minor</i> | 1 | grassland | In shrubs, singing |
| 45. | 9:19 | 2707 m | <i>Fringilla coelebs</i> | 5 | grassland | On the ground |
| 46. | 9:21 | 2742 m | <i>Upupa epops</i> | 1 | grassland | Stationary |
| 47. | 9:23 | 2798 m | <i>Carduelis chloris</i> | 3 | grassland | On the ground, foraging |
| 48. | 9:23 | 2808 m | <i>Lanius minor</i> | 3 | grassland | In shrubs |
| 49. | 9:24 | 2831 m | <i>Merops apiaster</i> | 1 | grassland | In shrubs, singing |
| 50. | 9:31 | 2974 m | <i>Lanius minor</i> | 1 | grassland | In flight |

18 JUNE

Wins direction and velocity: W,3m/s

Temperature: +30 °C

Atmospheric pressure: 766 mm/Hg

Sky: clear

VP2

Start time: 9:17

Finish time: 13:03

| Obs . No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|-----------|-------|----------------------------------|--------------------|--|-------------------|--|
| 1. | 9:32 | <i>Alauda arvensis</i> | 3 | 150 | - | On the ground, foraging |
| 2. | 9:55 | <i>Buteo buteo</i> | 2 | 750 | 250 | WN-N-NE |
| 3. | 10:01 | <i>Calandrella brachydactyla</i> | 3 | 70-80 | 10 | E-W; on the ground |
| 4. | 10:14 | <i>Oenanthe oenanthe</i> | 3 | 120; 130 | 0; 10 | 2 on the ground, 1 flying W-E; on the ground |
| 5. | 10:32 | <i>Buteo buteo</i> | 1 | 750 | - | On the ground, S |
| 6. | 10:37 | <i>Corvus cornix</i> | 3 | 70 | - | On the ground, by the agricultural land |
| 7. | 11:02 | <i>Upupa epops</i> | 2 | 150 | 15 | On the ground foraging, SE-NW |
| 8. | 11:03 | <i>Falco tinnunculus</i> | 1 | 15 | 20 | N-S |
| 9. | 11:13 | <i>Hirundo rustica</i> | 3 | 150 | 25 | SE-WWN |
| 10. | 11:16 | <i>Oenanthe oenanthe</i> | 4 | 135; 160 | 0; 15 | On the ground; SE-W-N |
| 11. | 11:17 | <i>Calandrella brachydactyla</i> | 2 | 70 | - | On the ground |
| 12. | 11:23 | <i>Lanius collurio</i> | 2 | 150 | - | In shrubs, pairs |
| 13. | 11:33 | <i>Lanius minor</i> | 2 | 150 | 25 | SSE-NNW |
| 14. | 11:37 | <i>Falco tinnunculus</i> | 1 | 350 | 70 | W-E |
| 15. | 11:48 | <i>Merops apiaster</i> | 1 | 250 | - | In shrubs, E |
| 16. | 12:03 | <i>Oenanthe oenanthe</i> | 2 | 90 | - | On the ground |
| 17. | 12:17 | <i>Passer montanus</i> | 7 | 100 | - | On the ground |
| 18. | 12:22 | <i>Perdix perdix</i> | 2 | 150 | 5 | Flying at ground level, stationary |
| 19. | 12:29 | <i>Lanius minor</i> | 2 | 200 | 10 | EES-NNW, between the valleys with shrubs |
| 20. | 12:33 | <i>Pica pica</i> | 4 | 150 | - | On the ground |
| 21. | 12:35 | <i>Sturnus vulgaris</i> | 8 | 200 | 15-20 | In flock SSE-WWN; on the ground |
| 22. | 12:38 | <i>Upupa epops</i> | 3 | 100 | 10; 0 | 1 W-N; 2 on the ground, foraging |

VP3

Start time: 9:45

Finish time: 13:44

| Obs . No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|-----------|------|----------------------------|--------------------|--|-------------------|-------------------------------|
| 1. | 9:47 | <i>Buteo buteo</i> | 1 | 230 | - | Stationary, E |
| 2. | 9:50 | <i>Carduelis cannabina</i> | 3 | 150 | - | Stationary flock, foraging, W |
| 3. | 9:52 | <i>Carduelis carduelis</i> | 4 | 180 | - | Stationary flock, |

| | | | | | | |
|-----|-------|-------------------------------|----|-----|---------|---|
| | | | | | | foraging, E |
| 4. | 10:11 | <i>Corvus cornix</i> | 6 | 250 | - | Mixed flock, on the ground |
| | | <i>Corvus frugilegus</i> | 5 | | | |
| | | <i>Corvus monedula</i> | 5 | | | |
| 5. | 10:25 | <i>Galerida cristata</i> | 2 | 50 | - | Travelling in the proximity of the road, NE |
| 6. | 10:27 | <i>Galerida cristata</i> | 1 | 60 | 10 | Short flight SE-NW |
| 7. | 10:31 | <i>Lanius minor</i> | 1 | 130 | - | In tree |
| 8. | 10:34 | <i>Melanocorypha calandra</i> | 1 | 50 | 10-15 | Vertical flight, S |
| 9. | 10:35 | <i>Merops apiaster</i> | 4 | 250 | 0; 0-5 | In shrubs, NE; 1 flying NE-NW |
| 10. | 10:43 | <i>Oenanthe oenanthe</i> | 2 | 70 | - | On the ground, pair |
| 11. | 10:17 | <i>Corvus frugilegus</i> | 2 | 150 | - | On the ground, short distance travelling, NE-SW |
| 12. | 10:23 | <i>Passer domesticus</i> | 8 | 50 | 10 | S-N |
| 13. | 10:33 | <i>Melanocorypha calandra</i> | 1 | 90 | 10-15 | Vertical flight, SW |
| 14. | 10:42 | <i>Passer montanus</i> | 10 | 160 | 0-5 | Flying above the agricultural land, S- NW |
| 15. | 11:01 | <i>Passer montanus</i> | 8 | 160 | 0; 0-10 | 3 stationary NE, 5 in flight N-S towards the agricultural land |
| 16. | 11:15 | <i>Corvus monedula</i> | 4 | 250 | - | Stationary flock |
| | | <i>Corvus frugilegus</i> | 3 | | | |
| 17. | 11:34 | <i>Perdix perdix</i> | 3 | 60 | - | Travelling on the ground E-N |
| 18. | 11:55 | <i>Pica pica</i> | 8 | 100 | - | 5 travelling on the ground, 3 flying over short distances |
| 19. | 12:01 | <i>Sturnus vulgaris</i> | 14 | 100 | 20 | Flock travelling above the agricultural land S-W |
| 20. | 12:33 | <i>Upupa epops</i> | 2 | 100 | 10 | E-N |
| 21. | 12:45 | <i>Upupa epops</i> | 1 | 100 | - | On the ground |

16 JULY

Wind direction and velocity: SSE, 4 m/s

Temperature: +32°C

Atmospheric pressure: 758 mmHg

Sky: mostly clear

Transect 1

Start time: 8:27

Finish time: 10:32

| Obs. No. | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|----------|------|-------------------------------|-------------------------------|--------------------|----------|--------------------|
| 1. | 8:29 | 43 m | <i>Melanocorypha calandra</i> | 2 | Arable | In flight, singing |

| | | | | | | |
|-----|-------|--------|----------------------------------|---|-----------|-----------------------------------|
| 2. | 8:30 | 54 m | <i>Corvus cornix</i> | 5 | Arable | On the ground |
| 3. | 8:30 | 62 m | <i>Alauda arvensis</i> | 1 | Arable | On the ground, Foraging |
| 4. | 8:31 | 73 m | <i>Lanius minor</i> | 1 | Forest | In flight |
| 5. | 8:32 | 107 m | <i>Cuculus canorus</i> | 1 | Forest | In tree, at the edge of the woods |
| 6. | 8:33 | 123 m | <i>Lanius minor</i> | 1 | Forest | Stationary |
| 7. | 8:35 | 168 m | <i>Upupa epops</i> | 1 | Grassland | In flight |
| 8. | 8:37 | 227 m | <i>Oenanthe oenanthe</i> | 2 | Grassland | In flight and on the ground |
| 9. | 8:40 | 312 m | <i>Calandrella brachydactyla</i> | 4 | Grassland | In flight, singing |
| 10. | 8:46 | 463 m | <i>Falco tinnunculus</i> | 1 | Grassland | In flight |
| 11. | 8:48 | 528 m | <i>Merops apiaster</i> | 2 | Grassland | In flight |
| 12. | 8:52 | 639 m | <i>Lanius minor</i> | 1 | Grassland | In flight |
| 13. | 8:54 | 698 m | <i>Miliaria calandra</i> | 1 | Grassland | In flight, singing |
| 14. | 8:56 | 748 m | <i>Miliaria calandra</i> | 3 | Grassland | In flight and on the ground |
| 15. | 9:01 | 867 m | <i>Coracias garrulus</i> | 1 | Grassland | In flight |
| 16. | 9:05 | 963 m | <i>Lanius minor</i> | 1 | Grassland | In flight |
| 17. | 9:07 | 1024 m | <i>Calandrella brachydactyla</i> | 2 | Arable | On the ground |
| 18. | 9:12 | 1162 m | <i>Pica pica</i> | 4 | Arable | On the ground |
| 19. | 9:17 | 1283 m | <i>Passer montanus</i> | 3 | Arable | On the ground |
| 20. | 9:19 | 1348 m | <i>Hirundo rustica</i> | 3 | Arable | In flight |
| 21. | 9:23 | 1452 m | <i>Corvus frugilegus</i> | 6 | Arable | In flight |
| 22. | 9:26 | 1523 m | <i>Corvus monedula</i> | 3 | Arable | On the ground |
| 23. | 9:28 | 1573 m | <i>Lanius minor</i> | 2 | Grassland | In shrubs |
| | | | <i>Lanius collurio</i> | 1 | | |
| 24. | 9:29 | 1608 m | <i>Coracias garrulus</i> | 1 | Grassland | In flight |
| 25. | 9:31 | 1659 m | <i>Falco tinnunculus</i> | 1 | Arable | In flight |
| 26. | 9:32 | 1687 m | <i>Phasianus colchicus</i> | 2 | Grassland | On the ground |
| 27. | 9:33 | 1719 m | <i>Lanius collurio</i> | 2 | Grassland | Stationary, in shrubs |
| 28. | 9:34 | 1753 m | <i>Upupa epops</i> | 1 | Grassland | In flight |
| 29. | 9:37 | 1823 m | <i>Calandrella brachydactyla</i> | 1 | Grassland | In flight |
| 30. | 9:40 | 1893 m | <i>Carduelis cannabina</i> | 2 | Grassland | Stationary |
| 31. | 9:43 | 1967 m | <i>Miliaria calandra</i> | 2 | Grassland | In flight, singing |
| 32. | 9:45 | 2014 m | <i>Garrulus glandarius</i> | 1 | Grassland | In forest |
| 33. | 9:46 | 2032 m | <i>Fringilla coelebs</i> | 4 | Grassland | At the edge of the woods |
| 34. | 9:51 | 2154 m | <i>Lanius minor</i> | 2 | Grassland | In shrubs |
| 35. | 9:53 | 2219 m | <i>Upupa epops</i> | 2 | Grassland | In flight |
| 36. | 9:56 | 2296 m | <i>Merops apiaster</i> | 1 | Grassland | In flight |
| 37. | 9:58 | 2357 m | <i>Lanius collurio</i> | 1 | Grassland | In flight |
| 38. | 10:01 | 2426 m | <i>Calandrella brachydactyla</i> | 3 | Grassland | Stationary |
| 39. | 10:07 | 2576 m | <i>Lanius minor</i> | 2 | Grassland | Stationary |
| 40. | 10:13 | 2738 m | <i>Merops apiaster</i> | 2 | Grassland | In flight |
| 41. | 10:17 | 2843 m | <i>Galerida cristata</i> | 2 | Grassland | On the ground |

Transect 2

Start time: 7:26

Finish time: 9:22

| Nr. Crt obs | Hour | Distance from the start point | Species | No. of individ uals | Habitats | Observations |
|-------------|-------|-------------------------------|----------------------------------|---------------------|-----------|----------------------------------|
| 1. | 7:39 | 15 m | <i>Lanius minor</i> | 2 | grassland | Stationary and in flight |
| 2. | 7:41 | 59 m | <i>Lanius collurio</i> | 1 | grassland | In shrubs |
| 3. | 7:42 | 87 m | <i>Upupa epops</i> | 2 | grassland | In flight |
| 4. | 7:43 | 116 m | <i>Coracias garrulus</i> | 1 | grassland | In flight |
| 5. | 7:44 | 134 m | <i>Passer montanus</i> | 6 | grassland | On the ground |
| | | | <i>Passer domesticus</i> | 5 | | |
| 6. | 7:46 | 167 m | <i>Melanocorypha calandra</i> | 2 | arable | On the ground, singing |
| 7. | 7:47 | 187 m | <i>Corvus cornix</i> | 3 | arable | On the ground |
| | | | <i>Corvus frugilegus</i> | 4 | | |
| 8. | 7:49 | 229 m | <i>Calandrella brachydactyla</i> | 5 | arable | In flight and on the ground |
| 9. | 7:51 | 316 m | <i>Alauda arvensis</i> | 2 | arable | On the ground |
| 10. | 7:53 | 383 m | <i>Sturnus vulgaris</i> | 7 | arable | In flight |
| 11. | 7:56 | 462 m | <i>Pica pica</i> | 5 | arable | In flight |
| 12. | 7:59 | 532 m | <i>Lanius minor</i> | 1 | arable | In flight |
| 13. | 8:01 | 576 m | <i>Hirundo rustica</i> | 6 | arable | In flight |
| 14. | 8:03 | 634 m | <i>Melanocorypha calandra</i> | 1 | arable | In flight |
| 15. | 8:05 | 684 m | <i>Melanocorypha calandra</i> | 2 | arable | In flight, singing |
| 16. | 8:06 | 712 m | <i>Miliaria calandra</i> | 3 | grassland | Stationary |
| 17. | 8:07 | 736 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 18. | 8:08 | 767 m | <i>Oenanthe oenanthe</i> | 2 | grassland | On the ground, in the stony area |
| 19. | 8:11 | 772 m | <i>Galerida cristata</i> | 5 | grassland | At the edge of the road |
| 20. | 8:11 | 786 m | <i>Perdix perdix</i> | 2 | grassland | On the ground |
| 21. | 8:12 | 799 m | <i>Upupa epops</i> | 1 | grassland | In flight |
| 22. | 8:14 | 829 m | <i>Pica pica</i> | 3 | grassland | In flight |
| 23. | 8:18 | 927 m | <i>Falco tinnunculus</i> | 1 | arable | In flight |
| 24. | 8:19 | 1034 m | <i>Corvus frugilegus</i> | 5 | arable | On the ground |
| 25. | 8:24 | 1173 m | <i>Sturnus vulgaris</i> | 8 | arable | In flight |
| 26. | 8: 29 | 1286 m | <i>Passer montanus</i> | 5 | arable | On the ground |
| 27. | 8:35 | 1421 m | <i>Passer domesticus</i> | 5 | arable | On the ground |
| 28. | 8:43 | 1623 m | <i>Pica pica</i> | 2 | arable | In flight |
| 29. | 8:45 | 1676 m | <i>Merops apiaster</i> | 1 | arable | In flight |
| 30. | 8:47 | 1728 m | <i>Corvus monedula</i> | 6 | arable | In flight and on the ground |
| 31. | 8:25 | 1863 m | <i>Corvus frugilegus</i> | 2 | | |
| | | | <i>Corvus cornix</i> | 3 | | |
| 32. | 8:31 | 1969 m | <i>Calandrella brachydactyla</i> | 3 | arable | In flight and on the ground |
| 33. | 8:33 | 1995 m | <i>Calandrella brachydactyla</i> | 1 | arable | In flight |
| 34. | 8:37 | 2083 m | <i>Perdix perdix</i> | 3 | arable | On the ground |
| 35. | 8:40 | 2168 m | <i>Fringilla coelebs</i> | 3 | arable | In flight |
| 36. | 8:42 | 2223 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 37. | 8:45 | 2286 m | <i>Lanius minor</i> | 2 | grassland | In flight |
| 38. | 8:47 | 2335 m | <i>Lanius collurio</i> | 2 | forest | Stationary |
| 39. | 8:49 | 2375 m | <i>Fringilla coelebs</i> | 2 | grassland | Forest |
| 40. | 8:52 | 2447 m | <i>Oenanthe oenanthe</i> | 2 | grassland | In flight and on the ground |
| 41. | 8:54 | 2489 m | <i>Merops apiaster</i> | 1 | grassland | Stationary |
| 42. | 8:55 | 2512 m | <i>Lanius minor</i> | 2 | shrubs | Stationary |

| | | | | | | |
|-----|------|--------|------------------------|---|-----------|---------------------------|
| 43. | 8:57 | 2554 m | <i>Merops apiaster</i> | 1 | shrubs | At the edge of the forest |
| 44. | 8:59 | 2602 m | <i>Lanius collurio</i> | 3 | shrubs | In flight |
| 45. | 9:01 | 2663 m | <i>Lanius minor</i> | 2 | grassland | Forest |
| 46. | 9:04 | 2710 m | <i>Lanius minor</i> | 1 | grassland | At the edge of the forest |
| 47. | 9:09 | 2775 m | <i>Lanius collurio</i> | 1 | grassland | At the edge of the forest |

Transect 3

Start time: 7:08

Finish time: 10:37

| Obs. No. | Hour | Distance from the start point (m, km) | Species | No. of individuals | Habitats | Observations |
|----------|------|---------------------------------------|----------------------------------|--------------------|-----------|-----------------------------|
| 1. | 7:09 | 11 m | <i>Covus cornix</i> | 7 | arable | In flight |
| | | | <i>Corvus frugilegus</i> | 3 | | |
| 2. | 7:12 | 63 m | <i>Melanocorypha calandra</i> | 3 | arable | In flight, singing |
| 3. | 7:13 | 93 m | <i>Upupa epops</i> | 1 | arable | In flight |
| 4. | 7:14 | 123 m | <i>Alauda arvensis</i> | 2 | grassland | Stationary |
| 5. | 7:15 | 143 m | <i>Merops apiaster</i> | 1 | grassland | In shrubs |
| 6. | 7:16 | 169 m | <i>Miliaria calandra</i> | 1 | grassland | In flight, singing |
| 7. | 7:18 | 204 m | <i>Miliaria calandra</i> | 2 | grassland | In shrubs, singing |
| 8. | 7:20 | 239 m | <i>Lanius minor</i> | 2 | grassland | In flight |
| 9. | 7:22 | 287 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 10. | 7:25 | 363 m | <i>Oenanthe oenanthe</i> | 2 | grassland | Pair, on the ground |
| 11. | 7:28 | 415 m | <i>Coracias garrulus</i> | 2 | grassland | In flight |
| 12. | 7:32 | 511 m | <i>Oenanthe oenanthe</i> | 1 | grassland | In flight |
| 13. | 7:35 | 578 m | <i>Oenanthe oenanthe</i> | 3 | grassland | In flight and on the ground |
| 14. | 7:37 | 612 m | <i>Passer montanus</i> | 6 | grassland | In flight |
| 15. | 7:40 | 692 m | <i>Miliaria calandra</i> | 3 | grassland | In flight |
| 16. | 7:42 | 749 m | <i>Galerida cristata</i> | 3 | grassland | On the ground |
| 17. | 7:42 | 756 m | <i>Calandrella brachydactyla</i> | 5 | grassland | In flight and on the ground |
| 18. | 7:43 | 767 m | <i>Merops apiaster</i> | 1 | grassland | In flight |
| 19. | 7:45 | 805 m | <i>Corvus frugilegus</i> | 5 | grassland | In flight |
| 20. | 7:46 | 837 m | <i>Oenanthe oenanthe</i> | 3 | grassland | On the ground |
| 21. | 7:49 | 913 m | <i>Upupa epops</i> | 2 | grassland | In flight |
| 22. | 7:52 | 975 m | <i>Corvus monedula</i> | 5 | arable | On the ground |
| 23. | 7:55 | 1048 m | <i>Melanocorypha calandra</i> | 1 | arable | In flight |
| 24. | 7:56 | 1064 m | <i>Miliaria calandra</i> | 2 | arable | In flight |
| 25. | 7:59 | 1146 m | <i>Falco tinnunculus</i> | 1 | grassland | In flight |
| 26. | 8:01 | 1186 m | <i>Lanius collurio</i> | 1 | grassland | In flight |
| 27. | 8:03 | 1222 m | <i>Calandrella brachydactyla</i> | 3 | grassland | In flight |
| 28. | 8:05 | 1273 m | <i>Lanius minor</i> | 2 | grassland | In flight |
| 29. | 8:07 | 1304 m | <i>Lanius collurio</i> | 2 | grassland | Pairs, in flight |
| 30. | 8:09 | 1359 m | <i>Merops apiaster</i> | 1 | grassland | In flight |
| 31. | 8:12 | 1425 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 32. | 8:15 | 1506 m | <i>Hirundo rustica</i> | 11 | grassland | In flight and on |

| | | | | | | |
|-----|-------|--------|--------------------------------------|---|-----------|--------------------------------|
| | | | | | | the ground |
| 33. | 8:21 | 1616 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 34. | 8:22 | 1624 m | <i>Corvus cornix</i> | 3 | grassland | On the ground |
| 35. | 8:27 | 1767 m | <i>Passer domesticus</i> | 4 | grassland | In flight |
| 36. | 8:31 | 1876 m | <i>Phasianus colchicus</i> | 1 | grassland | On the ground |
| 37. | 8:37 | 2045 m | <i>Upupa epops</i> | 2 | grassland | In flight |
| 38. | 8:41 | 2154 m | <i>Lanius collurio</i> | 2 | grassland | In flight |
| 39. | 8:48 | 2314 m | <i>Lanius minor</i> | 2 | grassland | In shrubs |
| 40. | 8:54 | 2449 m | <i>Lanius collurio</i> | 1 | grassland | In flight |
| 41. | 9:00 | 2588 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 42. | 9:07 | 2752 m | <i>Lanius minor</i> | 2 | grassland | In flight |
| 43. | 9:13 | 2875 m | <i>Lanius collurio</i> | 1 | grassland | In flight |
| 44. | 9:21 | 3072 m | <i>Pica pica</i> | 2 | grassland | On the ground |
| 45. | 9:22 | 3095 m | <i>Lanius collurio</i> | 2 | grassland | In flight |
| 46. | 9:25 | 3158 m | <i>Calandrella brachydactyla</i> | 2 | grassland | In flight and on the ground |
| 47. | 9:31 | 3286 m | <i>Calandrella brachydactyla</i> | 2 | grassland | On the ground |
| 48. | 9:34 | 3352 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 49. | 9:38 | 3445 m | <i>Pica pica</i> | 3 | arable | On the ground |
| 50. | 9:39 | 3474 m | <i>Galerida cristata</i> | 4 | arable | On the ground |
| 51. | 9:44 | 3589 m | <i>Corvus frugilegus</i> | 2 | arable | In flight |
| 52. | 10:01 | 3723 m | <i>Garrulus glandarius</i> | 1 | grassland | At the edge of the woods |
| 53. | 10:05 | 3809 m | <i>Lanius collurio</i> | 1 | grassland | In flight |
| 54. | 10:12 | 3946 m | <i>Lanius collurio</i> | 2 | grassland | In shrubs |
| 55. | 10:19 | 4113 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 56. | 10:24 | 4224 m | <i>Lanius collurio</i> | 1 | grassland | In flight |
| 57. | 10:31 | 4365 m | <i>Lanius minor</i> | 1 | grassland | In flight |

Transect 4

Start time: 8:09

Finish time: 10:23

| Obs. No. | Hour | Distance from the start point (m, km) | Species | No. of individuals | Habitats | Observations |
|----------|------|---------------------------------------|--------------------------|--------------------|-----------|----------------------------------|
| 1. | 8:12 | 71 m | <i>Corvus frugilegus</i> | 7 | arable | In flight |
| 2. | 8:15 | 131 m | <i>Passer domesticus</i> | 6 | arable | In flight |
| 3. | 8:18 | 194 m | <i>Pica pica</i> | 5 | arable | In flight and on the ground |
| 4. | 8:20 | 253 m | <i>Galerida cristata</i> | 3 | arable | On the ground |
| 5. | 8:23 | 334 m | <i>Galerida cristata</i> | 2 | arable | On the ground |
| 6. | 8:25 | 377 m | <i>Galerida cristata</i> | 2 | arable | On the ground |
| 7. | 8:27 | 416 m | <i>Corvus cornix</i> | 7 | arable | In flight and on the ground |
| | | | <i>Corvus frugilegus</i> | 7 | | |
| | | | <i>Corvus monedula</i> | 2 | | |
| 8. | 8:29 | 476 m | <i>Upupa epops</i> | 1 | arable | In flight |
| 9. | 8:32 | 526 m | <i>Strunus vulgaris</i> | 26 | arable | Flock passing over the grassland |
| 10. | 8:33 | 559 m | <i>Miliaria calandra</i> | 1 | arable | In flight, singing |
| 11. | 8:35 | 615 m | <i>Corvus cornix</i> | 6 | arable | In flight |
| 12. | 8:37 | 683 m | <i>Carduelis chloris</i> | 3 | grassland | In flight |
| 13. | 8:38 | 704 m | <i>Merops apiaster</i> | 2 | grassland | In flight |
| 14. | 8:40 | 758 m | <i>Lanius collurio</i> | 4 | grassland | Stationary and |

| | | | | | | |
|-----|-------|--------|----------------------------------|---|-------------------|---|
| | | | | | | in flight |
| 15. | 8:44 | 864 m | <i>Alauda arvensis</i> | 1 | grassland | In flight |
| 16. | 8:47 | 947 m | <i>Carduelis carduelis</i> | 6 | agricultural land | Stationary |
| 17. | 8:49 | 1008 m | <i>Sturnus vulgaris</i> | 8 | arable | Stationary on electrical lines |
| 18. | 8:51 | 1064 m | <i>Upupa epops</i> | 1 | arable | In flight |
| 19. | 8:53 | 1113 m | <i>Meropa apiaster</i> | 2 | arable | Stationary on electrical lines |
| 20. | 8:56 | 1194 m | <i>Corvus monedula</i> | 4 | arable | In flight |
| 21. | 8:57 | 1214 m | <i>Melanocorypha calandra</i> | 3 | arable | In flight and on the ground, singing |
| 22. | 8:59 | 1275 m | <i>Melanocorypha calandra</i> | 1 | arable | On the ground |
| 23. | 9:02 | 1337 m | <i>Calandrella brachydactyla</i> | 2 | arable | In flight and on the ground |
| 24. | 9:04 | 1397 m | <i>Calandrella brachydactyla</i> | 1 | arable | On the ground |
| | 9:07 | 1472 m | <i>Falco tinnunculus</i> | 1 | arable | In flight, stationary and active flying |
| 25. | 9:09 | 1535 m | <i>Corvus frugilegus</i> | 2 | arable | In flight |
| 26. | 9:12 | 1605 m | <i>Pica pica</i> | 4 | arable | In flight |
| 27. | 9:16 | 1712 m | <i>Passer domesticus</i> | 4 | arable | In flight and on the ground |
| | | | <i>Passer montanus</i> | 9 | | |
| 28. | 9:21 | 1835 m | <i>Galerida cristata</i> | 1 | arable | On the ground |
| 29. | 9:24 | 1912 m | <i>Calandrella brachydactyla</i> | 3 | arable | In flight, singing |
| 30. | 9:27 | 1974 m | <i>Calandrella brachydactyla</i> | 1 | arable | In flight |
| 31. | 9:37 | 2155 m | <i>Calandrella brachydactyla</i> | 1 | arable | On the ground |
| 32. | 9:42 | 2287 m | <i>Miliaria calandra</i> | 1 | arable | In flight |
| 33. | 9:43 | 2301 m | <i>Galerida cristata</i> | 2 | arable | On the ground |
| 34. | 9:45 | 2331 m | <i>Meropa apiaster</i> | 1 | arable | In flight |
| 35. | 9:55 | 2569 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 36. | 9:59 | 2669 m | <i>Lanius collurio</i> | 2 | grassland | In shrubs |
| 37. | 10:02 | 2736 m | <i>Hirundo rustica</i> | 6 | grassland | In flight |
| 38. | 10:06 | 2825 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 39. | 10:08 | 2863 m | <i>Lanius collurio</i> | 1 | grassland | In flight |
| 40. | 10:13 | 2983 m | <i>Galerida cristata</i> | 1 | grassland | In flight |
| | | | <i>Meropa apiaster</i> | 2 | | |
| 41. | 10:16 | 3036 m | <i>Lanius minor</i> | 3 | grassland | In flight |

26 JULY

Wind direction and velocity: E, 5m/s

Temperature: +33°C

Atmospheric pressure: 758 mmHg

Sky: clear

VP1

Start time: 9:01

Finish time: 12:22

| Obs . No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|-----------|-------|----------------------------------|--------------------|--|-------------------|-----------------------------------|
| 1. | 9:16 | <i>Alauda arvensis</i> | 2 | 145 | - | On the ground, W |
| 2. | 9:18 | <i>Buteo buteo</i> | 1 | 450 | 250 | N-E |
| 3. | 9:22 | <i>Calandrella brachydactyla</i> | 3 | 350; 200 | 0-10-15 | W-NE short flight |
| 4. | 9:32 | <i>Corvus cornix</i> | 4 | 300 | - | On the ground NE |
| 5. | 9:35 | <i>Falco tinnunculus</i> | 1 | 250 | - | On the ground |
| 6. | 9:42 | <i>Upupa epops</i> | 1 | 250 | - | On the ground |
| 7. | 9:49 | <i>Upupa epops</i> | 1 | 150 | 15 | N-S |
| 8. | 10:01 | <i>Corvus frugilegus</i> | 3 | 350 | - | On the ground |
| | | <i>Corvus monedula</i> | 2 | | | |
| 9. | 10:04 | <i>Lanius collurio</i> | 1 | 150 | - | NW |
| 10. | 10:08 | <i>Calandrella brachydactyla</i> | 2 | 150 | - | On the ground, NNE |
| 11. | 10:11 | <i>Lanius minor</i> | 3 | 200 | 15 | SW-NE |
| 12. | 10:16 | <i>Falco tinnunculus</i> | 2 | 350 | 150 | E-S-SW |
| 13. | 10:18 | <i>Lanius collurio</i> | 2 | 250 | - | In shrubs, N |
| 14. | 10:23 | <i>Galerida cristata</i> | 1 | 100 | 150 | Short flight W-NE |
| 15. | 10:26 | <i>Pica pica</i> | 2 | 150 | - | On the ground |
| 16. | 10:28 | <i>Oenanthe oenanthe</i> | 1 | 250 | - | On the ground |
| 17. | 10:31 | <i>Oenanthe oenanthe</i> | 1 | 200 | - | On the ground |
| 18. | 10:34 | <i>Corvus frugilegus</i> | 3 | 250 | 15 | S-W |
| 19. | 10:37 | <i>Lanius collurio</i> | 2 | 250 | 10-15 | SW-N |
| 20. | 10:58 | <i>Pica pica</i> | 2 | 200 | - | On the ground |
| 21. | 11:13 | <i>Lanius minor</i> | 1 | 150 | - | In tree |
| 22. | 11:16 | <i>Miliaria calandra</i> | 2 | 100 | 10 | Vertical flight |
| 23. | 11:21 | <i>Merops apiaster</i> | 2 | 200 | - | On the ground, N |
| 24. | 11:25 | <i>Oenanthe oenanthe</i> | 1 | 200 | 10-15 | S-N |
| 25. | 11:29 | <i>Passer montanus</i> | 2 | 150 | 20 | S-N |
| 26. | 11:31 | <i>Phasianus colchicus</i> | 1 | 350 | - | Towards the forest |
| 27. | 11:33 | <i>Merops apiaster</i> | 2 | 200 | - | On the ground, S |
| 28. | 11:35 | <i>Lanius collurio</i> | 3 | 115 | 0; 9 | 1 in tree, 2 NE-W in tree |
| 29. | 11:37 | <i>Pelecanus onocrotalus</i> | 90 | 150 | 900 | W-SE |
| 30. | 11:42 | <i>Galerida cristata</i> | 1 | 100 | 150 | On the ground |
| 31. | 11:51 | <i>Lanius minor</i> | 1 | 250 | - | On the ground |
| 32. | 12:01 | <i>Pica pica</i> | 3 | 200 | 0; 7 | On the ground; 2 short flight S-W |
| 33. | 12:11 | <i>Oenanthe oenanthe</i> | 1 | 150 | - | On the ground |
| 34. | 12:15 | <i>Upupa epops</i> | 1 | 250 | - | On the ground |

VP3

Start time: 9:22

Finish time: 11:47

| Obs . No. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|-----------|------|----------------------------------|--------------------|--|-------------------|-----------------------------------|
| 1. | 9:23 | <i>Alauda arvensis</i> | 1 | 150 | - | On the ground |
| 2. | 9:25 | <i>Calandrella brachydactyla</i> | 3 | 150 | 0; 0-15 | On the ground, 2 E-N short flight |
| 3. | 9:27 | <i>Buteo buteo</i> | 1 | 750 | 0-10 | SE-NE |
| 4. | 9:29 | <i>Lanius collurio</i> | 1 | 250 | - | In tree |

| | | | | | | |
|-----|-------|----------------------------------|----|-----|------------|---|
| 5. | 9:33 | <i>Calandrella brachydactyla</i> | 1 | 200 | 0-10 | N |
| 6. | 9:35 | <i>Calandrella brachydactyla</i> | 2 | 150 | 0-10 | E, On the ground |
| 7. | 9:37 | <i>Upupa epops</i> | 1 | 100 | 10 | S-E, singing |
| 8. | 9:41 | <i>Carduelis carduelis</i> | 2 | 150 | 0-15 | E-N |
| 9. | 9:42 | <i>Corvus cornix</i> | 6 | 250 | - | Mixed flock, On the ground |
| | | <i>Corvus frugilegus</i> | 10 | | | |
| | | <i>Pica pica</i> | 7 | | | |
| 10. | 9:45 | <i>Calandrella brachydactyla</i> | 1 | 150 | - | On the ground |
| 11. | 9:53 | <i>Lanius collurio</i> | 2 | 150 | 0;8 | On the ground; flying between shrubs SE-NW |
| 12. | 9:55 | <i>Corvus monedula</i> | 1 | 100 | - | On the ground |
| 13. | 10:05 | <i>Galerida cristata</i> | 3 | 150 | 15 | W-N |
| 14. | 10:07 | <i>Lanius collurio</i> | 2 | 150 | - | In shrubs |
| 15. | 10:12 | <i>Lanius minor</i> | 4 | 200 | 0; 10 | In shrubs; 2 in flight N |
| 16. | 11:15 | <i>Miliaria calandra</i> | 1 | 100 | - | In shrubs, singing |
| 17. | 11:16 | <i>Lanius collurio</i> | 1 | 200 | 10 | N-SE |
| 18. | 11:19 | <i>Passer montanus</i> | 6 | 90 | 10 | S-NE |
| 19. | 11:21 | <i>Calandrella brachydactyla</i> | 1 | 150 | - | On the ground |
| 20. | 11:27 | <i>Pica pica</i> | 2 | 100 | 0; 0-15-20 | On the ground; short flight S-E |
| | | <i>Sturnus vulgaris</i> | 26 | | | |
| 21. | 11:33 | <i>Upupa epops</i> | 1 | 100 | 10 | S-W |
| 22. | 11:35 | <i>Sturnus vulgaris</i> | 47 | 100 | - | On the ground, W |
| 23. | 11:41 | <i>Upupa epops</i> | 1 | 150 | 10 | E-N |

16 AUGUST 2012

Wind direction and velocity: NNW, 4 m/s

Temperature: +28° C

Atmospheric pressure: 759 mmHg

Sky: clear

Transect 1

Start time: 9:42

Finish time: 11:51

| Nr. Crt obs | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|-------------|-------|-------------------------------|--------------------------|--------------------|-----------|-----------------------------|
| 1 | 9:43 | 23 m | <i>Buteo buteo</i> | 1 | arable | In flight |
| 2 | 9:44 | 54 m | <i>Dendrocopos major</i> | 1 | arable | At forest edge |
| 3 | 9:46 | 84 m | <i>Cuculus canorus</i> | 1 | grassland | At forest edge |
| 4 | 9:47 | 103 m | <i>Fringilla coelebs</i> | 6 | grassland | In flight towards the woods |
| 5 | 9:49 | 168 m | <i>Lanius collurio</i> | 1 | grassland | In shrubs |
| 6 | 9:51 | 233 m | <i>Miliaria calandra</i> | 2 | grassland | In shrubs, singing |
| 7 | 9:55 | 326 m | <i>Oenanthe oenanthe</i> | 2 | grassland | On the ground |
| 8 | 9:58 | 398 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 9 | 10:01 | 475 m | <i>Upupa epops</i> | 1 | grassland | In shrubs |
| 10 | 10:03 | 528 m | <i>Lanius minor</i> | 1 | grassland | In shrubs |
| 11 | 10:11 | 712 m | <i>Merops apiaster</i> | 2 | grassland | In shrubs |
| 12 | 10:16 | 854 m | <i>Miliaria calandra</i> | 3 | grassland | In flight |

| | | | | | | |
|----|-------|--------|----------------------------------|---|-----------|------------------------------------|
| 13 | 10:19 | 934 m | <i>Calandrella brachydactyla</i> | 2 | grassland | In flight |
| 14 | 10:24 | 1064 m | <i>Melanocorypha calandra</i> | 2 | arable | On the ground |
| 15 | 10:27 | 1149 m | <i>Perdix perdix</i> | 5 | arable | In flight along the forest edge |
| 16 | 10:31 | 1238 m | <i>Upupa epops</i> | 1 | arable | In shrubs |
| 17 | 10:33 | 1276 m | <i>Passer montanus</i> | 5 | arable | On the ground |
| | | | <i>Passer domesticus</i> | 3 | | |
| 18 | 10:38 | 1386 m | <i>Melanocorypha calandra</i> | 1 | arable | On the ground |
| 19 | 10:40 | 1427 m | <i>Melanocorypha calandra</i> | 1 | arable | In shrubs, singing |
| 20 | 10:42 | 1487 m | <i>Miliaria calandra</i> | 2 | grassland | Stationary |
| 21 | 10:44 | 1518 m | <i>Lanius minor</i> | 3 | grassland | In shrubs, on the ground |
| 22 | 10:45 | 1543 m | <i>Buteo rufinus</i> | 1 | arable | In flight, stationary |
| 23 | 10:48 | 1613 m | <i>Passer montanus</i> | 6 | arable | In flight |
| | | | <i>Passer domesticus</i> | 5 | | |
| 24 | 10:49 | 1623 m | <i>Phasianus colchicus</i> | 1 | grassland | On the ground, singing |
| 25 | 10:52 | 1683 m | <i>Merops apiaster</i> | 3 | grassland | In flight, singing |
| 26 | 10:54 | 1733 m | <i>Lanius collurio</i> | 3 | grassland | In flight, in shrubs, foraging |
| 27 | 10:58 | 1835 m | <i>Coracias garrulus</i> | 2 | grassland | In shrubs |
| 28 | 11:00 | 1897 m | <i>Dendrocopos medius</i> | 2 | grassland | In flight |
| 29 | 11:01 | 1925 m | <i>Dendrocopos major</i> | 1 | grassland | In flight |
| 30 | 11:03 | 1967 m | <i>Lanius minor</i> | 2 | grassland | In flight |
| 31 | 11:05 | 2038 m | <i>Miliaria calandra</i> | 1 | grassland | In shrubs |
| 32 | 11:15 | 2279 m | <i>Lanius collurio</i> | 2 | grassland | In shrubs, on the ground |
| 33 | 11:17 | 2312 m | <i>Buteo buteo</i> | 1 | grassland | On the ground |
| 34 | 11:21 | 2364 m | <i>Merops apiaster</i> | 1 | grassland | In shrubs |
| 35 | 11:24 | 2436 m | <i>Lanius minor</i> | 2 | grassland | In flight, towards the forest edge |
| 36 | 11:34 | 2647 m | <i>Miliaria calandra</i> | 1 | grassland | In flight |

Transect 2

Start time: 8:21

Finish time: 10:28

| Nr. Crt obs | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|-------------|------|-------------------------------|-------------------------------|--------------------|-----------|---------------------|
| 1 | 8:22 | 19 m | <i>Galerida cristata</i> | 1 | grassland | On the ground |
| 2 | 8:23 | 34 m | <i>Alauda arvensis</i> | 1 | grassland | In flight, singing |
| 3 | 8:24 | 56 m | <i>Oenanthe oenanthe</i> | 1 | grassland | On the ground |
| 4 | 8:27 | 125 m | <i>Perdix perdix</i> | 2 | grassland | On the ground |
| 5 | 8:29 | 173 m | <i>Galerida cristata</i> | 1 | grassland | On the ground |
| 6 | 8:31 | 238 m | <i>Melanocorypha calandra</i> | 2 | arable | In shrubs |
| 7 | 8:34 | 368 m | <i>Passer domesticus</i> | 4 | arable | Flock in flight |
| 8 | 8:41 | 557 m | <i>Corvus cornix</i> | 7 | arable | Flock on the ground |

| | | | | | | |
|----|-------|--------|----------------------------------|----|-----------|------------------------------------|
| 9 | 8:48 | 728 m | <i>Carduelis chloris</i> | 4 | grassland | Flock in flight |
| 10 | 8:53 | 791 m | <i>Perdix perdix</i> | 4 | grassland | On the roadside |
| 11 | 8:55 | 847 m | <i>Pica pica</i> | 6 | grassland | In flight, On the ground |
| 12 | 8:58 | 928 m | <i>Buteo buteo</i> | 1 | arable | In flight, stationary |
| 13 | 9:04 | 1091 m | <i>Calandrella brachydactyla</i> | 2 | arable | In shrubs |
| 14 | 9:13 | 1309 m | <i>Buteo buteo</i> | 1 | arable | In flight |
| 15 | 9:21 | 1504 m | <i>Hirundo rustica</i> | 11 | arable | In flight |
| 16 | 9:24 | 1589 m | <i>Hirundo rustica</i> | 6 | arable | On the ground |
| 17 | 9:28 | 1689 m | <i>Galerida cristata</i> | 1 | arable | In flight |
| 18 | 9:34 | 1824 m | <i>Passer montanus</i> | 8 | arable | In shrubs |
| 19 | 9:44 | 2064 m | <i>Pica pica</i> | 7 | arable | On the ground |
| 20 | 9:49 | 2187 m | <i>Alauda arvensis</i> | 2 | arable | In flight |
| 21 | 9:51 | 2245 m | <i>Carduelis cannabina</i> | 4 | arable | On the ground |
| 22 | 9:52 | 2273 m | <i>Passer domesticus</i> | 9 | grassland | In flight |
| 23 | 9:54 | 2332 m | <i>Lanius collurio</i> | 1 | grassland | In shrubs |
| 24 | 9:58 | 2434 m | <i>Merops apiaster</i> | 1 | grassland | In flight, towards the forest edge |
| 25 | 10:01 | 2512 m | <i>Merops apiaster</i> | 2 | grassland | In shrubs |
| 26 | 10:04 | 2608 m | <i>Coracias garrulus</i> | 1 | grassland | On the ground |
| 27 | 10:06 | 2635 m | <i>Lanius minor</i> | 3 | grassland | In flight, towards the forest edge |
| 28 | 10:13 | 2793 m | <i>Lanius collurio</i> | 2 | grassland | In flight, in shrubs |
| 29 | 10:16 | 2833 m | <i>Lanius minor</i> | 1 | grassland | Flying along forest edge |
| 30 | 10:19 | 2928 m | <i>Carduelis cannabina</i> | 2 | agricol | On the ground |
| 31 | 10:21 | 2983 m | <i>Carduelis cannabina</i> | 3 | agricol | In flight, on the ground |

Transect 3

Start time: 8:02

Finish time: 11:42

| Nr. Crt obs | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|-------------|------|-------------------------------|----------------------------------|--------------------|-----------|---------------------------------|
| 1. | 8:04 | 66 m | <i>Buteo buteo</i> | 1 | arable | In flight |
| 2. | 8:06 | 127 m | <i>Calandrella brachydactyla</i> | 1 | arable | In flight |
| 3. | 8:07 | 143 m | <i>Calandrella brachydactyla</i> | 2 | grassland | On the ground |
| 4. | 8:08 | 167 m | <i>Miliaria calandra</i> | 1 | grassland | In shrubs |
| 5. | 8:10 | 224 m | <i>Lanius minor</i> | 2 | grassland | In shrubs |
| 6. | 8:14 | 313 m | <i>Lanius collurio</i> | 1 | grassland | In flight |
| 7. | 8:21 | 474 m | <i>Upupa epops</i> | 1 | grassland | On the ground |
| 8. | 8:25 | 568 m | <i>Oenanthe oenanthe</i> | 1 | grassland | In shrubs |
| 9. | 8:27 | 626 m | <i>Merops apiaster</i> | 1 | grassland | On the ground |
| 10. | 8:31 | 699 m | <i>Miliaria calandra</i> | 2 | grassland | In flight |
| 11. | 8:36 | 794 m | <i>Corvus frugilegus</i> | 32 | grassland | Flock in flight – communal road |
| 12. | 8:40 | 832 m | <i>Galerida cristata</i> | 1 | grassland | On the ground |

| | | | | | | |
|-----|-------|--------|----------------------------------|---|-----------|-----------------------------------|
| 13. | 8:42 | 876 m | <i>Oenanthe oenanthe</i> | 2 | grassland | On the ground |
| 14. | 8:45 | 947 m | <i>Oenanthe oenanthe</i> | 1 | grassland | On the ground |
| 15. | 8:51 | 1077 m | <i>Calandrella brachydactyla</i> | 2 | grassland | On the ground |
| 16. | 8:54 | 1126 m | <i>Pica pica</i> | 3 | arable | On the ground |
| 17. | 8:59 | 1267 m | <i>Passer montanus</i> | 9 | arable | In flight |
| 18. | 9:02 | 1335 m | <i>Alauda arvensis</i> | 1 | grassland | In flight |
| 19. | 9:12 | 1594 m | <i>Oenanthe oenanthe</i> | 1 | grassland | On the ground |
| 20. | 9:16 | 1675 m | <i>Miliaria calandra</i> | 2 | grassland | In shrubs |
| 21. | 9:18 | 1724 m | <i>Melanocorypha calandra</i> | 1 | grassland | On the ground |
| 22. | 9:27 | 1944 m | <i>Passer montanus</i> | 6 | arable | On the ground, flight |
| 23. | 9:34 | 2104 m | <i>Calandrella brachydactyla</i> | 3 | arable | In flight |
| 24. | 9:43 | 2328 m | <i>Buteo buteo</i> | 1 | grassland | In flight |
| 25. | 9:54 | 2579 m | <i>Alauda arvensis</i> | 2 | grassland | On the ground |
| 26. | 10:03 | 2815 m | <i>Oenanthe oenanthe</i> | 1 | grassland | On the ground |
| 27. | 10:09 | 2967 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 28. | 10:11 | 3017 m | <i>Lanius minor</i> | 1 | grassland | On the ground |
| 29. | 10:16 | 3152 m | <i>Lanius collurio</i> | 1 | grassland | In shrubs |
| 30. | 10:17 | 3172 m | <i>Merops apiaster</i> | 1 | grassland | In shrubs, singing |
| 31. | 10:20 | 3228 m | <i>Alauda arvensis</i> | 2 | grassland | In flight |
| 32. | 10:28 | 3428 m | <i>Perdix perdix</i> | 2 | grassland | On the ground |
| 33. | 10:32 | 3536 m | <i>Passer domesticus</i> | 8 | arable | On the ground |
| 34. | 10:39 | 3715 m | <i>Melanocorypha calandra</i> | 2 | arable | On the ground |
| 35. | 10:43 | 3807 m | <i>Melanocorypha calandra</i> | 1 | arable | In flight |
| 36. | 10:51 | 3984 m | <i>Dendrocopos medius</i> | 1 | grassland | In flight towards the forest edge |
| 37. | 10:58 | 4154 m | <i>Phasianus colchicus</i> | 1 | grassland | near the forest |
| 38. | 11:04 | 4287 m | <i>Lanius collurio</i> | 3 | grassland | In flight, in shrub |
| 39. | 11:07 | 4353 m | <i>Lanius minor</i> | 2 | grassland | In shrubs |
| 40. | 11:11 | 4437 m | <i>Merops apiaster</i> | 2 | grassland | In shrubs |
| 41. | 11:19 | 4621 m | <i>Lanius collurio</i> | 1 | grassland | In flight along the woodsides |
| 42. | 11:25 | 4773 m | <i>Lanius minor</i> | 2 | grassland | In flight towards the woods |
| 43. | 11:28 | 4839 m | <i>Lanius minor</i> | 1 | grassland | In flight |
| 44. | 11:31 | 4908 m | <i>Calandrella brachydactyla</i> | 1 | grassland | On the ground |

Transect 4

Start time: 7:48

Finish time: 10:08

| Nr. Crt obs | Hour | Distance from the start point | Species | No. of individuals | Habitats | Observations |
|-------------|------|-------------------------------|-------------------------------|--------------------|----------|---------------|
| 1. | 7:50 | 37 m | <i>Melanocorypha calandra</i> | 1 | arable | On the ground |
| 2. | 7:51 | 63 m | <i>Galerida cristata</i> | 2 | arable | On the ground |
| 3. | 7:53 | 104 m | <i>Pica pica</i> | 4 | arable | In flight |
| 4. | 7:55 | 154 m | <i>Galerida cristata</i> | 3 | arable | On the ground |
| 5. | 7:58 | 228 m | <i>Corvus monedula</i> | 4 | arable | On the ground |
| | | | <i>Corvus frugilegus</i> | 6 | | |

| | | | | | | |
|-----|------|--------|--------------------------------------|----|-----------|------------------------------------|
| | | | <i>Corvus cornix</i> | 9 | | |
| 6. | 8:01 | 269 m | <i>Pica pica</i> | 7 | arable | In shrubs |
| 7. | 8:04 | 337 m | <i>Calandrella brachydactyla</i> | 1 | arable | On the ground |
| 8. | 8:06 | 357 m | <i>Passer domesticus</i> | 13 | arable | On the ground |
| | | | <i>Passer montanus</i> | 9 | | |
| 9. | 8:09 | 417 m | <i>Hirundo rustica</i> | 9 | arable | In flight |
| 10. | 8:10 | 435 m | <i>Upupa epops</i> | 1 | grassland | On the ground |
| 11. | 8:12 | 464 m | <i>Hirundo rustica</i> | 6 | grassland | In flight |
| 12. | 8:14 | 507 m | <i>Carduelis chloris</i> | 3 | grassland | In shrubs |
| 13. | 8:16 | 547 m | <i>Merops apiaster</i> | 1 | grassland | In flight |
| 14. | 8:17 | 567 m | <i>Calandrella brachydactyla</i> | 1 | arable | On the ground |
| 15. | 8:21 | 634 m | <i>Melanocorypha calandra</i> | 1 | arable | On the ground |
| 16. | 8:23 | 654 m | <i>Sturnus vulgaris</i> | 12 | arable | On the ground |
| 17. | 8:24 | 674 m | <i>Galerida cristata</i> | 1 | arable | At the edge of the service road |
| 18. | 8:26 | 729 m | <i>Melanocorypha calandra</i> | 1 | arable | On the ground |
| 19. | 8:29 | 794 m | <i>Merops apiaster</i> | 2 | arable | On electrical lines |
| 20. | 8:32 | 861 m | <i>Passer domesticus</i> | 2 | arable | In flight and on the ground |
| 21. | 8:41 | 1075 m | <i>Corvus monedula</i> | 14 | arable | On the ground |
| 22. | 8:46 | 1183 m | <i>Calandrella brachydactyla</i> | 2 | arable | On the ground |
| 23. | 8:51 | 1259 m | <i>Carduelis cannabina</i> | 7 | arable | In flight, on the ground |
| 24. | 8:56 | 1388 m | <i>Perdix perdix</i> | 1 | arable | On the ground |
| 25. | 9:00 | 1471 m | <i>Corvus frugilegus</i> | 3 | arable | On the ground |
| 26. | 9:06 | 1623 m | <i>Carduelis cannabina</i> | 6 | arable | On the ground |
| 27. | 9:10 | 1813 m | <i>Galerida cristata</i> | 3 | arable | In flight |
| 28. | 9:21 | 2091 m | <i>Carduelis carduelis</i> | 6 | arable | In flight in shrubs |
| 29. | 9:28 | 2245 m | <i>Oenanthe oenanthe</i> | 2 | grassland | On the ground |
| 30. | 9:31 | 2314 m | <i>Lanius minor</i> | 1 | grassland | In shrubs |
| 31. | 9:36 | 2437 m | <i>Hirundo rustica</i> | 2 | grassland | On the ground |
| 32. | 9:39 | 2518 m | <i>Corvus frugilegus</i> | 9 | grassland | In flight |
| 33. | 9:43 | 2611 m | <i>Merops apiaster</i> | 1 | grassland | On the ground |
| 34. | 9:44 | 2625 m | <i>Passer montanus</i> | 14 | grassland | In flight |
| 35. | 9:48 | 2736 m | <i>Cuculus canorus</i> | 1 | grassland | In flight |
| 36. | 9:51 | 2817 m | <i>Dendrocopos major</i> | 1 | grassland | In shrubs |
| 37. | 9:51 | 2819 m | <i>Dendrocopos medius</i> | 1 | grassland | In flight |
| 38. | 9:53 | 2854 m | <i>Passer montanus</i> | 8 | grassland | On the ground |
| 39. | 9:59 | 2906 m | <i>Perdix perdix</i> | 2 | grassland | On the ground |

23 AUGUST

Wind direction and velocity: NW, 0.8m/s

Temperature: +25°C

Atmospheric pressure: 763 mmHg

Sky: clear

VP1

Start time: 9:23

Finish time: 11:02

| Nr. Crt obs | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|-------------|-------|----------------------------------|--------------------|--|-------------------|----------------------------|
| 1 | 09:25 | <i>Aquila heliaca</i> | 1 | 600 | 250 | N |
| 2 | 09:33 | <i>Alauda arvensis</i> | 4 | 100 | - | On the ground |
| 3 | 09:45 | <i>Buteo buteo</i> | 3 | 300 | 200 | N-E |
| 4 | 09:01 | <i>Buteo rufinus</i> | 1 | 350 | 250 | NE-SE |
| 5 | 09:05 | <i>Lanius minor</i> | 1 | 100 | - | NE |
| 6 | 09:07 | <i>Calandrella brachydactyla</i> | 2 | 100 | - | On the ground |
| 7 | 09:11 | <i>Carduelis cannabina</i> | 6 | 90 | - | S-E |
| 8 | 09:13 | <i>Oenanthe oenanthe</i> | 1 | 200 | - | On the ground |
| 9 | 09:15 | <i>Passer montanus</i> | 9 | 115 | - | Flock in flight E-N |
| 10 | 09:21 | <i>Falco tinnunculus</i> | 1 | 200 | - | On the ground |
| 11 | 09:37 | <i>Hieraaetus pennatus</i> | 1 | 350 | 350 | N |
| 12 | 09:42 | <i>Lanius collurio</i> | 2 | 100 | - | In shrubs |
| 13 | 09:49 | <i>Lanius minor</i> | 3 | 150 | - | In shrub |
| 14 | 09:57 | <i>Melanocorypha calandra</i> | 1 | 100 | 0-15-20 | In flight |
| 15 | 10:15 | <i>Merops apiaster</i> | 2 | 200 | 15-20 | In flight SW-NE |
| 16 | 10:26 | <i>Oenanthe oenanthe</i> | 1 | 150 | 20 | In flight |
| 17 | 10:36 | <i>Oenanthe oenanthe</i> | 2 | 150 | 0; 15 | On the ground; In flight W |
| 18 | 10:45 | <i>Passer domesticus</i> | 10 | 150 | - | On the ground; In flight W |
| 19 | 10:45 | <i>Passer montanus</i> | 8 | 150 | - | On the ground; In flight W |

VP3

Start time: 9:43

Finish time: 12:15

| Nr. Crt obs | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|-------------|-------|------------------------------|--------------------|--|-------------------|--------------------------------|
| 1 | 09:45 | <i>Buteo buteo</i> | 1 | 250 | - | On the ground |
| 2 | 10:02 | <i>Galerida cristata</i> | 1 | 100 | 15 | N-W |
| 3 | 10:14 | <i>Passer montanus</i> | 7 | 150 | - | On the ground |
| 4 | 10:17 | <i>Perdix perdix</i> | 1 | 200 | - | On the ground |
| 5 | 10:22 | <i>Lanius minor</i> | 1 | 250 | - | In shrub |
| 6 | 10:27 | <i>Galerida cristata</i> | 1 | 100 | - | On the ground |
| 7 | 10:33 | <i>Pelecanus onocrotalus</i> | 23 | 150 | 850 | NW-SE |
| 8 | 10:45 | <i>Lanius collurio</i> | 1 | 100 | 15 | N-SW |
| 9 | 10:59 | <i>Lanius minor</i> | 2 | 100 | - | In shrubs, flight E-N |
| 10 | 11:15 | <i>Passer domesticus</i> | 5 | 150 | - | On the ground short flight W-N |
| 11 | 11:22 | <i>Passer montanus</i> | 9 | 200 | - | On the ground |
| 12 | 11:28 | <i>Pelecanus onocrotalus</i> | 27 | 200 | 950 | NW-SE |
| 13 | 11:45 | <i>Perdix perdix</i> | 2 | 100 | - | On the ground |

5 SEPTEMBER 2012

Wind direction and velocity: ESE, 4m/s

Temperature: +28°C

Atmospheric pressure: 762 mmHg

Sky: clear

VP1

Start time: 9:00

Finish time:14:00

| Nr. Crt | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|---------|-------|----------------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:32 | <i>Buteo rufinus</i> | 1 | 150 | 300 | N |
| 2 | 9:55 | <i>Dentrocopos major</i> | 1 | 250 | 10 | NW |
| 3 | 10:01 | <i>Falco tinnunculus</i> | 1 | 100 | 350 | NE |
| 4 | 10:14 | <i>Miliaria calandra</i> | 1 | 80 | 150 | SE |
| 5 | 10:32 | <i>Carduelis carduelis</i> | 2 | 20 | 200 | N |
| 6 | 10:37 | <i>Corvus monedula</i> | 2 | 50 | 250 | SE |
| 7 | 11:02 | <i>Dentrocopos medius</i> | 2 | 10 | 20 | SE |
| 8 | 11:03 | <i>Passer domesticus</i> | 1 | 20 | 0 | NW |
| 9 | 11:13 | <i>Passer montanus</i> | 7 | 20 | 0 | S |
| 10 | 11:16 | <i>Phasianus colchicus</i> | 1 | 10 | 0 | SE |
| 11 | 11:17 | <i>Pica pica</i> | 6 | 30 | 10 | SW |
| 12 | 11:23 | <i>Upupa epops</i> | 2 | 10 | 0 | E |
| 13 | 11:33 | <i>Calandrella brachydactyla</i> | 5 | 20 | 0 | SW |
| 14 | 11:37 | <i>Corvus cornix</i> | 12 | 50 | 50 | SW |
| 15 | 11:48 | <i>Corvus frugilegus</i> | 4 | 40 | 100 | NE |
| 16 | 12:03 | <i>Corvus monedula</i> | 21 | 30 | 150 | NNE |

VP2

Start time: 11:00

Finish time:14:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:17 | <i>Oenanthe oenanthe</i> | 2 | 100 | 20 | N |
| 2 | 12:22 | <i>Passer domesticus</i> | 2 | 30 | 10 | SE |
| 3 | 12:29 | <i>Alauda arvensis</i> | 3 | 40 | 0 | NE |
| 4 | 12:33 | <i>Fringilla coelebs</i> | 3 | 30 | 10 | SE |
| 5 | 12:35 | <i>Melanochorypha calandra</i> | 3 | 50 | 0 | NE |
| 6 | 12:38 | <i>Upupa epops</i> | 4 | 10 | 0 | SW |

VP3

Start time: 9:00

Finish time:12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:47 | <i>Calandrella brachydactyla</i> | 5 | 20 | 10 | N |
| 2 | 9:50 | <i>Galerida cristata</i> | 12 | 30 | 0 | W |
| 3 | 9:52 | <i>Sturnus vulgaris</i> | 12 | 50 | 100 | NE |
| 4 | 10:11 | <i>Corvus frugilegus</i> | 26 | 50 | 250 | NE |
| 5 | 10:11 | <i>Calandrella brachydactyla</i> | 5 | 30 | 0 | SW |
| 6 | 10:11 | <i>Dentrocopos medius</i> | 1 | 20 | 10 | S |
| 7 | 10:25 | <i>Fringilla coelebs</i> | 1 | 20 | 10 | S |

| | | | | | | |
|---|-------|--------------------------------|---|----|----|---|
| 8 | 10:27 | <i>Galerida cristata</i> | 2 | 30 | 0 | S |
| 9 | 10:31 | <i>Melanochorypha calandra</i> | 2 | 30 | 50 | E |

11 SEPTEMBER

Wind direction and velocity: ESE, 4m/s

Temperature: +24°C

Atmospheric pressure: 767 mmHg

Sky: clear

VP1

Start time: 9:00

Finish time:12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|------------------|
| 1 | 10:34 | <i>Alauda arvensis</i> | 1 | 50 | 100 | NW |
| 2 | 10:35 | <i>Buteo rufinus</i> | 1 | 150 | 350 | S |
| 3 | 10:43 | <i>Calandrella brachydactyla</i> | 7 | 200 | 100 | NE |
| 4 | 10:17 | <i>Carduelis cannabina</i> | 10 | 30 | 50 | SW |
| 5 | 10:23 | <i>Carduelis chloris</i> | 2 | 50 | 20 | NE |
| 6 | 10:33 | <i>Corvus frugilegus</i> | 6 | 30 | 150 | SW |
| 7 | 10:42 | <i>Corvus monedula</i> | 18 | 40 | 200 | E |
| 8 | 11:01 | <i>Fringilla coelebs</i> | 2 | 30 | 50 | NNW |

VP2

Start time: 9:00

Finish time:12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:16 | <i>Galerida cristata</i> | 5 | 40 | 150 | N |
| 2 | 9:18 | <i>Galerida cristata</i> | 3 | 50 | 20 | NE |
| 3 | 9:22 | <i>Melanochorypha calandra</i> | 1 | 60 | 150 | SW |
| 4 | 9:32 | <i>Passer montanus</i> | 9 | 30 | 50 | N |
| 5 | 9:35 | <i>Pica pica</i> | 2 | 50 | 100 | SE |
| 6 | 11:15 | <i>Corvus cornix</i> | 21 | 50 | 250 | N |
| 7 | 11:15 | <i>Corvus frugilegus</i> | 18 | 40 | 250 | SW |
| 8 | 11:34 | <i>Corvus monedula</i> | 6 | 30 | 150 | NW |
| 9 | 11:55 | <i>Dentrocopos major</i> | 3 | 100 | 30 | SE |
| 10 | 12:01 | <i>Dentrocopos medius</i> | 1 | 50 | 50 | NE |
| 11 | 12:33 | <i>Falco tinnunculus</i> | 1 | 250 | 300 | SE |
| 12 | 12:45 | <i>Fringilla coelebs</i> | 2 | 30 | 100 | SE |

VP3

Start time: 9:00

Finish time:12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:42 | <i>Miliaria calandra</i> | 1 | 50 | 20 | N |
| 2 | 9:49 | <i>Melanochorypha calandra</i> | 2 | 30 | 100 | S |
| 3 | 10:01 | <i>Oenanthe oenanthe</i> | 4 | 100 | 50 | E |
| 4 | 10:05 | <i>Passer domesticus</i> | 12 | 50 | 40 | SE |
| 5 | 10:04 | <i>Passer montanus</i> | 27 | 60 | 20 | N |
| 6 | 10:08 | <i>Sturnus vulgaris</i> | 31 | 100 | 200 | SW |
| 7 | 10:11 | <i>Calandrella brachydactyla</i> | 6 | 80 | 50 | S |
| 8 | 10:16 | <i>Corvus cornix</i> | 16 | 150 | 150 | S |

24 SEPTEMBER

Wind direction and velocity: SSE, 3m/s

Temperature: +27°C

Atmospheric pressure: 759 mmHg

Sky: clear

VP1

Start time: 9:00

Finish time:12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|------------------|
| 1 | 10:18 | <i>Alauda arvensis</i> | 2 | 100 | 50 | E |
| 2 | 10:23 | <i>Calandrella brachydactyla</i> | 6 | 60 | 100 | NW |
| 3 | 10:26 | <i>Corvus monedula</i> | 5 | 100 | 150 | NE |
| 4 | 10:28 | <i>Falco tinnunculus</i> | 1 | 200 | 300 | SE |
| 5 | 10:31 | <i>Galerida cristata</i> | 11 | 50 | 150 | NE |
| 6 | 10:34 | <i>Passer montanus</i> | 23 | 50 | 50 | SW |

VP2

Start time: 9:00

Finish time:12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|------------------|
| 1 | 10:37 | <i>Carduelis cannabina</i> | 25 | 100 | 30 | N |
| 2 | 10:58 | <i>Carduelis carduelis</i> | 2 | 100 | 200 | NNW |
| 3 | 11:13 | <i>Corvus cornix</i> | 20 | 150 | 250 | NE |
| 4 | 11:16 | <i>Corvus frugilegus</i> | 2 | 100 | 250 | SE |
| 5 | 11:21 | <i>Sturnus vulgaris</i> | 35 | 150 | 150 | NE |

VP3

Start time: 10:00

Finish time:14:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------------|--------------------|--|-------------------|------------------|
| 1 | 11:25 | <i>Corvus frugilegus</i> | 21 | 150 | 150 | N |
| 2 | 11:29 | <i>Corvus monedula</i> | 6 | 100 | 100 | SW |
| 3 | 11:31 | <i>Falco tinnunculus</i> | 1 | 250 | 250 | SE |
| 4 | 11:33 | <i>Fringilla coelebs</i> | 2 | 100 | 30 | NE |
| 5 | 11:35 | <i>Galerida cristata</i> | 5 | 100 | 0 | NE |
| 6 | 11:37 | <i>Melanochorypha calandra</i> | 1 | 50 | 10 | S |
| 7 | 11:42 | <i>Pica pica</i> | 2 | 60 | 20 | SE |
| 8 | 11:51 | <i>Melanochorypha calandra</i> | 4 | 100 | 150 | SE |
| 9 | 12:01 | <i>Oenanthe oenanthe</i> | 1 | 150 | 50 | N |
| 10 | 12:11 | <i>Passer domesticus</i> | 12 | 100 | 30 | N |

2 OCTOBER 2012

Wind direction and velocity: ESE, 5m/s

Temperature: +28°C

Atmospheric pressure: 764 mmHg

Sky: clear

VP1

Start time: 9:00

Finish time:14:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|---------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:23 | <i>Buteo buteo</i> | 1 | 150 | 150 | SE |
| 2 | 9:25 | <i>Buteo rufinus</i> | 2 | 200 | 200 | NE |
| 3 | 9:27 | <i>Corvus cornix</i> | 12 | 80 | 100 | SE |
| 4 | 9:29 | <i>Galerida cristata</i> | 2 | 100 | 80 | NE |
| 5 | 9:33 | <i>Corvus frugilegus</i> | 9 | 150 | 150 | S |
| 6 | 9:35 | <i>Dentrocopos medius</i> | 1 | 40 | 40 | SE |
| 7 | 9:37 | <i>Miliaria calandra</i> | 3 | 40 | 50 | N |
| 8 | 9:41 | <i>Passer domesticus</i> | 31 | 50 | 50 | NE |
| 9 | 9:42 | <i>Pica pica</i> | 5 | 80 | 40 | SE |
| 10 | 12:15 | <i>Alauda arvensis</i> | 2 | 100 | 50 | N |

VP2

Start time: 9:00

Finish time:14:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|------|--------------------|--------------------|--|-------------------|------------------|
| 1 | 9:42 | <i>Calandrella</i> | 3 | 100 | 50 | N |

| | | | | | | |
|---|-------|----------------------------|---|-----|-----|----|
| | | <i>brachydactyla</i> | | | | |
| 2 | 9:42 | <i>Circus cyaneus</i> | 1 | 150 | 350 | W |
| 3 | 9:45 | <i>Carduelis cannabina</i> | 2 | 100 | 30 | NW |
| 4 | 9:53 | <i>Carduelis carduelis</i> | 9 | 100 | 60 | SE |
| 5 | 9:55 | <i>Corvus frugilegus</i> | 3 | 150 | 200 | NE |
| 6 | 10:05 | <i>Corvus monedula</i> | 4 | 150 | 20 | NW |
| 7 | 10:07 | <i>Falco tinnunculus</i> | 1 | 200 | 250 | SE |
| 8 | 10:12 | <i>Fringilla coelebs</i> | 1 | 50 | 40 | SE |
| 9 | 11:15 | <i>Galerida cristata</i> | 9 | 60 | 100 | NE |

VP3

Start time: 9:00

Finish time:12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:25 | <i>Sturnus vulgaris</i> | 47 | 50 | 50 | NE |
| 2 | 11:16 | <i>Carduelis chloris</i> | 6 | 50 | 40 | N |
| 3 | 11:19 | <i>Corvus cornix</i> | 31 | 100 | 150 | S |
| 4 | 11:21 | <i>Buteo rufinus</i> | 2 | 150 | 250 | NE |
| 5 | 11:27 | <i>Corvus monedula</i> | 15 | 200 | 100 | SE |
| 6 | 11:27 | <i>Dentrocopos major</i> | 1 | 40 | 50 | NE |
| 7 | 11:33 | <i>Passer montanus</i> | 2 | 30 | 10 | S |
| 8 | 11:35 | <i>Pica pica</i> | 11 | 100 | 50 | SE |
| 9 | 11:41 | <i>Passer montanus</i> | 11 | 20 | 10 | N |

12 OCTOBER

Wind direction and velocity: ESE, 2m/s

Temperature: +19°C

Atmospheric pressure: 763 mmHg

Sky: mostly clear

VP1

Start time: 9:00

Finish time:12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|------|----------------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:01 | <i>Corvus cornix</i> | 28 | 150 | 150 | NE |
| 2 | 9:05 | <i>Falco tinnunculus</i> | 1 | 150 | 200 | SE |
| 3 | 9:33 | <i>Buteo rufinus</i> | 2 | 150 | 200 | N |
| 4 | 9:45 | <i>Calandrella brachydactyla</i> | 2 | 60 | 100 | S |

VP2

Start time: 9:23

Finish time:11:02

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:07 | <i>Corvus frugilegus</i> | 11 | 150 | 100 | N |
| 2 | 9:11 | <i>Corvus monedula</i> | 17 | 100 | 150 | S |

| | | | | | | |
|---|------|---------------------------|----|-----|-----|----|
| 3 | 9:13 | <i>Dentrocopos medius</i> | 1 | 50 | 40 | NE |
| 4 | 9:15 | <i>Miliaria calandra</i> | 5 | 100 | 0 | SE |
| 5 | 9:21 | <i>Passer domesticus</i> | 26 | 50 | 0 | NE |
| 6 | 9:37 | <i>Corvus frugilegus</i> | 2 | 200 | 100 | N |
| 7 | 9:42 | <i>Pica pica</i> | 4 | 150 | 20 | SE |

VP3

Start time: 9:00

Finish time: 12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:49 | <i>Fringilla coelebs</i> | 3 | 30 | 100 | N |
| 2 | 9:57 | <i>Galerida cristata</i> | 12 | 40 | 40 | NW |
| 3 | 10:15 | <i>Passer montanus</i> | 17 | 100 | 10 | NE |
| 4 | 10:26 | <i>Sturnus vulgaris</i> | 51 | 100 | 100 | SE |

18 OCTOBER

Wind direction and velocity: NW, 3m/s

Temperature: +21°C

Atmospheric pressure: 768 mmHg

Sky: clear

VP1

Start time: 9:00

Finish time: 12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|------------------|
| 1 | 9:45 | <i>Corvus monedula</i> | 7 | 200 | 150 | NE |
| 2 | 10:36 | <i>Calandrella brachydactyla</i> | 2 | 50 | 50 | N |
| 3 | 10:45 | <i>Corvus frugilegus</i> | 4 | 100 | 200 | S |
| 4 | 10:45 | <i>Calandrella brachydactyla</i> | 1 | 150 | 150 | NE |

VP2

Start time: 9:00

Finish time: 12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 10:02 | <i>Corvus monedula</i> | 12 | 50 | 200 | W |
| 2 | 10:14 | <i>Passer domesticus</i> | 32 | 30 | 0 | S |
| 3 | 10:17 | <i>Corvus monedula</i> | 2 | 40 | 10 | SW |

VP3

Start time: 9:00

Finish time:12:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 10:22 | <i>Fringilla coelebs</i> | 2 | 50 | 50 | N |
| 2 | 10:27 | <i>Galerida cristata</i> | 4 | 50 | 150 | E |
| 3 | 10:33 | <i>Passer domesticus</i> | 32 | 30 | 0 | NE |
| 4 | 10:45 | <i>Passer montanus</i> | 14 | 40 | 10 | NE |
| 5 | 10:59 | <i>Perdix perdix</i> | 4 | 10 | 0 | S |
| 6 | 11:15 | <i>Pica pica</i> | 3 | 60 | 20 | SW |

03 NOVEMBER 2012

Wind direction and velocity: NV, 3m/s

Temperature: +18°C

Atmospheric pressure: 756 mmHg

Sky: clear

VP1

Start time: 13:00

Finish time:17:30

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|------------------|
| 1 | 11:22 | <i>Buteo buteo</i> | 1 | 250 | 350 | N |
| 2 | 11:28 | <i>Circus cyaneus</i> | 1 | 300 | 400 | E |
| 3 | 11:45 | <i>Carduelis cannabina</i> | 2 | 50 | 30 | NE |
| 4 | 14:38 | <i>Corvus frugilegus</i> | 41 | 100 | 50 | SE |
| 5 | 14:42 | <i>Corvus monedula</i> | 16 | 150 | 150 | NE |
| 6 | 15:07 | <i>Pica pica</i> | 32 | 40 | 50 | W |

VP2

Start time: 13:00

Finish time:18:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------------|--------------------|--|-------------------|------------------|
| 1 | 14:57 | <i>Calandrella brachydactyla</i> | 2 | 50 | 150 | SE |
| 2 | 15:03 | <i>Corvus frugilegus</i> | 11 | 100 | 100 | NW |
| 3 | 15:13 | <i>Passer montanus</i> | 15 | 100 | 0 | SE |
| 4 | 15:38 | <i>Buteo rufinus</i> | 1 | 350 | 400 | N |
| 5 | 15:46 | <i>Corvus cornix</i> | 6 | 100 | 200 | N |
| 6 | 15:46 | <i>Corvus monedula</i> | 4 | 100 | 150 | NW |
| 7 | 15:48 | <i>Phasianus colchicus</i> | 2 | 40 | 0 | NW |
| 8 | 16:08 | <i>Dentrocopos medius</i> | 1 | 30 | 10 | NE |
| 9 | 16:24 | <i>Calandrella brachydactyla</i> | 1 | 100 | 150 | W |
| 10 | 16:24 | <i>Dentrocopos medius</i> | 2 | 50 | 50 | W |
| 11 | 16:24 | <i>Perdix perdix</i> | 6 | 30 | 0 | N |

| | | | | | | |
|----|-------|----------------------------|----|-----|-----|-----|
| 12 | 16:41 | <i>Fringilla coelebs</i> | 3 | 30 | 40 | SE |
| 13 | 17:11 | <i>Galerida cristata</i> | 2 | 50 | 0 | NE |
| 14 | 17:12 | <i>Carduelis carduelis</i> | 6 | 50 | 50 | NNE |
| 15 | 17:29 | <i>Carduelis chloris</i> | 3 | 100 | 50 | SE |
| 16 | 17:34 | <i>Corvus cornix</i> | 21 | 50 | 200 | SW |
| 17 | 17:45 | <i>Dentrocopos major</i> | 1 | 30 | 30 | E |
| 18 | 17:47 | <i>Sturnus vulgaris</i> | 67 | 150 | 200 | NNW |
| 19 | 17:53 | <i>Buteo rufinus</i> | 1 | 150 | 350 | SW |
| 20 | 17:56 | <i>Passer domesticus</i> | 22 | 100 | 0 | SW |

12 NOVEMBER

Wind direction and velocity: NV, 3m/s

Temperature: +17°C

Atmospheric pressure: 762 mmHg

Sky: clear

VP1

Start time: 15:00

Finish time:18:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|---------------------------|--------------------|--|-------------------|------------------|
| 1 | 16:31 | <i>Dentrocopos medius</i> | 1 | 20 | 40 | N |
| 2 | 17:12 | <i>Fringilla coelebs</i> | 1 | 60 | 20 | S |
| 3 | 17:39 | <i>Passer montanus</i> | 6 | 50 | 0 | E |

VP2

Start time: 12:00

Finish time:18:15

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:17 | <i>Carduelis cannabina</i> | 6 | 100 | 30 | SW |
| 2 | 12:25 | <i>Passer montanus</i> | 6 | 50 | 10 | W |
| 3 | 13:23 | <i>Carduelis carduelis</i> | 8 | 100 | 50 | NW |
| 4 | 13:55 | <i>Pica pica</i> | 21 | 100 | 100 | N |
| 5 | 14:00 | <i>Corvus cornix</i> | 18 | 150 | 150 | SW |
| 6 | 14:20 | <i>Sturnus vulgaris</i> | 59 | 150 | 200 | NW |
| 7 | 14:31 | <i>Perdix perdix</i> | 4 | 30 | 0 | W |
| 8 | 14:55 | <i>Corvus frugilegus</i> | 62 | 150 | 100 | NE |
| 9 | 15:02 | <i>Corvus monedula</i> | 8 | 150 | 100 | S |
| 10 | 16:15 | <i>Passer domesticus</i> | 8 | 30 | 0 | SE |
| 11 | 18:10 | <i>Buteo rufinus</i> | 1 | 150 | 500 | N |

28 NOVEMBER

Wind direction and velocity: S, 3m/s

Temperature: +13°C

Atmospheric pressure: 758 mmHg

Sky: clear

VP1

Start time: 12:00

Finish time:16:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:47 | <i>Perdix perdix</i> | 5 | 20 | 10 | NW |
| 2 | 14:32 | <i>Pica pica</i> | 6 | 100 | 20 | NE |
| 3 | 14:35 | <i>Galerida cristata</i> | 1 | 50 | 10 | N |
| 4 | 15:05 | <i>Passer montanus</i> | 3 | 80 | 50 | S |
| 5 | 15:35 | <i>Pica pica</i> | 6 | 100 | 100 | NE |

VP2

Start time: 12:00

Finish time:16:30

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 13:10 | <i>Corvus cornix</i> | 6 | 150 | 150 | NE |
| 2 | 13:30 | <i>Corvus frugilegus</i> | 10 | 300 | 200 | S |
| 3 | 13:31 | <i>Corvus monedula</i> | 3 | 150 | 100 | S |
| 4 | 14:55 | <i>Corvus cornix</i> | 22 | 150 | 200 | N |
| 5 | 15:01 | <i>Corvus frugilegus</i> | 12 | 150 | 150 | S |
| 6 | 15:45 | <i>Corvus monedula</i> | 7 | 100 | 150 | NE |
| 7 | 16:01 | <i>Sturnus vulgaris</i> | 34 | 200 | 150 | SE |

5 DECEMBER 2012

Wind direction and velocity: SSE, 7m/s

Temperature: +10°C

Atmospheric pressure: 751 mmHg

Sky: clear

VP 1

Start time: 12:00

Finish time:16:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:45 | <i>Dentrocopos medius</i> | 1 | 250 | 30 | NE |
| 2 | 13:06 | <i>Passer domesticus</i> | 16 | 80 | 0 | SW |
| 3 | 13:25 | <i>Corvus monedula</i> | 13 | 150 | 150 | SE |
| 4 | 14:02 | <i>Passer montanus</i> | 24 | 30 | 0 | SE |
| 5 | 14:03 | <i>Carduelis carduelis</i> | 7 | 100 | 30 | W |
| 6 | 14:15 | <i>Circus cyaneus</i> | 1 | 350 | 300 | N |
| 7 | 14:33 | <i>Pica pica</i> | 42 | 100 | 20 | S |
| 8 | 14:55 | <i>Circus cyaneus</i> | 1 | 150 | 300 | N |
| 9 | 14:55 | <i>Corvus cornix</i> | 6 | 200 | 150 | N |
| 10 | 15:20 | <i>Sturnus vulgaris</i> | 62 | 250 | 100 | NE |
| 11 | 15:35 | <i>Corvus cornix</i> | 11 | 150 | 150 | NE |

VP2

Start time: 12:00

Finish time:17:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:20 | <i>Perdix perdix</i> | 6 | 50 | 10 | NW |
| 2 | 12:55 | <i>Pica pica</i> | 18 | 150 | 150 | SW |
| 3 | 15:20 | <i>Corvus frugilegus</i> | 7 | 150 | 200 | SW |
| 4 | 16:15 | <i>Corvus monedula</i> | 6 | 150 | 200 | S |
| 5 | 16:35 | <i>Passer montanus</i> | 3 | 100 | 50 | S |

11 DECEMBER

Wind direction and velocity: NV, 3m/s

Temperature: +3°C

Atmospheric pressure: 759 mmHg

Sky: clear

VP1

Start time: 12:00

Finish time:16:30

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 12:30 | <i>Passer montanus</i> | 13 | 100 | 10 | NE |
| 2 | 13:05 | <i>Pica pica</i> | 21 | 250 | 20 | SW |
| 3 | 13:45 | <i>Sturnus vulgaris</i> | 138 | 300 | 150 | SE |
| 4 | 13:47 | <i>Corvus cornix</i> | 6 | 200 | 250 | S |
| 5 | 13:55 | <i>Corvus cornix</i> | 14 | 250 | 200 | N |
| 6 | 14:22 | <i>Corvus frugilegus</i> | 26 | 250 | 200 | SW |
| 7 | 15:15 | <i>Corvus monedula</i> | 24 | 200 | 150 | NW |
| 8 | 16:01 | <i>Passer domesticus</i> | 4 | 100 | 50 | SE |

VP2

Start time: 12:00

Finish time:16:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|--------------------------|--------------------|--|-------------------|------------------|
| 1 | 13:01 | <i>Pica pica</i> | 5 | 150 | 20 | S |
| 2 | 13:50 | <i>Corvus frugilegus</i> | 11 | 150 | 250 | NNE |
| 3 | 15:06 | <i>Corvus monedula</i> | 4 | 200 | 250 | E |
| 4 | 15:30 | <i>Passer montanus</i> | 10 | 50 | 50 | E |

21 JANUARY 2013

Wind direction and velocity: SV, 3 m/s
Temperature: +15°C
Atmospheric pressure: 753 mmHg
Sky: cloudy

Active searche in the wind farm perimeter
General observations

Start time: 12:00
Finish time: 17:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|--------------------|
| 1 | 12:20 | <i>Buteo rufinus</i> | 1 | 300 | 400 | On the ground |
| 2 | 12:30 | <i>Corvus monedula</i> | 4 | 100 | 150 | On the ground |
| 3 | 12:45 | <i>Dentrocopos major</i> | 1 | 50 | 200 | SW |
| 4 | 12:55 | <i>Circus cyaneus</i> | 2 | 50 | 30 | NE |
| 5 | 13:01 | <i>Corvus cornix</i> | 7 | 30 | 10 | On the ground to W |
| 6 | 13:05 | <i>Dentrocopos medius</i> | 2 | 50 | 50 | N |
| 7 | 13:06 | <i>Falco tinnunculus</i> | 1 | 30 | 30 | E |
| 8 | 13:25 | <i>Corvus monedula</i> | 3 | 100 | 50 | S |
| 9 | 13:45 | <i>Falco tinnunculus</i> | 1 | 30 | 40 | On the ground |
| 10 | 13:47 | <i>Passer domesticus</i> | 25 | 50 | 0 | N |
| 11 | 13:50 | <i>Passer montanus</i> | 17 | 100 | 0 | in bushes |
| 12 | 13:55 | <i>Carduelis cannabina</i> | 2 | 100 | 50 | SE |
| 13 | 14:02 | <i>Passer domesticus</i> | 7 | 150 | 200 | S |
| 14 | 14:22 | <i>Carduelis carduelis</i> | 21 | 150 | 150 | NE |
| 15 | 15:06 | <i>Pica pica</i> | 9 | 100 | 0 | in bushes |
| 16 | 15:15 | <i>Corvus cornix</i> | 16 | 40 | 50 | On the ground |
| 17 | 15:30 | <i>Sturnus vulgaris</i> | 59 | 100 | 200 | W |
| 18 | 15:35 | <i>Corvus frugilegus</i> | 4 | 50 | 50 | On the ground |
| 19 | 16:01 | <i>Corvus frugilegus</i> | 12 | 350 | 400 | SE |
| 20 | 16:35 | <i>Buteo buteo</i> | 1 | 250 | 350 | N |

21 FEBRUARY 2013

Wind direction and velocity: SSE, 4m/s
Temperature: +9°C
Atmospheric pressure: 764 mmHg
Sky: cloudy

Active searche in the wind farm perimeter
General observations

Start time: 12:00
Finish time: 17:00

| Obs. no. | Hour | Species | No. of individuals | Approximate distance to the observer (m) | Flying Height (m) | Flight Direction |
|----------|-------|----------------------------|--------------------|--|-------------------|--------------------|
| 1 | 12:20 | <i>Corvus monedula</i> | 7 | 60 | 20 | On the ground |
| 2 | 12:30 | <i>Pica pica</i> | 11 | 150 | 100 | W |
| 3 | 12:45 | <i>Falco tinnunculus</i> | 1 | 40 | 10 | SW |
| 4 | 12:55 | <i>Falco tinnunculus</i> | 2 | 50 | 0 | N |
| 5 | 13:01 | <i>Corvus monedula</i> | 5 | 50 | 50 | SW |
| 6 | 13:05 | <i>Sturnus vulgaris</i> | 47 | 100 | 200 | NE |
| 7 | 13:06 | <i>Passer domesticus</i> | 6 | 10 | 0 | E |
| 8 | 13:25 | <i>Dentrocopos medius</i> | 1 | 30 | 0 | NE |
| 9 | 13:45 | <i>Buteo buteo</i> | 1 | 150 | 150 | NW |
| 10 | 13:47 | <i>Circus cyaneus</i> | 1 | 200 | 150 | On the ground to N |
| 11 | 13:50 | <i>Carduelis chloris</i> | 1 | 50 | 200 | On the ground |
| 12 | 13:55 | <i>Fringilla coelebs</i> | 1 | 150 | 500 | On the ground |
| 13 | 14:02 | <i>Passer montanus</i> | 2 | 60 | 20 | S |
| 14 | 14:15 | <i>Circus cyaneus</i> | 2 | 100 | 100 | NE |
| 15 | 14:22 | <i>Hieraaetus pennatus</i> | 1 | 100 | 30 | N |
| 16 | 14:33 | <i>Alauda arvensis</i> | 2 | 150 | 350 | N |
| 17 | 14:55 | <i>Carduelis cannabina</i> | 5 | 100 | 150 | SE |
| 18 | 15:06 | <i>Corvus cornix</i> | 4 | 30 | 0 | SE |
| 19 | 15:15 | <i>Passer domesticus</i> | 21 | 100 | 50 | in bushes |
| 20 | 15:20 | <i>Buteo buteo</i> | 1 | 50 | 150 | On the ground |
| 21 | 15:20 | <i>Carduelis carduelis</i> | 21 | 40 | 0 | NE |
| 22 | 15:30 | <i>Corvus frugilegus</i> | 6 | 40 | 10 | W |
| 23 | 15:35 | <i>Dentrocopos major</i> | 1 | 50 | 150 | NNE |
| 24 | 16:01 | <i>Passer montanus</i> | 22 | 150 | 150 | in bushes |
| 25 | 16:15 | <i>Corvus cornix</i> | 15 | 30 | 0 | On the ground |
| 26 | 16:35 | <i>Corvus frugilegus</i> | 9 | 20 | 40 | SE |

APPENDIX 2. EXCERPTS FROM THE MONITORING DATA SHEETS (March 2013 - June 2013)

20.04.2013

| Transect number 1 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 at the start of the active search | Coordinates WGS 84 at the end of the active search |
| 08:16 | 11:42 | N: 44 55.255 | N: 44 56.501 |
| | | E: 28 20.160 | E: 28 19.345 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m,) | | | | Habitat | Remarks |
|-------|----------------------------------|---------------------------------------|-----------------------------|------|-------|------|------------|------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 08:28 | <i>Turdus merula</i> | 194 | | | x | | bushes | flying |
| 09:42 | <i>Alauda arvensis</i> | 798 | | xx | | | cultivable | flying |
| 09:52 | <i>Miliaria calandra</i> | 1,12 | x | | | | bushes | stationary |
| 09:55 | <i>Miliaria calandra</i> | 1,21 | x | | | | bushes | flying |
| 09:58 | <i>Calandrella brachydactyla</i> | 1,30 | | | x | | grass land | flying |
| 10:02 | <i>Alauda arvensis</i> | 1,33 | | | x | | bushes | stationary |
| 10:10 | <i>Calandrella brachydactyla</i> | 1,51 | x | | | | cultivable | flying |
| 10:13 | <i>Calandrella brachydactyla</i> | 1,67 | xx | | | | cultivable | flying |
| 10:17 | <i>Calandrella brachydactyla</i> | 1,87 | | x | | | cultivable | flying |
| 10:47 | <i>Calandrella brachydactyla</i> | 2,7 | | x | | | grass land | flying |
| 11:07 | <i>Sylvia atricapilla</i> | 3,12 | | | xx | | bushes | stationary |
| 11:11 | <i>Hirundo rustica</i> | 3,20 | x | | | | grass land | flying |
| 11:16 | <i>Dendrocopos major</i> | 3,47 | | | | x | forest | stationary |
| 11:27 | <i>Circus aeruginosus</i> | 3,92 | | | | x | grass land | flying |
| 11:29 | <i>Phasianus colchicus</i> | 4,01 | | | | x | forest | stationary |
| 11:34 | <i>Motacilla flava</i> | 4,01 | x | | | | cultivable | stationary |

| Transect number 2 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 at the start of the active search | Coordinates WGS 84 at the end of the active search |
| 08:09 | 10:01 | N: 44 55.534 | N: 44 54.866 |
| | | E: 28 18.675 | E: 28 20.450 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m, km) | | | | Habitat | Remarks |
|-------|----------------------------------|---------------------------------------|-------------------------------|------|-------|------|------------|------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 08:10 | <i>Streptopelia decaocto</i> | 15 | | | x | | grass land | flying |
| 08:15 | <i>Alauda arvensis</i> | 228 | | | x | | cultivable | flying |
| 08:19 | <i>Melanocorypha calandra</i> | 344 | x | | | | grass land | stationary |
| 08:21 | <i>Calandrella brachydactyla</i> | 425 | | | | x | cultivable | stationary |

| | | | | | | | | |
|-------|----------------------------------|------|-----|--|-----|--------|------------|---------------|
| 08:23 | <i>Melanocorypha calandra</i> | 462 | | | xxx | | cultivable | flying |
| 08:25 | <i>Melanocorypha calandra</i> | 516 | xx | | | | grass land | stationary |
| 08:29 | <i>Melanocorypha calandra</i> | 750 | | | x | | cultivable | flying |
| 08:30 | <i>Melanocorypha calandra</i> | 786 | | | x | | cultivable | flying |
| 08:33 | <i>Melanocorypha calandra</i> | 996 | x | | | | cultivable | flying |
| 08:35 | <i>Melanocorypha calandra</i> | 1,09 | | | | x | cultivable | flying |
| 08:38 | <i>Melanocorypha calandra</i> | 1,21 | | | | xx | cultivable | flying |
| 08:42 | <i>Calandrella brachydactyla</i> | 1,36 | xx | | | | cultivable | stationary |
| 08:45 | <i>Melanocorypha calandra</i> | 1,5 | x | | | | cultivable | stationary |
| 08:47 | <i>Melanocorypha calandra</i> | 1,56 | x | | | | cultivable | flying |
| 08:49 | <i>Calandrella brachydactyla</i> | 1,64 | xx | | | | cultivable | flying |
| 08:55 | <i>Calandrella brachydactyla</i> | 1,82 | xx | | | | cultivable | stationary |
| 08:59 | <i>Melanocorypha calandra</i> | 1,92 | | | x | | cultivable | flying |
| 09:01 | <i>Calandrella brachydactyla</i> | 1,98 | x | | | | cultivable | stationary |
| 09:03 | <i>Calandrella brachydactyla</i> | 2,06 | | | xx | | cultivable | flying |
| 09:05 | <i>Calandrella brachydactyla</i> | 2,11 | | | | xxxxxx | cultivable | flying |
| 09:08 | <i>Calandrella brachydactyla</i> | 2,23 | xxx | | | | cultivable | stationary |
| 09:13 | <i>Calandrella brachydactyla</i> | 2,31 | xx | | | | cultivable | stationary |
| 09:15 | <i>Calandrella brachydactyla</i> | 2,36 | | | x | | cultivable | flying |
| 09:16 | <i>Circus pygargus</i> | 2,38 | | | | x | cultivable | flying |
| 09:24 | <i>Calandrella brachydactyla</i> | 2,58 | xxx | | | | cultivable | stationary |
| 09:27 | <i>Calandrella brachydactyla</i> | 2,64 | xx | | | | cultivable | stationary |
| 09:30 | <i>Calandrella brachydactyla</i> | 2,86 | x | | | | cultivable | flying |
| 09:31 | <i>Calandrella brachydactyla</i> | 2,87 | xx | | | | cultivable | flying |
| 09:35 | <i>Melanocorypha calandra</i> | 3,06 | | | x | | cultivable | flying |
| 09:38 | <i>Phasianus colchicus</i> | 3,12 | x | | | | forest | calling sound |
| 09:43 | <i>Melanocorypha calandra</i> | 3,30 | | | | xxxxx | cultivable | flying |

| Transect number 3 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 at the start of the active search | Coordinates WGS 84 at the end of the active search |
| 10:45 | 11:45 | N: 44 54.533 | N: 44 54.086 |
| | | E: 28 21.443 | E: 28 22.702 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m, km) | | | | Habitat | Remarks |
|-------|----------------------------------|---------------------------------------|-------------------------------|------|-------|------|----------------------|--------------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 10:45 | <i>Miliaria calandra</i> | | | | x | | agrarian | flying |
| 10:46 | <i>Sitta europaea</i> | | xxxxx | | | | forest | stationary in tree |
| 10:47 | <i>Fringilla coelebs</i> | | x | | | | forest | stationary in tree |
| 10:48 | <i>Miliaria calandra</i> | | | | | x | agrarian | flying |
| 10:52 | <i>Turdus philomelos</i> | | x | | | | forest | stationary in tree |
| 10:54 | <i>Fringilla coelebs</i> | | | | x | | forest | stationary in tree |
| 10:55 | <i>Fringilla coelebs</i> | | | | x | | forest | flying |
| 10:57 | <i>Miliaria calandra</i> | | | | x | | agrarian | flying |
| 10:58 | <i>Melanocorypha calandra</i> | | | | x | | agrarian | flying |
| 10:59 | <i>Fringilla coelebs</i> | | xx | | | | agrarian | flying |
| 11:00 | <i>Calandrella brachydactyla</i> | 5,200 | xx | | | | grass land | ground |
| 11:02 | <i>Calandrella brachydactyla</i> | | | | x | | grass land | ground |
| 11:03 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 11:04 | <i>Falco sp.</i> | | | | x | | grass land | ground |
| 11:08 | <i>Corvus corone</i> | | x | | x | | grass land/ agrarian | flying |
| 11:10 | <i>Miliaria calandra</i> | | x | | | | grass land/ agrarian | flying |
| 11:10 | <i>Circus cyaneus</i> | | | | x | | grass land/ agrarian | flying |
| 11:11 | <i>Corvus frugilegus</i> | | xx | | | | agrarian | flying |
| 11:11 | <i>Miliaria calandra</i> | | xxx | | | | agrarian | flying |
| 11:11 | <i>Corvus frugilegus</i> | | | x | | | forest | flying |
| 11:12 | <i>Miliaria calandra</i> | | xx | | | | grass land | ground |
| 11:13 | <i>Buteo buteo</i> | | x | | | | grass land | ground |
| 11:14 | <i>Corvus frugilegus</i> | | x | | | | grass land | flying |
| 11:14 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 11:16 | <i>Aquila pomarina</i> | 5,600 | x | | | | forest | flying |
| 11:18 | <i>Corvus corone</i> | | x | | | | forest | flying |
| 11:19 | <i>Miliaria calandra</i> | | xx | | | | grass land | flying |
| 11:20 | <i>Miliaria calandra</i> | | x | | | | grass land | flying |
| 11:21 | <i>Miliaria calandra</i> | | x | | | | grass land | stationary in tree |
| 11:23 | <i>Miliaria calandra</i> | | x | | | | grass land | flying |
| 11:26 | <i>Miliaria calandra</i> | | xx | xx | | | grass land | flying |
| 11:30 | <i>Buteo buteo</i> | | | | | xx | agrarian | flying |
| 11:31 | <i>Calandrella brachydactyla</i> | | x | | | | grass land | flying |
| 11:32 | <i>Corvus corone</i> | | | x | | | agrarian | flying |
| 11:34 | <i>Miliaria calandra</i> | | x | | | | agrarian | ground |
| 11:35 | <i>Oenanthe isabellina</i> | | x | | | | agrarian | ground |

| | | | | | | | | |
|-------|----------------------------------|-------|---|--|------|--|------------|--------|
| 11:37 | <i>Aquila pomarina</i> | | x | | | | grass land | ground |
| 11:41 | <i>Miliaria calandra</i> | | | | x | | grass land | ground |
| 11:43 | <i>Falco sp.</i> | | | | x | | agrarian | ground |
| 11:43 | <i>Oenanthe isabellina</i> | | | | xx | | grass land | flying |
| 11:45 | <i>Miliaria calandra</i> | | | | xxxx | | agrarian | ground |
| 11:47 | <i>Calandrella brachydactyla</i> | | x | | | | agrarian | ground |
| 11:50 | <i>Miliaria calandra</i> | 7,120 | | | x | | agrarian | flying |

| Transect number 4 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 at the start of the active search | Coordinates WGS 84 at the end of the active search |
| 09:30 | 11:31 | N: 44 53.783 E: 28 20.713 | N: 44 53.417 E: 28 22.270 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m, km) | | | | Habitat | Remarks |
|-------|----------------------------------|---------------------------------------|-------------------------------|------|--------|------|-----------------------|------------------------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 09:17 | <i>Miliaria calandra</i> | 988 | | x | x | xxx | grass land | flying, moving while singing |
| 09:19 | <i>Miliaria calandra</i> | 1,2 | xx | | xxxxxx | | grass land | singing in tree |
| 09:20 | <i>Erithacus rubecula</i> | 1,5 | | | | x | grass land | in tree, alarm song |
| 09:21 | <i>Calandrella brachydactyla</i> | 1,79 | xxx | | | | grass land/cultivable | feeding |
| 09:25 | <i>Calandrella brachydactyla</i> | 1,82 | xx | x | | x | cultivable | fight between males |
| 09:30 | <i>Erithacus rubecula</i> | 2,16 | x | | | | grass land | flying |
| 09:31 | <i>Upupa epops</i> | 2,27 | x | | | | grass land/cultivable | flying |
| 09:31 | <i>Oenanthe oenanthe</i> | 2,30 | | | xx | x | grass land | fight between males |
| 09:39 | <i>Oenanthe oenanthe</i> | 2,32 | x | x | | | grass land/cultivable | fight between males |
| 09:41 | <i>Calandrella brachydactyla</i> | 2,45 | | xx | x | xxx | cultivable | feeding in field |
| 09:43 | <i>Falco tinnunculus</i> | 2,45 | | | | x | cultivable | flying to the forest |
| 10:02 | <i>Calandrella brachydactyla</i> | 2,50 | | | x | xx | grass land | feeding, fight between males |
| 10:08 | <i>Calandrella brachydactyla</i> | 2,51 | xx | x | | x | cultivable | feeding |
| 10:32 | <i>Calandrella brachydactyla</i> | 2,52 | | x | x | xx | grass land | feeding |
| 10:38 | <i>Miliaria calandra</i> | 2,53 | xxxxxxx | | | | grass land | resting in tree |
| 10:47 | <i>Saxicola torquata</i> | 2,54 | | | | x | grass land/brushwood | resting in scrub |
| 10:53 | <i>Buteo rufinus</i> | 2,56 | | | | x | brushwood | flying between scrub |

| Transect number 5 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 at the start of the active search | Coordinates WGS 84 at the end of the active search |
| 08:08 | 10:30 | N: 44 54.274 E: 28 18.965 | N: 44 54.532 E: 28 21.443 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m, km) | | | | Habitat | Remarks |
|-------|----------------------------------|---------------------------------------|-------------------------------|------|-------|------|----------------------|------------------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 08:10 | <i>Miliaria calandra</i> | 20 | | | x | | grass land | stationary in scrub |
| 08:15 | <i>Falco sp.</i> | 50 | | x | | | grass land | flying |
| 08:20 | <i>Falco tinnunculus</i> | 60 | x | | | | grass land | flying |
| 08:22 | <i>Miliaria calandra</i> | 70 | | | xx | | grass land | ground |
| 08:22 | <i>Miliaria calandra</i> | 75 | | | x | | grass land | flying |
| 08:23 | <i>Miliaria calandra</i> | 80 | | | x | | grass land | flying |
| 08:24 | <i>Miliaria calandra</i> | 80 | | | x | | grass land | flying |
| 08:24 | <i>Miliaria calandra</i> | 82 | | | x | | grass land | flying |
| 08:24 | <i>Miliaria calandra</i> | 83 | x | | | | grass land | flying |
| 08:25 | <i>Miliaria calandra</i> | 84 | | | x | | grass land | flying |
| 08:25 | <i>Miliaria calandra</i> | 89 | | | x | | grass land | flying |
| 08:27 | <i>Miliaria calandra</i> | 89 | | xx | xx | | grass land | flying |
| 08:30 | <i>Miliaria calandra</i> | 89 | x | | | | grass land | flying |
| 08:32 | <i>Miliaria calandra</i> | 89 | | | x | | grass land | flying |
| 08:34 | <i>Calandrella brachydactyla</i> | | x | | | | grass land | ground |
| 08:35 | <i>Miliaria calandra</i> | 150 | x | | | | agrarian | ground |
| 08:36 | <i>Miliaria calandra</i> | | xxxxxx | | | | agrarian | 4 flying, 1 cultivable |
| 08:37 | <i>Asio flammeus</i> | | | | x | | agrarian | ground |
| 08:37 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 08:45 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 08:47 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 08:47 | <i>Anthus sp.</i> | | x | | | | grass land | flying |
| 08:48 | <i>Miliaria calandra</i> | | | | | xx | grass land | flying |
| 08:49 | <i>Calandrella brachydactyla</i> | | | | x | | grass land | ground |
| 08:50 | <i>Miliaria calandra</i> | | | | | xx | grass land | flying |
| 08:51 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 08:53 | <i>Miliaria calandra</i> | | xxxxxxxxxx | | | | grass land | flying |
| 08:55 | <i>Calandrella brachydactyla</i> | | x | | | | grass land | ground |
| 09:01 | <i>Miliaria calandra</i> | | x | | x | | grass land | at ground/ flying |
| 09:02 | <i>Circus pygargus</i> | | x | | | | grass land | flying |
| 09:03 | <i>Oenanthe isabellina</i> | | x | | | | grass land | flying |
| 09:04 | <i>Hieraaetus pennatus</i> | | | x | | | agrarian/ grass land | flying |
| 09:06 | <i>Calandrella brachydactyla</i> | | x | | | | agrarian/ grass land | ground |
| 09:06 | <i>Calandrella brachydactyla</i> | | xxx | | | | agrarian/ grass land | ground |
| 09:07 | <i>Falco tinnunculus</i> | | x | | | | agrarian/ grass land | flying |
| 09:10 | <i>Oenanthe isabellina</i> | | x | | | | agrarian/ grass land | ground |

Appendix to
Additional study regarding birds and bats impact assessment of the Dorobantu –Topolog wind farm

| | | | | | | | | |
|-------|--------------------------------------|-------|-------|----|-----|---------|-------------------------|-------------------------------------|
| 09:11 | <i>Miliaria calandra</i> | | x | | | | agrarian/ grass land | flying |
| 09:12 | <i>Miliaria calandra</i> | | xxx | | | | grass land | flying |
| 09:13 | <i>Miliaria calandra</i> | | x | | | | grass land | stationary in scrub |
| 09:14 | <i>Miliaria calandra</i> | | | | x | | grass land | stationary in scrub |
| 09:15 | <i>Miliaria calandra</i> | | | | xxx | | grass land | flying |
| 09:16 | <i>Miliaria calandra</i> | | x | | | | grass land | flying |
| 09:17 | <i>Miliaria calandra</i> | 1,770 | | | xx | | grass land | stationary in scrub |
| 09:18 | <i>Miliaria calandra</i> | | | | xx | | grass land | flying/ stationary in scrub |
| 09:20 | <i>Miliaria calandra</i> | | | | xx | | grass land | flying |
| 09:21 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 09:22 | <i>Miliaria calandra</i> | | x | | x | | grass land | stationary |
| 09:23 | <i>Miliaria calandra</i> | | x | | | | grass land | flying |
| 09:31 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 09:31 | <i>Miliaria calandra</i> | | xxx | | | | grass land | flying/ 2 stationary in scrub |
| 09:32 | <i>Miliaria calandra</i> | | | | xx | | grass land | ground |
| 09:33 | <i>Galerida cristata</i> | | | | xx | | grass land | ground |
| 09:35 | <i>Miliaria calandra</i> | 2,300 | | xx | | | grass land | flying |
| 09:36 | <i>Miliaria calandra</i> | 2,500 | | | xx | | grass land | flying |
| 09:38 | <i>Miliaria calandra</i> | | x | | | | grass land | flying |
| 09:40 | <i>Corvus frugilegus</i> | | | | | xxxxxxx | grass land | flying |
| 09:44 | <i>Miliaria calandra</i> | | | x | | | grass land | flying |
| 09:45 | <i>Miliaria calandra</i> | | | | | x | grass land | flying |
| 09:45 | <i>Miliaria calandra</i> | | x | | | | grass land | flying |
| 09:48 | <i>Sturnus vulgaris</i> | | x | | | | grass land | flying |
| 09:50 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 09:55 | <i>Miliaria calandra</i> | | x | | | | grass land | flying |
| 09:57 | <i>Motacilla alba</i> | 3,09 | | | x | x | grass land | flying |
| 10:00 | <i>Miliaria calandra</i> | | x | | | | grass land | flying |
| 10:01 | <i>Miliaria calandra</i> | | | x | | | grass land | flying |
| 10:03 | <i>Calandrella brachydactyla</i> | | | | x | | grass land | flying |
| 10:04 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 10:05 | <i>Sturnus vulgaris</i> | | xxxxx | | | | grass land | flying |
| 10:05 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 10:06 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 10:08 | <i>Miliaria calandra</i> | | | x | | | grass land | flying |
| 10:08 | <i>Oenanthe isabellina</i> | | x | | | | grass land | stationary in scrub |
| 10:09 | <i>Calandrella brachydactyla</i> | | x | | | | grass land | ground |
| 10:10 | <i>Calandrella brachydactyla</i> | | x | | | | grass land | flying |
| 10:10 | <i>Miliaria calandra</i> | | xx | | | | grass land | flying |
| 10:10 | <i>Miliaria calandra</i> | | | | x | | grass land | stationary in scrub |
| 10:11 | <i>Miliaria calandra</i> | | xx | | | | grass land | stationary in scrub |
| 10:13 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |
| 10:15 | <i>Falco tinnunculus</i> | | | | | x | grass land | ground |
| 10:17 | <i>Miliaria calandra</i> | | | | xxx | | grass land | flying |
| 10:25 | <i>Miliaria calandra</i> | | | | x | | grass land | flying |

| | | | | | | | | |
|-------|----------------------------------|--|---|--|-----|--|------------|--------|
| 10:26 | <i>Calandrella brachydactyla</i> | | | | x | | grass land | flying |
| 10:27 | <i>Melanocorypha calandra</i> | | | | xxx | | agrarian | flying |
| 10:27 | <i>Melanocorypha calandra</i> | | | | x | | agrarian | flying |
| 10:28 | <i>Melanocorypha calandra</i> | | | | x | | agrarian | flying |
| 10:28 | <i>Calandrella brachydactyla</i> | | x | | | | agrarian | flying |
| 10:30 | <i>Melanocorypha calandra</i> | | | | xx | | agrarian | flying |

23.05.2013

| Transect number 1 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 at the start of the active search | Coordinates WGS 84 at the end of the active search |
| 09:43 | 11:20 | N: 44 55.255 | N: 44 56.501 |
| | | E: 28 20.160 | E: 28 19.345 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m, km) | | | | Habitat | Remarks |
|-------|----------------------------|---------------------------------------|-------------------------------|------|-------|------|---------------------------|-----------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 09:45 | <i>Upupa epops</i> | 0 | | | | x | grass land with brushwood | singing in tree |
| 09:48 | <i>Miliaria calandra</i> | 0 | xxxx | | | | grass land with brushwood | singing in tree |
| 09:49 | <i>Streptopelia turtur</i> | 0 | | | | xx | grass land with brushwood | singing in tree |
| 09:50 | <i>Merops apiaster</i> | 0 | | xxx | | | grass land with brushwood | flying |
| 09:52 | <i>Cuculus canorus</i> | 82 | | | x | | grass land with brushwood | singing in tree |
| 09:55 | <i>Merops apiaster</i> | 195 | | | | x | grass land with brushwood | flying |
| 09:56 | <i>Merops apiaster</i> | 195 | x | | | | grass land with brushwood | flying |
| 10:01 | <i>Miliaria calandra</i> | 288 | x | | | | grass land with brushwood | singing in tree |
| 10:02 | <i>Phasianus colchicus</i> | 299 | | | x | | forest | singing |
| 10:04 | <i>Merops apiaster</i> | 328 | | xxx | | | grass land with brushwood | flying |
| 10:14 | <i>Lanius collurio</i> | 666 | | | x | | forest | resting in tree |
| 10:19 | <i>Merops apiaster</i> | 952 | | | | xxx | grass land with brushwood | flying |

Appendix to
Additional study regarding birds and bats impact assessment of the Dorobantu –Topolog wind farm

| | | | | | | | | |
|-------|-------------------------------|------|-------|--|--|-----|---------------------------|-----------------------------|
| 10:26 | <i>Turdus merula</i> | 1,24 | | | | xxx | forest | resting and singing in tree |
| 10:42 | <i>Miliaria calandra</i> | 1,61 | xxx | | | | grass land with brushwood | singing in air/ trees |
| 10:42 | <i>Melanocorypha calandra</i> | 1,61 | xxxxx | | | | grass land with brushwood | singing in air / trees |
| 10:54 | <i>Miliaria calandra</i> | 2,07 | x | | | | grass land with brushwood | singing in tree |
| 11:06 | <i>Streptopelia turtur</i> | 2,70 | x | | | | grass land | flying |

| Transect number 2 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 at the start of the active search | Coordinates WGS 84 at the end of the active search |
| 09:20 | 11:35 | N: 44 55.534 | N: 44 54.866 |
| | | E: 28 18.675 | E: 28 20.450 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m, km) | | | | Habitat | Remarks |
|-------|----------------------------------|---------------------------------------|-------------------------------|------|-------|------|------------------------|----------------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 09:26 | <i>Miliaria calandra</i> | 15 | x | | | | grass land | stationary in scrub |
| 09:28 | <i>Miliaria calandra</i> | 56 | | | xxx | | grass land | flying |
| 09:30 | <i>Sturnus vulgaris</i> | 164 | xx | | xxxx | | grass land/ cultivable | flying |
| 09:34 | <i>Miliaria calandra</i> | 450 | x | | x | | grass land/ cultivable | flying |
| 09:38 | <i>Miliaria calandra</i> | 480 | x | | xx | | grass land | flying |
| 09:40 | <i>Miliaria calandra</i> | 520 | | | xx | | grass land | stationary |
| 09:48 | <i>Oenanthe oenanthe</i> | 680 | | | xx | | grass land | flying |
| 09:55 | <i>Calandrella brachydactyla</i> | | | | x | | cultivable | flying |
| 09:58 | <i>Motacilla flava</i> | | xx | | | | grass land | stationary on ground |
| 09:53 | <i>Miliaria calandra</i> | | x | | xx | | agrarian | flying |
| 10:02 | <i>Miliaria calandra</i> | | | | x | | agrarian | stationary |
| 10:04 | <i>Miliaria calandra</i> | | | | | x | agrarian | flying |
| 10:09 | <i>Miliaria calandra</i> | | x | | xxx | | agrarian | flying |
| 10:10 | <i>Calandrella brachydactyla</i> | | xxx | | | | agrarian | flying |
| 10:15 | <i>Calandrella brachydactyla</i> | | | | x | | agrarian | flying |
| 10:21 | <i>Oenanthe oenanthe</i> | | x | | | | grass land | stationary in scrub |
| 10:22 | <i>Miliaria calandra</i> | | xx | | | | grass land | stationary in scrub |
| 10:24 | <i>Miliaria calandra</i> | | x | | | | grass land | stationary in scrub |
| 10:24 | <i>Lanius collurio</i> | | x | | | | grass land | stationary in scrub |
| 10:25 | <i>Riparia riparia</i> | | | | xx | | agrarian | flying |
| 10:26 | <i>Calandrella brachydactyla</i> | 2,20 | xx | | x | | cultivable | flying |
| 10:28 | <i>Miliaria calandra</i> | | x | | x | | agrarian | flying |

| | | | | | | | | |
|-------|----------------------------------|--|-----|--|-------|---|----------|----------------------|
| 10:28 | <i>Calandrella brachydactyla</i> | | x | | | | agrarian | flying |
| 10:31 | <i>Miliaria calandra</i> | | xxx | | xxxxx | | agrarian | flying |
| 10:35 | <i>Miliaria calandra</i> | | x | | x | | agrarian | flying |
| 10:40 | <i>Calandrella brachydactyla</i> | | | | x | | agrarian | flying |
| 10:41 | <i>Miliaria calandra</i> | | x | | | | agrarian | flying |
| 10:50 | <i>Lanius collurio</i> | | x | | | | forest | stationary |
| 10:56 | <i>Miliaria calandra</i> | | | | x | | agrarian | stationary |
| 10:59 | <i>Lanius collurio</i> | | | | | | agrarian | stationary |
| 11:03 | <i>Lanius minor</i> | | xx | | | | forest | stationary / flying |
| 11:13 | <i>Miliaria calandra</i> | | | | xx | x | agrarian | stationary on ground |
| 11:14 | <i>Streptopelia turtur</i> | | | | x | | forest | flying |

| Transect number 3 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 at the start of the active search | Coordinates WGS 84 at the end of the active search |
| 14:00 | 16:35 | N: 44 54.533 | N: 44 54.086 |
| | | E: 28 21.443 | E: 28 22.702 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m, km) | | | | Habitat | Remarks |
|-------|----------------------------------|---------------------------------------|-------------------------------|------|-------|------|------------|---------------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 14:05 | <i>Calandrella brachydactyla</i> | 10 | x | | x | | grass land | flying |
| 14:15 | <i>Corvus frugilegus</i> | 170 | | | | xxxx | grass land | flying |
| 14:18 | <i>Miliaria calandra</i> | 175 | | | xx | | grass land | flying |
| 14:25 | <i>Miliaria calandra</i> | 188 | xxx | | | | grass land | flying |
| 14:30 | <i>Calandrella brachydactyla</i> | 220 | x | | | | grass land | flying |
| 14:33 | <i>Miliaria calandra</i> | | | | x | | grass land | stationary in scrub |
| 14:35 | <i>Calandrella brachydactyla</i> | | x | | | | cultivable | flying |
| 14:38 | <i>Melanocorypha calandra</i> | | | | xx | | cultivable | flying |
| 14:40 | <i>Miliaria calandra</i> | | xx | | | | grass land | flying |
| 14:50 | <i>Falco tinnunculus</i> | | | x | | | grass land | flying |
| 15:05 | <i>Calandrella brachydactyla</i> | | | | | xx | grass land | flying |
| 15:10 | <i>Oenanthe oenanthe</i> | 2,410 | x | | | | grass land | stationary on stone |
| 15:15 | <i>Miliaria calandra</i> | | | | xxxx | | grass land | flying |
| 15:15 | <i>Melanocorypha calandra</i> | | | xx | | | grass land | flying |
| 15:28 | <i>Oenanthe oenanthe</i> | | | | | xxx | grass land | flying |
| 15:32 | <i>Lanius collurio</i> | | xx | | | | grass land | stationary in scrub |
| 15:35 | <i>Sturnus vulgaris</i> | | | | xx | | grass land | flying |
| 15:40 | <i>Hirundo rustica</i> | | xx | | x | | grass land | flying |
| 15:41 | <i>Melanocorypha calandra</i> | | | | xx | | cultivable | flying |
| 15:43 | <i>Corvus frugilegus</i> | | xx | | x | | grass land | flying |
| 15:45 | <i>Buteo rufinus</i> | | | | | x | grass land | flying |
| 15:48 | <i>Oenanthe oenanthe</i> | | xx | | | | grass land | flying |

Appendix to
Additional study regarding birds and bats impact assessment of the Dorobantu –Topolog wind farm

| | | | | | | | | |
|-------|-------------------------------|--|------|----|-----|---|------------|--------|
| 15:49 | <i>Miliaria calandra</i> | | xx | | xxx | | grass land | flying |
| 15:56 | <i>Melanocorypha calandra</i> | | | xx | x | | agrarian | flying |
| 15:58 | <i>Anthus campestris</i> | | | | xx | | agrarian | flying |
| 16:05 | <i>Riparia riparia</i> | | xxxx | | | | grass land | flying |
| 16:10 | <i>Riparia riparia</i> | | xxx | | | | grass land | flying |
| 16:20 | <i>Falco sp.</i> | | | | | x | grass land | flying |

| Transect number 4 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 for beginning the active search | Coordinates WGS 84 for finishing the active search |
| 15:55 | 18:07 | N: 44 53.783 E: 28 20.713 | N: 44 53.417 E: 28 22.270 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m, km) | | | | Habitat | Remarks |
|-------|-------------------------------|---------------------------------------|-------------------------------|------|--------|------|---------------------------|-----------------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 16:05 | <i>Passer domesticus</i> | 150 | xxxxxx | | xxxxxx | | cultivable | singing by resting |
| 16:08 | <i>Merops apiaster</i> | 167 | | | x | | cultivable | flying over the field |
| 16:25 | <i>Miliaria calandra</i> | 448 | x | | | | grass land | singing |
| 16:28 | <i>Oenanthe oenanthe</i> | 482 | x | | | | grass land | moving |
| 16:33 | <i>Oenanthe oenanthe</i> | 614 | | | x | | grass land | singing |
| 16:36 | <i>Hirundo rustica</i> | 651 | xxx | | | | grass land | flying |
| 16:38 | <i>Passer domesticus</i> | 693 | | | x | | grass land | singing by resting |
| 16:42 | <i>Oenanthe oenanthe</i> | 754 | x | | | | cultivable | stationary |
| 16:42 | <i>Miliaria calandra</i> | 754 | | | x | | cultivable | stationary |
| 17:02 | <i>Miliaria calandra</i> | 1,06 | xx | | | | cultivable | singing in air |
| 17:05 | <i>Hirundo rustica</i> | 1,15 | xx | | | | cultivable | flying |
| 17:05 | <i>Corvus corone</i> | 1,15 | | | xx | | cultivable | flying |
| 17:11 | <i>Alauda arvensis</i> | 1,37 | | | x | | cultivable | stationary |
| 17:15 | <i>Streptopelia turtur</i> | 1,45 | x | | | | cultivable | flying |
| 17:21 | <i>Miliaria calandra</i> | 1,80 | xx | | | | cultivable | singing flying |
| 17:35 | <i>Melanocorypha calandra</i> | 2,84 | xx | | | | cultivable | singing flying |
| 17:48 | <i>Oenanthe oenanthe</i> | 3,61 | | | x | | grass land with brushwood | resting on ground |
| 18:02 | <i>Merops apiaster</i> | 4,01 | x | | | | grass land with brushwood | flying |

| Transect number 5 | | | |
|--------------------------------------|--------------------------------------|--|--|
| Hour for beginning the active search | Hour for finishing the active search | Coordinates WGS 84 at the start of the active search | Coordinates WGS 84 at the end of the active search |
| 17:00 | 18:00 | N: 44 54.274 | N: 44 54.532 |
| | | E: 28 18.965 | E: 28 21.443 |

| Hour | Species | Distance from the start point (m, km) | Observation Direction (m, km) | | | | Habitat | Remarks |
|-------|----------------------------------|---------------------------------------|-------------------------------|-------------|-----------|------|------------|------------------|
| | | | Left | | Right | | | |
| | | | <100 | >100 | <100 | >100 | | |
| 17:05 | <i>Lanius collurio</i> | 68 | x | | | | forest | resting in tree |
| 17:05 | <i>Miliaria calandra</i> | 68 | x | | | | agrarian | flying |
| 17:20 | <i>Miliaria calandra</i> | 300 | | | xx | | grass land | flying |
| 17:21 | <i>Calandrella brachydactyla</i> | 556 | | x | | xx | grass land | flying |
| 17:25 | <i>Miliaria calandra</i> | 687 | | | x | | agrarian | resting in scrub |
| 17:30 | <i>Sturnus vulgaris</i> | 1,6 | xxxx | | | | grass land | flying |
| 17:37 | <i>Sturnus vulgaris</i> | 2,1 | | xx | | | grass land | flying |
| 17:38 | <i>Miliaria calandra</i> | 2,28 | x | | xx | | grass land | ground |
| 17:41 | <i>Sturnus vulgaris</i> | 2,87 | | 60exemplare | | | grass land | flying |
| 17:50 | <i>Calandrella brachydactyla</i> | 3,02 | | | | xx | agrarian | flying |
| 17:55 | <i>Sturnus vulgaris</i> | 3,25 | | | Aprox 200 | | grass land | ground |

| 16.03.2013 | | | | | | | |
|------------|---------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Accipiter nisus</i> | 10:26 | 1 | | 1 | 50 | E |
| | <i>Buteo rufinus</i> | 14:16 | 1 | | 1 | 300 | SE |
| | <i>Falco tinnunculus</i> | 15:54 | 2 | | 1 | 150 | NE |
| VP2 | <i>Buteo buteo</i> | 9:45 | 1 | | 1 | 150 | NE |
| | <i>Buteo buteo</i> | 12:11 | 1 | | 1 | 300 | NE |
| | <i>Accipiter gentilis</i> | 13:02 | 1 | | 1 | 50 | SW |
| | <i>Circus aeruginosus</i> | 13:56 | 1 | | 1 | 50 | NNE |
| | <i>Buteo buteo</i> | 15:25 | 1 | | 1 | 150 | E |

| 31.03.2013 | | | | | | | |
|------------|---------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP2 | <i>Circus cyaneus</i> | 10:34 | 1 | 50 | 0 | 5 | NNE |
| | <i>Circus aeruginosus</i> | 11:10 | 1 | | 1 | 200 | NE |
| | <i>Falco tinnunculus</i> | 11:25 | 1 | 50 | 0 | 100 | N |
| | <i>Buteo buteo</i> | 11:29 | 1 | | 1 | 100 | N |
| | <i>Pandion haliaetus</i> | 11:32 | 1 | 60 | 0 | 150 | NE |
| | <i>Buteo buteo</i> | 11:39 | 1 | 80 | 0 | 100 | NE |
| | <i>Buteo buteo</i> | 12:07 | 1 | 50 | 0 | 100 | NE |
| | <i>Buteo buteo</i> | 12:09 | 1 | 40 | 0 | 150 | NE |
| | <i>Falco tinnunculus</i> | 12:15 | 1 | 50 | 0 | 0 | stationary |
| | <i>Ciconia ciconia</i> | 12:18 | 1 | 100 | 0 | 100 | E |
| | <i>Buteo buteo</i> | 12:21 | 1 | 80 | 0 | 150 | NE |
| | <i>Falco tinnunculus</i> | 12:29 | 1 | 60 | 0 | 80 | W |
| | <i>Falco tinnunculus</i> | 12:40 | 1 | 40 | 0 | 50 | S |
| | <i>Buteo buteo</i> | 12:42 | 1 | 80 | 0 | 100 | N |
| | <i>Buteo rufinus</i> | 12:49 | 1 | | 1 | 150 | NE |
| | <i>Buteo buteo</i> | 12:54 | 1 | 80 | 0 | 150 | N |
| | <i>Accipiter nisus</i> | 13:02 | 1 | 20 | 0 | 150 | NE |
| | <i>Buteo rufinus</i> | 13:15 | 1 | | 1 | 100 | NE |
| | <i>Circus macrourus</i> | 13:33 | 1 | 30 | 0 | 50 | NE |
| | <i>Buteo buteo</i> | 13:39 | 5 | 40 | 0 | 200 | NE |

| | | | | | | | |
|-----|----------------------------|-------|---|-----|---|-----|-----|
| | <i>Falco tinnunculus</i> | 13:55 | 2 | 20 | 0 | 70 | NE |
| | <i>Hieraaetus pennatus</i> | 13:56 | 1 | | 1 | 100 | NE |
| | <i>Buteo buteo</i> | 13:58 | 1 | 100 | 0 | 70 | N |
| | <i>Falco tinnunculus</i> | 14:00 | 1 | 30 | 0 | 40 | S |
| | <i>Ardea cinerea</i> | 14:21 | 3 | 70 | 0 | 80 | NE |
| | <i>Circus cyaneus</i> | 14:35 | 1 | 60 | 0 | 20 | NE |
| | <i>Buteo rufinus</i> | 15:11 | 1 | 60 | 0 | 70 | N |
| | <i>Buteo rufinus</i> | 16:10 | 2 | 40 | 0 | 100 | NE |
| | <i>Buteo buteo</i> | 16:58 | 1 | | 1 | 100 | N |
| | <i>Circus cyaneus</i> | 17:25 | 1 | 50 | 0 | 70 | NE |
| VP3 | <i>Ciconia ciconia</i> | 10:41 | 6 | | 1 | 300 | N |
| | <i>Ciconia ciconia</i> | 15:56 | 3 | | 1 | 400 | N |
| | <i>Circus cyaneus</i> | 10:56 | 1 | 40 | 0 | 10 | N |
| | <i>Ciconia ciconia</i> | 11:10 | 3 | | 1 | 400 | N |
| | <i>Ciconia ciconia</i> | 11:12 | 9 | 80 | 0 | 500 | NE |
| | <i>Buteo buteo</i> | 11:18 | 1 | | 1 | 200 | NNW |
| | <i>Buteo rufinus</i> | 11:19 | 1 | | 1 | 150 | NNE |
| | <i>Buteo rufinus</i> | 12:45 | 1 | | 1 | 150 | N |
| | <i>Circus aeruginosus</i> | 12:59 | 1 | 50 | 0 | 50 | N |
| | <i>Circus aeruginosus</i> | 13:05 | 1 | 50 | 0 | 5 | N |
| | <i>Buteo buteo</i> | 14:07 | 1 | | 1 | 200 | NNE |
| | <i>Buteo buteo</i> | 16:31 | 1 | 50 | 0 | 60 | N |

| 6.04.2013 | | | | | | | |
|-----------|---------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Buteo buteo</i> | 10:50 | 2 | | 1 | 600 | W |
| | <i>Buteo rufinus</i> | 12:30 | 1 | | 1 | 100 | S |
| | <i>Buteo buteo</i> | 14:02 | 1 | | 1 | 200 | E |
| | <i>Accipiter gentilis</i> | 16:23 | 1 | | 1 | 60 | SV |
| VP2 | <i>Buteo buteo</i> | 10:13 | 1 | | 1 | 30 | W |
| | <i>Falco tinnunculus</i> | 10:38 | 1 | 30 | | 20 | W |
| | <i>Falco tinnunculus</i> | 10:46 | 1 | | 1 | 50 | E |
| | <i>Buteo buteo</i> | 10:50 | 1 | | 1 | 70 | E |

| | | | | | | | |
|-----|---------------------------|-------|---|----|---|-----|----|
| | <i>Falco tinnunculus</i> | 10:59 | 1 | | 1 | 80 | SW |
| | <i>Circaetus gallicus</i> | 11:42 | 1 | 50 | 0 | 50 | W |
| | <i>Buteo buteo</i> | 11:43 | 1 | | 1 | 100 | SE |
| | <i>Buteo buteo</i> | 12:01 | 1 | | 1 | 80 | E |
| | <i>Circus pygargus</i> | 12:12 | 1 | 70 | 0 | 40 | N |
| | <i>Accipiter gentilis</i> | 12:15 | 1 | 80 | 0 | 30 | N |
| | <i>Falco tinnunculus</i> | 12:20 | 1 | | 1 | 80 | SW |
| | <i>Circus aeruginosus</i> | 13:01 | 1 | | 1 | 100 | N |
| | <i>Buteo buteo</i> | 13:25 | 1 | 80 | 0 | 100 | E |
| | <i>Buteo rufinus</i> | 14:10 | 1 | | 1 | 70 | E |
| | <i>Falco tinnunculus</i> | 14:49 | 1 | 60 | 0 | 80 | W |
| | <i>Falco tinnunculus</i> | 15:25 | 2 | 50 | 0 | 30 | E |
| | <i>Buteo buteo</i> | 15:59 | 1 | | 1 | 150 | W |
| | <i>Buteo buteo</i> | 17:01 | 1 | | 1 | 80 | SE |
| | <i>Buteo rufinus</i> | 17:15 | 1 | 70 | 0 | 60 | NE |
| VP3 | <i>Falco tinnunculus</i> | 11:30 | 1 | | 1 | 50 | NE |
| | <i>Circus aeruginosus</i> | 13:16 | 1 | | 1 | 200 | W |
| | <i>Falco tinnunculus</i> | 16:51 | 1 | | 1 | 20 | N |

| 13.04.2013 | | | | | | | |
|------------|--------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Buteo buteo</i> | 10:08 | 1 | | 1 | 55 | NNE |
| | <i>Circus cyaneus</i> | 10:41 | 1 | 30 | 0 | 50 | NNE |
| | <i>Ciconia ciconia</i> | 11:16 | 4 | | 1 | 30 | SE |
| | <i>Circus cyaneus</i> | 11:23 | 1 | 40 | 0 | 10 | SE |
| | <i>Buteo buteo</i> | 11:37 | 1 | | 1 | 200 | NNE |
| | <i>Buteo buteo</i> | 11:55 | 1 | | 1 | 250 | NW |
| | <i>Falco tinnunculus</i> | 12:21 | 1 | | 1 | 100 | NNE |
| | <i>Buteo rufinus</i> | 12:40 | 1 | | 1 | 300 | N |
| | <i>Buteo buteo</i> | 13:05 | 1 | 60 | 0 | 100 | N |
| | <i>Buteo buteo</i> | 13:25 | 1 | 80 | 0 | 250 | N |
| | <i>Falco tinnunculus</i> | 14:01 | 2 | | 1 | 200 | NW |
| VP2 | <i>Circus pygargus</i> | 10:04 | 1 | | 1 | 20 | SV |
| | <i>Falco tinnunculus</i> | 10:06 | 1 | | 1 | 20 | NE |

| | | | | | | | |
|-----|---------------------------|-------|---|----|---|-----|----|
| | <i>Aquila pomarina</i> | 10:27 | 1 | | 1 | 50 | SW |
| | <i>Ciconia ciconia</i> | 11:15 | 3 | 60 | 0 | 30 | S |
| | <i>Ciconia ciconia</i> | 11:17 | 1 | | 1 | 120 | E |
| | <i>Buteo rufinus</i> | 11:42 | 2 | | 1 | 25 | SE |
| | <i>Buteo rufinus</i> | 11:57 | 2 | | 1 | 100 | SE |
| | <i>Buteo rufinus</i> | 12:07 | 2 | | 1 | 60 | NW |
| | <i>Circus cyaneus</i> | 12:19 | 1 | | 1 | 80 | N |
| | <i>Circus cyaneus</i> | 12:22 | 1 | | 1 | 100 | NE |
| | <i>Falco tinnunculus</i> | 13:04 | 1 | 70 | 0 | 60 | SE |
| | <i>Falco tinnunculus</i> | 13:25 | 1 | 50 | 0 | 30 | NE |
| | <i>Circus aeruginosus</i> | 13:59 | 1 | | 1 | 70 | E |
| | <i>Accipiter gentilis</i> | 14:18 | 1 | 70 | 0 | 100 | NE |
| | <i>Buteo buteo</i> | 14:38 | 2 | | 1 | 100 | E |
| | <i>Buteo rufinus</i> | 15:21 | 1 | | 1 | 100 | SE |
| | <i>Buteo rufinus</i> | 15:35 | 2 | | 1 | 100 | S |
| | <i>Circus cyaneus</i> | 16:29 | 1 | 60 | 0 | 50 | N |
| | <i>Buteo buteo</i> | 16:40 | 1 | | 1 | 100 | W |
| | <i>Buteo rufinus</i> | 17:10 | 1 | 80 | 0 | 50 | N |
| | <i>Falco tinnunculus</i> | 17:15 | 1 | 40 | 0 | 30 | SE |
| VP3 | <i>Aquila pomarina</i> | 10:26 | 1 | | 1 | 200 | W |
| | <i>Pandion haliaetus</i> | 11:01 | 1 | | 1 | 300 | SE |
| | <i>Pandion haliaetus</i> | 16:20 | 2 | | 1 | 300 | E |
| | <i>Aquila pomarina</i> | 17:10 | 1 | | 1 | 100 | W |

| 23.04.2013 | | | | | | | |
|------------|---------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Falco vespertinus</i> | 10:05 | 5 | | 1 | 80 | SW |
| | <i>Falco tinnunculus</i> | 10:19 | 1 | | 1 | 60 | N |
| | <i>Buteo rufinus</i> | 10:37 | 1 | | 1 | 20 | NE |
| | <i>Accipiter gentilis</i> | 10:46 | 1 | 60 | 0 | 30 | SE |
| | <i>Falco tinnunculus</i> | 14:11 | 1 | | 1 | 40 | E |
| | <i>Buteo rufinus</i> | 15:56 | 1 | | 1 | 150 | NE |
| VP2 | <i>Falco tinnunculus</i> | 9:40 | 1 | 50 | 0 | 10 | N |
| | <i>Circus pygargus</i> | 10:10 | 1 | | 1 | 100 | N |

| | | | | | | | |
|-----|----------------------------|-------|----|--|---|------|---|
| | <i>Hieraaetus pennatus</i> | 10:50 | 1 | | 1 | 80 | N |
| | <i>Buteo rufinus</i> | 11:17 | 1 | | 1 | 50 | N |
| | <i>Falco tinnunculus</i> | 12:01 | 1 | | 1 | 150 | N |
| | <i>Buteo buteo</i> | 13:00 | 1 | | 1 | 150 | N |
| VP3 | <i>Phalacrocorax carbo</i> | 11:48 | 11 | | 1 | 1000 | N |

| 29.04.2013 | | | | | | | |
|------------|----------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Buteo rufinus</i> | 10:20 | 1 | | 1 | 200 | W |
| | <i>Buteo rufinus</i> | 10:23 | 2 | | 1 | 250 | W |
| | <i>Buteo rufinus</i> | 10:37 | 1 | | 1 | 200 | W |
| | <i>Circus macrourus</i> | 10:57 | 1 | 85 | 0 | 100 | SE |
| | <i>Ciconia ciconia</i> | 10:55 | 2 | | 1 | 250 | E |
| | <i>Hieraaetus pennatus</i> | 11:05 | 2 | | 1 | 200 | N |
| | <i>Buteo rufinus</i> | 12:27 | 2 | 50 | 0 | 450 | S |
| | <i>Ciconia ciconia</i> | 12:28 | 2 | 70 | 0 | 350 | NE |
| | <i>Ciconia ciconia</i> | 12:29 | 12 | 70 | 0 | 350 | NE |
| | <i>Ciconia ciconia</i> | 12:37 | 1 | 70 | 0 | 350 | NE |
| | <i>Ciconia ciconia</i> | 12:41 | 40 | 70 | 0 | 500 | NE |
| | <i>Ciconia ciconia</i> | 12:43 | 6 | 70 | 0 | 450 | NE |
| | <i>Falco tinnunculus</i> | 12:49 | 1 | 50 | 0 | 40 | NW |
| | <i>Ciconia ciconia</i> | 12:50 | 4 | 70 | 0 | 450 | NE |
| | <i>Ciconia ciconia</i> | 13:02 | 7 | 70 | 0 | 450 | N |
| | <i>Falco tinnunculus</i> | 13:07 | 1 | 60 | 0 | 250 | N |
| | <i>Pernis apivorus</i> | 10:14 | 1 | 70 | 0 | 20 | E |
| | <i>Accipiter gentilis</i> | 11:20 | 1 | | 1 | 200 | N |
| | <i>Aquila pomarina</i> | 11:27 | 2 | | 1 | 100 | E |
| | <i>Aquila pomarina</i> | 12:09 | 1 | | 1 | 100 | NE |
| | <i>Aquila pomarina</i> | 12:13 | 1 | 80 | 0 | 70 | NE |
| | <i>Aquila pomarina</i> | 12:30 | 2 | 50 | 0 | 80 | NE |
| | <i>Hieraaetus pennatus</i> | 12:35 | 1 | 50 | 0 | 80 | E |
| | <i>Ciconia ciconia</i> | 12:44 | 30 | 20 | 0 | 80 | E |
| | <i>Buteo rufinus</i> | 13:11 | 1 | 300 | 0 | 100 | N |
| VP2 | <i>Ciconia ciconia</i> | 13:25 | 4 | 30 | 0 | 80 | N |

| | | | | | | | |
|-----|------------------------------|-------|----|----|---|------|----|
| | <i>Pernis apivorus</i> | 14:26 | 1 | | 1 | 10 | E |
| | <i>Circus pygargus</i> | 14:46 | 1 | 3 | 0 | 80 | E |
| | <i>Buteo rufinus</i> | 14:58 | 1 | 5 | 0 | 70 | E |
| | <i>Hieraaetus pennatus</i> | 15:20 | 1 | 10 | 0 | 80 | N |
| | <i>Falco tinnunculus</i> | 15:38 | 1 | 40 | 0 | 50 | S |
| | <i>Circus aeruginosus</i> | 16:02 | 2 | 60 | 0 | 200 | N |
| | <i>Falco tinnunculus</i> | 16:31 | 1 | 30 | 0 | 80 | S |
| | <i>Falco vespertinus</i> | 16:57 | 1 | | 1 | 70 | NW |
| | <i>Buteo buteo</i> | 17:15 | 1 | | 1 | 70 | E |
| | <i>Buteo buteo</i> | 17:41 | 2 | | 1 | 80 | E |
| VP3 | <i>Falco tinnunculus</i> | 10:35 | 2 | | 1 | 200 | SE |
| | <i>Falco tinnunculus</i> | 10:40 | 1 | | 1 | 250 | E |
| | <i>Hieraaetus pennatus</i> | 10:45 | 2 | | 1 | 500 | E |
| | <i>Hieraaetus pennatus</i> | 10:50 | 1 | | 1 | 400 | SE |
| | <i>Hieraaetus pennatus</i> | 11:05 | 1 | | 1 | 300 | NW |
| | <i>Falco tinnunculus</i> | 11:06 | 2 | | 1 | 150 | SE |
| | <i>Falco tinnunculus</i> | 11:40 | 1 | | 1 | 200 | NE |
| | <i>Falco tinnunculus</i> | 11:48 | 1 | | 1 | 250 | NW |
| | <i>Falco tinnunculus</i> | 12:00 | 1 | | 1 | 150 | NE |
| | <i>Hieraaetus pennatus</i> | 12:15 | 1 | | 1 | 250 | NE |
| | <i>Pelecanus onocrotalus</i> | 16:48 | 15 | | 1 | 1500 | NW |
| | <i>Hieraaetus pennatus</i> | 17:56 | 2 | | 1 | 300 | S |

| 02.05.2013 | | | | | | | |
|------------|---------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Buteo buteo</i> | 13:21 | 1 | | 1 | 250 | W |
| | <i>Buteo rufinus</i> | 15:02 | 1 | | 1 | 250 | W |
| | <i>Falco tinnunculus</i> | 18:01 | 1 | | 1 | 150 | S |
| VP2 | <i>Falco tinnunculus</i> | 9:20 | 2 | | 1 | 300 | N |
| | <i>Falco tinnunculus</i> | 13:20 | 1 | | 1 | 250 | NW |
| | <i>Buteo buteo</i> | 14:35 | 2 | | 1 | 200 | N |
| VP3 | <i>Buteo rufinus</i> | 10:52 | 1 | | 1 | 300 | SE |
| | <i>Accipiter gentilis</i> | 12:46 | 1 | | 1 | 10 | E |
| | <i>Buteo rufinus</i> | 13:26 | 2 | | 1 | 250 | SW |

| | | | | | | | |
|--|----------------------------|-------|---|--|---|-----|---|
| | <i>Buteo rufinus</i> | 16:11 | 1 | | 1 | 150 | N |
| | <i>Hieraaetus pennatus</i> | 16:53 | 2 | | 1 | 350 | S |

| 9.05.2013 | | | | | | | |
|-----------|---------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Buteo buteo</i> | 8:30 | 1 | | 1 | 300 | NW |
| | <i>Buteo rufinus</i> | 9:35 | 1 | 40 | 0 | 250 | NW |
| | <i>Buteo buteo</i> | 9:37 | 1 | | 1 | 300 | N |
| | <i>Buteo buteo</i> | 10:10 | 1 | | 1 | 300 | NE |
| | <i>Falco tinnunculus</i> | 10:20 | 1 | 30 | 0 | 250 | NE |
| | <i>Falco tinnunculus</i> | 10:35 | 2 | | 1 | 200 | N |
| | <i>Falco tinnunculus</i> | 12:20 | 1 | | 1 | 200 | SE |
| | <i>Circus aeruginosus</i> | 12:35 | 1 | 45 | 0 | 150 | S |
| | <i>Buteo buteo</i> | 16:10 | 2 | | 1 | 200 | N |
| VP2 | <i>Buteo rufinus</i> | 10:10 | 2 | | 1 | 150 | SE |
| | <i>Falco tinnunculus</i> | 10:27 | 1 | | 1 | 70 | NW |
| | <i>Falco tinnunculus</i> | 10:31 | 1 | 30 | 0 | 80 | NW |
| | <i>Falco vespertinus</i> | 10:51 | 1 | 80 | 0 | 70 | E |
| | <i>Falco vespertinus</i> | 12:18 | 2 | | 1 | 100 | N |
| | <i>Circus aeruginosus</i> | 12:20 | 1 | 80 | 0 | 100 | NW |
| | <i>Falco tinnunculus</i> | 12:25 | 1 | 60 | 0 | 70 | N |
| | <i>Falco tinnunculus</i> | 12:36 | 1 | 80 | 0 | 50 | N |
| | <i>Circaetus gallicus</i> | 12:40 | 1 | | 1 | 80 | N |
| | <i>Falco tinnunculus</i> | 13:08 | 1 | 20 | 0 | 50 | E |
| | <i>Falco tinnunculus</i> | 13:19 | 1 | 30 | 0 | 60 | NE |
| | <i>Circaetus gallicus</i> | 13:31 | 1 | 10 | 0 | 100 | S |
| VP3 | <i>Buteo buteo</i> | 10:19 | 1 | | 1 | 600 | NW |
| | <i>Falco tinnunculus</i> | 10:39 | 1 | | 1 | 150 | W |
| | <i>Falco tinnunculus</i> | 11:48 | 1 | | 1 | 150 | W |

| 18.05.2013 | | | | | | | |
|------------|----------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Falco tinnunculus</i> | 10:10 | 1 | | 1 | 40 | N |
| | <i>Falco tinnunculus</i> | 12:12 | 1 | 40 | 0 | 50 | E |
| | <i>Hieraaetus pennatus</i> | 13:13 | 11 | | 1 | 200 | E |
| | <i>Circus aeruginosus</i> | 13:15 | 1 | | 1 | 150 | S |
| | <i>Falco tinnunculus</i> | 14:20 | 2 | 30 | 0 | 100 | E |
| | <i>Falco tinnunculus</i> | 14:55 | 1 | | 1 | 150 | W |
| | <i>Buteo buteo</i> | 15:40 | 1 | | 1 | 200 | N |
| VP2 | <i>Circaetus gallicus</i> | 10:21 | 1 | | 1 | 70 | SW |
| | <i>Buteo buteo</i> | 10:28 | 1 | 60 | 0 | 100 | E |
| | <i>Buteo buteo</i> | 11:00 | 2 | | 1 | 100 | NE |
| | <i>Buteo rufinus</i> | 11:11 | 1 | | 1 | 150 | SW |
| | <i>Buteo rufinus</i> | 11:21 | 1 | 50 | 0 | 20 | N |
| | <i>Falco tinnunculus</i> | 12:21 | 1 | 70 | 0 | 60 | SW |
| | <i>Falco tinnunculus</i> | 12:44 | 1 | | 1 | 80 | NE |
| | <i>Buteo buteo</i> | 13:01 | 1 | 60 | 0 | 70 | NE |
| | <i>Buteo rufinus</i> | 13:18 | 2 | | 1 | 150 | NNE |
| | <i>Falco tinnunculus</i> | 14:05 | 1 | | 1 | 60 | NE |
| | <i>Falco vespertinus</i> | 15:20 | 1 | 70 | 0 | 40 | E |
| | <i>Buteo rufinus</i> | 15:25 | 1 | | 1 | 150 | NE |
| | <i>Buteo rufinus</i> | 15:31 | 1 | 20 | 0 | 150 | N |
| | <i>Buteo buteo</i> | 15:58 | 1 | | 1 | 100 | NE |
| | <i>Falco tinnunculus</i> | 16:08 | 1 | 30 | 0 | 60 | SE |
| | <i>Accipiter gentilis</i> | 16:17 | 1 | | 1 | 60 | SE |
| | <i>Buteo rufinus</i> | 17:11 | 1 | | 1 | 70 | NE |
| | <i>Buteo rufinus</i> | 17:28 | 1 | 70 | 0 | 60 | E |
| VP3 | <i>Falco tinnunculus</i> | 11:25 | 1 | | 1 | 250 | W |
| | <i>Falco tinnunculus</i> | 11:52 | 1 | | 1 | 80 | NE |
| | <i>Falco tinnunculus</i> | 13:48 | 1 | | 1 | 150 | E |
| | <i>Buteo buteo</i> | 16:52 | 1 | | 1 | 200 | W |
| | <i>Hieraaetus pennatus</i> | 16:58 | 1 | | 1 | 200 | SE |
| | <i>Hieraaetus pennatus</i> | 17:25 | 1 | | 1 | 250 | S |
| | <i>Hieraaetus pennatus</i> | 17:34 | 1 | | 1 | 300 | SE |

| | | | | | | | |
|--|---------------------|-------|---|--|---|-----|---|
| | <i>Buteo rufinu</i> | 18:15 | 1 | | 1 | 150 | E |
|--|---------------------|-------|---|--|---|-----|---|

| 28.05.2013 | | | | | | | |
|------------|----------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Falco tinnunculus</i> | 9:30 | 2 | 30 | 0 | 100 | N |
| | <i>Falco tinnunculus</i> | 10:15 | 1 | 50 | 0 | 100 | N |
| | <i>Circus aeruginosus</i> | 10:35 | 1 | | 1 | 250 | NE |
| | <i>Buteo buteo</i> | 14:20 | 1 | | 1 | 300 | W |
| | <i>Buteo rufinus</i> | 15:01 | 2 | 75 | 0 | 250 | S |
| VP2 | <i>Falco tinnuculus</i> | 9:56 | 1 | | 1 | 80 | NE |
| | <i>Buteo rufinus</i> | 10:15 | 1 | 60 | 0 | 70 | E |
| | <i>Buteo buteo</i> | 10:27 | 1 | | 1 | 100 | SE |
| | <i>Falco tinnuculus</i> | 10:31 | 1 | 70 | 0 | 40 | SW |
| | <i>Circus pygargus</i> | 10:38 | 1 | 60 | 0 | 30 | N |
| | <i>Falco tinnunculus</i> | 10:52 | 2 | 70 | 0 | 80 | W |
| | <i>Buteo rufinus</i> | 11:18 | 1 | | 1 | 150 | NE |
| | <i>Circus aeruginosus</i> | 11:37 | 1 | | 1 | 60 | NE |
| | <i>Circaetus gallicus</i> | 11:44 | 1 | 20 | 0 | 200 | N |
| | <i>Falco vespertinus</i> | 12:01 | 1 | 40 | 0 | 30 | S |
| | <i>Falco tinnunculus</i> | 12:09 | 1 | 50 | 0 | 150 | S |
| | <i>Buteo buteo</i> | 12:11 | 1 | | 1 | 150 | NE |
| | <i>Buteo rufinus</i> | 12:51 | 1 | | 1 | 150 | NE |
| | <i>Hieraaetus pennatus</i> | 13:21 | 1 | | 1 | 150 | NE |
| | <i>Circus aeruginosus</i> | 13:37 | 1 | | 1 | 70 | S |
| | <i>Buteo rufinus</i> | 13:42 | 1 | | 1 | 100 | NW |
| | <i>Buteo rufinus</i> | 14:05 | 1 | 60 | 0 | 50 | NE |
| | <i>Falco tinnunculus</i> | 15:11 | 1 | 50 | 0 | 80 | S |
| | <i>Hieraaetus pennatus</i> | 15:21 | 1 | | 1 | 150 | NE |
| | <i>Circus pygargus</i> | 15:33 | 1 | | 1 | 70 | NE |
| | <i>Falco tinnunculus</i> | 16:12 | 1 | 50 | 0 | 60 | SW |
| | <i>Buteo rufinus</i> | 16:15 | 1 | | 1 | 100 | SW |
| | <i>Accipiter gentilis</i> | 17:11 | 1 | 70 | 0 | 60 | E |
| VP3 | <i>Falco tinnunculus</i> | 11:02 | 1 | | 1 | 200 | NW |
| | <i>Buteo rufinus</i> | 12:46 | 1 | | 1 | 150 | E |

| | | | | | | | |
|--|----------------------------|-------|---|--|---|-----|----|
| | <i>Buteo rufinus</i> | 12:58 | 2 | | 1 | 250 | SW |
| | <i>Falco tinnuculus</i> | 13:25 | 1 | | 1 | 200 | N |
| | <i>Falco vespertinus</i> | 15:18 | 1 | | 1 | 150 | SE |
| | <i>Hieraaetus pennatus</i> | 15:31 | 1 | | 1 | 250 | NV |
| | <i>Hieraaetus pennatus</i> | 16:20 | 1 | | 1 | 200 | W |
| | <i>Hieraaetus pennatus</i> | 16:48 | 1 | | 1 | 300 | SE |
| | <i>Buteo buteo</i> | 17:35 | 1 | | 1 | 200 | W |

| 08.06.2013 | | | | | | | |
|------------|----------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Falco tinnunculus</i> | 9:05 | 1 | 80 | 0 | 100 | NNE |
| | <i>Falco tinnunculus</i> | 10:15 | 1 | 60 | 0 | 70 | NNW |
| | <i>Buteo buteo</i> | 12:20 | 1 | | 1 | 250 | S |
| | <i>Buteo buteo</i> | 13:35 | 1 | 70 | 0 | 100 | NNE |
| | <i>Buteo rufinus</i> | 14:40 | 1 | | 1 | 250 | N |
| | <i>Falco tinnunculus</i> | 17:01 | 1 | 80 | 0 | 100 | SE |
| VP2 | <i>Buteo rufinus</i> | 11:15 | 1 | | 1 | 200 | E |
| | <i>Hieraaetus pennatus</i> | 13:49 | 1 | | 1 | 150 | SE |
| | <i>Falco tinnunculus</i> | 15:33 | 1 | 60 | 0 | 30 | NE |
| | <i>Falco tinnunculus</i> | 17:21 | 1 | 40 | 0 | 70 | S |
| VP3 | <i>Buteo rufinus</i> | 11:48 | 2 | | 1 | 250 | W |
| | <i>Hieraaetus pennatus</i> | 16:25 | 1 | | 1 | 250 | S |
| | <i>Hieraaetus pennatus</i> | 16:40 | 1 | | 1 | 300 | E |
| | <i>Falco tinnunculus</i> | 17:10 | 1 | 50 | 0 | 150 | SE |

| 20.06.2013 | | | | | | | |
|------------|--------------------------|-------|--------------------|--|---------------------------|-------------------|------------------|
| VP | Species | Hour | No. of individuals | Approximate distance up to the observer (limit of 100 m) | Observations at over 100m | Flying Height (m) | Flying Direction |
| VP1 | <i>Buteo buteo</i> | 9:30 | 2 | | 1 | 250 | N |
| | <i>Buteo buteo</i> | 10:40 | 1 | | 1 | 300 | NE |
| | <i>Falco tinnunculus</i> | 12:55 | 1 | | 1 | 300 | NE |

| | | | | | | | |
|-----|----------------------------|-------|---|-----|---|-----|----|
| | <i>Circus aeruginosus</i> | 14:56 | 1 | | 1 | 250 | NW |
| VP2 | <i>Accipiter gentilis</i> | 13:24 | 1 | 80 | 0 | 50 | S |
| | <i>Falco tinnunculus</i> | 14:01 | 1 | | 1 | 150 | NE |
| | <i>Buteo rufinus</i> | 14:32 | 2 | | 1 | 500 | SW |
| | <i>Circus aeruginosus</i> | 14:54 | 1 | | 1 | 200 | E |
| | <i>Falco tinnunculus</i> | 16:12 | 1 | 100 | 0 | 80 | S |
| | <i>Falco tinnunculus</i> | 17:46 | 1 | | 1 | 60 | NE |
| VP3 | <i>Accipiter nisus</i> | 12:11 | 1 | 50 | 0 | 80 | E |
| | <i>Falco tinnunculus</i> | 15:18 | 2 | | 1 | 250 | NE |
| | <i>Hieraaetus pennatus</i> | 16:42 | 1 | | 1 | 250 | W |
| | <i>Buteo buteo</i> | 17:01 | 1 | | 1 | 300 | W |
| | <i>Buteo rufinus</i> | 18:13 | 2 | | 1 | 350 | W |

APPENDIX 3. DESCRIPTIONS OF THE SPECIES LISTED IN STANDARD DATA FORM OF SPA PADUREA BABADAG

Aquila clanga

Dimensions

- length: 59-69 cm;
- wingspan: 153-177 cm.

Status

- Vulnerable species - VU, according to the IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 0-2 pairs (1999-2002).

Estimated population in SPA Babadag Forest

- 2-5 individuals, in passage.

Distribution

- widespread throughout Eurasia;

Habitat

- Forested areas, often in the proximity of lakes, rivers, ponds;
- During the reproductive period, they prefer lowland forests, near wetlands;
- they hunt in swamps and wet meadows.

Biology

- they build large nests, especially in deciduous forests, rarely in coniferous forests;
- a single clutch is laid, of 1-2 eggs, rarely three eggs; incubation lasts six weeks;
- Chicks come out of the nest at about 65-70 days, but their complete development requires approximately 20 more days;
- Their diet is very varied, depending on the availability of prey; it mainly consists of small mammals, birds, amphibians, lizards, snakes, small fish, sometimes insects.

Threats

- persecution, loss of habitat .

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Caprimulgus europaeus

Dimensions

- length: 24-28 cm;
- wingspan: 52-59 cm.

Status

- Least Concern - LC, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 12.000-15.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding C.

Distribution

- widespread summer guest to Europe, which constitutes over 50% of its global breeding range.

- its breeding area spreads from Morocco, the Iberian Peninsula, the British Islands and Southern Scandinavia to Mongolia and Pakistan;
- It winters in Sub-Saharan Africa;

Habitat

- Arid areas with low, rare vegetation, (for nesting);
- For foraging, they frequent arid areas, with deciduous or mixed forests, orchards, riverine areas, freshwater habitats and gardens.

Biology

- Upon returning from Africa (in late April – May), males attract a mate and establish their territory ;
- Nests are selected by males and consist of a shallow hollow, directly on the ground, amongst weeds or ferns;
- Eggs are laid between mid-May and mid-July. A typical clutch consists of 1-3 eggs, mainly 2 and if the first clutch is produced early in the season, a second clutch may be possible;
- Incubation lasts for 17-18 days, and the young fledge after 16-17 days;
- they hunt insects at dusk and dawn; their flight is quick and agile;
- Most of the diet consists of moths, flies, Tipulidae species, beetles and ants
- Migratory species, it leaves the reproduction area from late July until November; it winters mainly in Eastern and Southern Africa, although a reduced number may also winter in West Africa

Threats

- The main threats are loss of habitat and the use of pesticides.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended include first and foremost habitat protection.

| |
|---------------------------------|
| <i>Coracias garrulus</i> |
|---------------------------------|

Dimensions

- length: 29-32 cm;
- wingspan: 52-57 cm.

Status

- Near Threatened – NT according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 4.600-6.500 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- 400-500 pairs, breeding.

Distribution

- summer visitor to Southern and Eastern Europe, which constitutes over 50% of its global breeding range; it also breeds in North-Western Africa, Western Asia, reaching Pakistan and Mongolia to the East. It winters in sub-Saharan Africa.

Habitat

- Warm and sunny lowlands, open meadows, patches of pine or oak, with clearings, orchards, mixed farmland, broad river valleys, and eroded plains with scattered thorny or deciduous trees;
- It nests in hollows of large trees, cavities from rocks, buildings or river banks.

Biology

- Monogamous, solitary and territorial, with typical aerial display;
- The clutch contains 4-5 eggs, incubated by the female, for 17-19 days;
- their diet consists mainly of invertebrates: beetles and other hard, chitinized bodied insects, and some small vertebrates; exceptionally, they can eat fruit (grapes and figs).
- migratory - wintering in Africa, in the South of the Sahara; during migration their flight height is 300-500 m.

Threats

- their main threats are the loss or degradation of habitat, agricultural intensification and the increasing use of pesticides (reducing their feeding area), hunting, persecution

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, of wild flora and fauna;
- conservation measures recommended: habitat protection.

| |
|----------------------------------|
| <i>Dendrocopos medius</i> |
|----------------------------------|

Dimensions

- length: 19-22 cm;
- wingspan: 33-34 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 20.000-24.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- resident 500-620 pairs.

Distribution

- widespread resident across central and South-Eastern Europe, which constitutes over 95% of its global range;
- Resident species in the temperate regions of Central Europe

Habitat

- It prefers forested areas with deciduous species, especially groves areas with old oaks, hornbeam and elm;
- Meadows, pastures and dense forests.

Biology

- Sedentary;
- Reproductive period: May to June;
- The nest is excavated in trunks or thick branches; they often use the same nesting site for several years in a row;
- Nest is lined with wood chips;
- The clutch of 4-7 egg is incubated for 11-14 days by both parents;
- Their diet is based on insects and their larvae;
- They can move vertically on trunks; numerous debris accumulate in the foraging places of the species, which are then exploited by Passeriformes

Threats

- Destruction of habitat;

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural

- protected areas, conservation of the natural habitats,;
- conservation measures recommended: habitat protection.

Dryocopus martius

Dimensions

- length: 44-54 cm;
- wingspan: 70-84 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 40.000-60.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- resident 60-80 pairs.

Distribution

- widespread throughout Eurasia;

Habitat

- Forested regions with deciduous, mixed forests with old trees;
- common in old deciduous forests.

Biology

- it nests at a height of 4-20m, in deep hollows;
- the reproductive period begins in April;
- the clutch contains 4-6 eggs; incubation lasts 14 days, with the involvement of both partners;
- chicks leave the nest within one month after hatching;
- their diet consists of insects and their larvae; in winter their diet is based on grains

Threats

- habitat destruction;

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna;
- conservation measures recommended: habitat protection.

Falco peregrinus

Dimensions

- length: 38-51 cm;
- wingspan: 46-100 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 8-15 pairs (1990-2002)

Estimated population in SPA Babadag Forest

- 2- 4 individuals, in passage

Distribution

Habitat

- on all continents except Antarctica, in a wide variety of habitats
- irregular distribution; Northern populations are migratory and Southern ones are sedentary;

- they winter in tropical Africa;

Habitat

- open, but also forested regions; for nesting, they depend on steep rocks;
- they prefer undisturbed areas, from where they have a good view of the surroundings, with abundant food;
- they can accept anthropogenic habitats - buildings, quarries, high platforms.

Biology

- sexual maturity is reached at 2-3 years;
- monogamous, forming pairs for life;
- they keep their nesting sites;
- males are territorial;
- the average clutch contains four eggs, incubated by the female, but also by the male, for short periods; incubation lasts 32-34 days; if the nest is destroyed during the first clutch, a second clutch may be deposited - a replacement;
- food: birds (pigeons, jays, limicolous and water birds, etc.), mammals, reptiles, insects;
- migratory species.

Threats

- persecution, loss of habitat.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna;
- conservation measures recommended: habitat protection.

Ficedula parva

Dimensions

- length: 11-12 cm;
- wingspan: 19-21 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 360.000-512.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- passage 500-2500 individuals.

Distribution

- summer guest in NE and Central Europe, representing less than 50% of its global area of distribution;
- widespread in temperate and boreal regions of Eurasia, from central Europe to Eastern Siberia;
- They winter mainly in India and Pakistan;

Habitat

- mixed open forested terrains; they prefer humidity and often reproduce at high altitudes, between 800 and 3000 m

Biology

- reproductive period: May to June;
- it nests in holes or hollows, in walls or trees, occasionally in shrubs;
- the nest is a cup made of moss, dry vegetation and leaves, lined with hair or fur; in bushes, the nest is domed;

- the clutch contains 5-6 eggs, incubated by the female only for 12 to 13 days;
- diet: mainly insects, but also other invertebrates; during the breeding season, the food is mostly gathered from trees, and less from the ground or caught in flight;
- they migrate; they winter in Southern Asia, from Pakistan and East India to Southern China, Indo-China and the Malay peninsula; the return to the breeding territories from Europe takes place in May-June.

Threats

- forestry exploitation.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna;
- conservation measures recommended: adequate forestry management.

Lanius collurio

Dimensions

- length: 16-18 cm;
- wingspan: 24-27 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 1.380.000-2.600.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding C.

Distribution

- widespread summer visitor to much of Europe, which accounts for less than half of its global distribution area;
- their wintering locations are in sub-Saharan Africa;

Habitat

- gentle slopes, warm, sunny, dry, semi-arid, with scattered bushes, shrubs, fields, vacant land.

Biology

- Breeding lasts from May to July;
- They nest in areas with thorny bushes, sometimes high in trees, in piles of wood;
- nests are made of plant material, lined with fur, hair, lichens, grasses, blossoms, moss, reeds;
- The clutch: 3-7 eggs incubated for 12-16 days mostly by the female;
- Food: insects and other invertebrates and small mammals, birds, reptiles;
- Migratory, leaving the breeding territories in August-September.

Threats

- intensification of agriculture, irrational use of pesticides.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Lanius minor

Dimensions

- length: 19-21 cm;
- wingspan: 32-35 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 364.000-857.000 pairs (2000-2002)

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- summer guest widespread throughout Eastern and Southern Europe, representing over 50% of its global area of distribution;
- from Spain to the Altai Mountains;
- they winter in sub-Saharan Africa;

Habitat

- they prefer the steppe, Mediterranean or temperate climate;
- open habitats with bushes and shrubs.

Biology

- reproduction: May-July;
- the nest is located on side branches up to 4 m from the trunk, or in the canopy, usually high above the ground;
- the nest is made of plant materials including herbs, blossoms, etc., lined with hair, fur or feathers;
- the clutch: 5-6 eggs, incubated for 15-16 days by the female;
- food: insects; there have to be many tall elements in their feeding area, from where they can stalk prey; they rarely attack other birds;
- they migrate.

Threats

- intensification of agriculture, irrational use of pesticides.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Lullula arborea

Dimensions

- length: 14-15 cm;
- wingspan: 27-30 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 65.000-87.000 pairs (2000-2002)

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- spread throughout most of Europe (over 75% of its global area of distribution) except for

the Northern region;

Habitat

- It requires habitats with a short vegetation for feeding, a taller vegetation for nesting and exposed trees or bushes to support their singing;
- they avoid areas where intensive agriculture is practiced, but can be found on abandoned agricultural land.

Biology

- monogamous species; reproduction occurs in May-June; the female builds a cup-shaped nest; 2-3 clutches are deposited per year, with 3-5 eggs each, incubated by the female for 11-15 days;
- the young are fed by both parents, and leave the nest after 8 days, before being able to fly;
- if the female starts the second the clutch in the meantime, the male will care for the chicks from the first clutch alone;
- during the reproduction season, food consists of medium to large sized insects and spiders; outside the breeding season, their diet consists mainly of seeds;
- they hunt in the vegetation and on the soil;
- they migrate, except for the populations of W Europe and the Mediterranean basin, which are resident

Threats

- habitat degradation.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|---------------------------|
| <i>Picus canus</i> |
|---------------------------|

Dimensions

- length: 25-28 cm;
- wingspan: 130-180 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 45.000-60.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- resident 200-300 pairs.

Distribution

- widespread in the temperate regions of Eurasia;

Habitat

- deciduous forests; they prefer willow and poplar associations; they can also be found in orchards, large parks and gardens;
- rarely seen in localities.

Biology

- sedentary species;
- reproductive period: May to June;
- they nest in trees, at heights of 3-5m;
- the clutch consists of 5-10 eggs, incubated for 17 days by the female;
- juveniles are cared for by both parents;

- in summer, they feed on insects and their larvae and, in winter, on seeds and dried fruit.

Threats

- irrational forestry exploitation;

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Accipiter brevipes

Dimensions

- length: 32-37 cm;
- wingspan: 62-76 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 60-100 pairs (1999-2002).

Estimated population in SPA Babadag Forest

- breeding 60-100 pairs.

Distribution

- summer guest in the SE of Europe, representing over 75% of its global area of distribution;
- the species winters in the NE of Africa.

Habitat

- lowland forests near wetlands; it nests in tall trees;
- reproduction area – deciduous forests, especially in hilly areas.

Biology

- sexual maturity is reached in the first year of life;
- They hunt by flying over swamps, grasslands, agricultural crops;
- nests are built in areas with tree belts, along river valleys, at high altitudes, in the crowns of trees (4-10 m); the nest is loose, made of branches, stitched with leaves;
- they build another nest each year;
- the clutch is deposited in May: 3-5 eggs at intervals of one day;
- incubation is performed by the female, starting with the first egg deposited, and lasts 30-35 days;
- chicks leave the nest in August, remaining in the area for a while (1-2 weeks), then migrate South;
- their diet consists mainly of small birds, small land mammals, occasionally bats; juveniles feed mostly on insects, while adults only occasionally feed on them;
- the wintering areas are in the sub-Saharan Africa; they leave the breeding territories in September, returning in April-May; migrations of the species were observed at night.

Threats

- The development of agriculture and recreational projects from river valleys (affecting the hunting and nesting areas);
- affecting the populations of species which represent the trophic basis for hawks

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Bubo bubo

Dimensions

- length: 58-73 cm;
- wingspan: 138-170 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 750-1.000 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding 1-4 pairs.

Distribution

- widespread in Eurasia.

Habitat

- encountered in mountainous or rocky regions, forested or unforested;
- in open forests, forest-steppes.

Biology

- sedentary, mostly nocturnal;
- monogamous species;
- it usually nests in rock cavities, sometimes on the ground, near boulders;
- reproductive period: March – April; the clutch contains 1-4 eggs; the incubation period is 28-37 days;
- chicks can fly well after approximately 3 months;
- their diet consists of mammals, rodents, birds, rabbits.

Threats

- loss of habitat.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Buteo rufinus

Dimensions

- length: 50-61 cm;
- wingspan: 130-150 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 28.000-34.000 pairs (1996-2002).

Estimated population in SPA Babadag Forest

- passage 14675-28487 individuals.

Distribution

- widespread in Northern Africa and Asia, from Morocco to Western China; it is also found in SW Europe; juveniles disperse North of their nesting territory, so this species was also recorded in Northern Europe

Habitat

- Open, uncultivated steppe lands, with high bushes, trees, rockery, hills.

Biology

- reproductive period: March - May;
- the clutch contains 2-3 eggs;
- diet: small mammals, reptiles and large insects;
- it searches for prey in circular flight, or from high observation points;
- they migrate; they winter from Turkey to North Africa;
- they leave their breeding territories in late August - September and return in mid-March - April.

Threats

- loss of habitat.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|--------------------------------|
| <i>Circus macrourus</i> |
|--------------------------------|

Dimensions

- length: 40-50 cm;
- wingspan: 97-118 cm.

Status

- Near Threatened (NT) species according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 0-6 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- passage 70-100 individuals.

Distribution

- in Europe, their nesting habitat is fragmented, and the Western boundaries change from year to year;
- simultaneously a Northward expansion of the habitat of this species can be observed;
- its breeding area consists of three areas: the optimal area (wetland habitats from steppes, forest-steppes and semi-desert regions from Northern Eurasia), the sporadic breeding area (forested areas from Europe and Northern pastures in Kazakhstan), areas used occasionally, during invasions in Northern, Central or Western Europe;
- most of the nesting population is located in the steppes of Asian Russia, Kazakhstan and NW China; small populations nest in Azerbaijan, Romania, Turkey and Ukraine.

Habitat

- wetlands from the grassland regions of steppes and forest-steppes ;
- in the years with abundant prey, they can also nest in agricultural areas;
- the habitats preferred for breeding are wet meadows in the vicinity of lakes, rivers and swamps; they can even nest in clumps or wet islands, on lakes;
- recently, they were observed colonizing clearings in forests, in the Northern regions of Europe.

Biology

- They nest both solitarily (one pair) - especially in the North, and in groups of 3-5 pairs - in habitats such as pristine wet meadows, sometimes near Montagu's Harrier nests;
- They nest on the ground, both in tall vegetation (over 50 cm), as well as in shorter vegetation and in marshes;
- in optimal habitats, nesting sites can be used for years in a row;

- the typical clutch is of 4-5 eggs, incubated for 30 days, of which 2-3 juveniles usually survive, which can fly at 35-40 days; the female is the one that handles the nesting and care of the nest, while the male takes on hunting;
- food: small mammals and birds (larks and pipits) - their favorite prey, at least in summer; alternatively, it can feed on lizards and large insects (grasshoppers, crickets); small Passeriformes and large Orthoptera insects are very important during the migration or in the wintering territories;
- they hunt at long distances from the nest (over 20 km), by day, for which reason the use of the areas near their nesting sites is very important for the conservation of the species;
- their hunting flight is low, quick and direct; it uses patches of tall vegetation to hunt larks that feed on the ground - so overgrazing represents a major risk;
- males are territorial, depending on the trophic support capacity of the habitat (limiting factor);
- they are a migratory species; European populations migrate to Africa.

Threats

- degradation, destruction, fragmentation of habitats;

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna;
- the most important conservation measure recommended is habitat protection.

| |
|------------------------------------|
| <i>Haliaeetus albicilla</i> |
|------------------------------------|

Dimensions

- length: 77-92 cm;
- wingspan: 190-250 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to the IUCN Red List

Estimated population in Romania (pairs or individuals/years)*

- 28-33 pairs (1995-2002).

Estimated population in SPA Babadag Forest

- breeding 1 pairs;
- passage 5-10 individuals.

Distribution

- Widespread throughout Europe, from E Island to Scandinavia and over Russia

Habitat

- It prefers isolated shores, wetlands, flooded areas (deltas)

Biology

- It is a sedentary species; in our country, it can be encountered and observed throughout the year;
- It has little activity, and spends a lot of its time sitting in trees and observing the surroundings;
- It flies at high altitudes;
- The nest is voluminous, built of twigs, placed on cliffs or in large trees;
- the clutch contains 1-3 white eggs, incubated by both parents in turns, for 38 days;
- the young remain near the nest after hatching, depending on their parents for another 6 to 10 weeks;

- sexual maturity is reached at 4-5 years;
- monogamous species, they form pairs for life;
- they keep their nesting sites;
- males are territorial;
- they feed on fish and seabirds, and often on carcasses.

Threats

- destruction, degradation or loss of habitats, the use of pesticides.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|--------------------------------------|
| <i>Melanocorypha calandra</i> |
|--------------------------------------|

Dimensions

- length: 17-19 cm;
- wingspan: 37-40 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 85.000-105.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding 800-1500 pairs.

Distribution

- The North of Africa, Southern Europe, the Near and Middle East;
- the populations from the S-SW of Europe are sedentary, but the ones in the East winter in the Mediterranean regions;

Habitat

- steppe, cereal crops, open plains, high plateaus, in areas with bushes, shrubs, scattered trees; they avoid arid, salted, stony lands, but tolerate well high temperatures up to 32 °C.

Biology

- they nest on the ground under vegetation mounds; the nest is built by both sexes, in a small hollow, lined with leaves and stems;
- depositing the clutch: March-June; twice a year: 4-5 eggs, rarely 3-6;
- hatching: 16 days by the female; the young are fed in the nest about 10 days;
- in summer, they feed mainly on insects, less on plants; in winter, they feed more on plants: seeds and cuttings. It feeds on the ground, while running; it digs for larvae and pupae;
- migratory.

Threats

- loss of habitat, the use of insecticides.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna
- conservation measures recommended: habitat protection.

Tadorna ferruginea

Dimensions

- length: 58-70 cm;
- wingspan: 110-135 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists

Estimated population in Romania (pairs or individuals/years)*

- 20-25 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding 3-7 pairs;
- passage < 243 individuals.

Distribution

- it is found in South-Eastern Europe, Central Asia and the South-West of China;

Habitat

- encountered along rivers, along the shores of salt lakes and on plains and steppes; avoiding the areas with dense, tall vegetation;

Biology

- The Ruddy Shelduck builds its nest similarly to the the Common Shelduck, in burrows, cracks among rocks or in tree hollows;
- The breeding period begins in March-April;
- The female lays 8-10 eggs in one series per year, which she then hatches for 28 days;
- just a few hours after hatching, the young jump out of the nest and enter the water, led by both parents; after a period of 50 days, they become independent;
- after hatching, these birds fly on lakes and are often mixed with other varieties of ducks;
- they are generally monogamous birds;
- it is an omnivorous species, their diet being formed of a variety of aquatic and land plants, small crustaceans, insects, worms, fish and amphibians;
- the migration to the Asian regions takes place in early September;
- their flight is very secure and quite fast;
- they usually live in pairs or in small groups and are rarely seen in large gaggles; however, they may gather in large groups when preparing for wintering.

Threats

- in the South-East of Europe, the species is threatened by loss of habitat and hunting;
- other threats: loss and degradation of wetlands, urban development, pollution, agricultural developments.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures: protection and restoration of habitats, prohibiting hunting.

Burhinus oedicnemus

Dimensions

- length: 38-45 cm;
- wingspan: 76-88 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 400-800 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding 35-50 pairs;
- passage 400-500 individuals.

Distribution

- Spread discontinuously throughout Europe, the resident population accounting for less than half of their estimated global effectives;
- It nests mostly in Northern Africa, Europe, North of the 55 ° parallel and in SW Asia; the populations from the Mediterranean regions are sedentary;

Habitat

- acid or calcareous grassland, with little or very short vegetation, pastured;
- they also nest in arable crops seeded in the late spring.

Biology

- breeding occurs before reaching the nesting sites in spring;
- they nest in a hollow in the ground, in open terrain;
- the clutch consists of two eggs, hatched by both sexes for 24-26 days;
- food: mostly underground insects and larvae, but also snails, frogs, small lizards, mice and eggs of other birds;
- migratory; the populations N Europe and Central Asia migrate in the winter towards Southern Europe, the Middle East and Africa; the populations from the Iberian Peninsula, N Africa, India and S Asia are resident.

Threats

- habitat destruction, the use of insecticides or pesticides .

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|---------------------------------|
| <i>Falco vespertinus</i> |
|---------------------------------|

Dimensions

- length: 28-34 cm;
- wingspan: 65-76 cm.

Status

- Near Threatened – NT species, according to the IUCN Red Lists

Estimated population in Romania (pairs or individuals/years)*

- 1.300-1.600 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- passage 600-800 individuals.

Distribution

- it nests in Eastern and Western Europe, Central and Northern-central Asia; it winters in Southern Africa;

Habitat

- low, open terrains, with trees and a large abundance of insects, including steppe and forest-steppes areas, open forests, grasslands, cultivated lands, swamp areas, forest clearings;
- in Europe they are not found at altitudes above 300 m;
- they prefer nests from the tree canopy; for feeding, they can use poles, overhead

electrical lines etc as observation points.

Biology

- Social, it nests in old nests of other bird species;
- It arrives in its nesting territories in late April; hatching (21-27 days after the second egg deposited) is performed in colonies; the young fledge at approximately 26 to 27 days of age;
- The colony dispersal begins in late August, and migration begins in mid-September;
- food: mainly insects, but also small vertebrates: amphibians, reptiles and mammals;
- it hunts at noon; in the wintering territories of South Africa, they often hunt in groups, sometimes along other species of raptors;
- they are attracted to agglomerations of insects;
- migratory; summer guests in the Palearctic region; they winter in South Africa.

Threats

- Destruction of their optimal nesting areas; the use of pesticides affects their food source.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures: habitat protection, ecological cultivation techniques in agriculture.

| |
|------------------------------|
| <i>Sylvia nisoria</i> |
|------------------------------|

Dimensions

- length: 15-17 cm;
- wingspan: 23-27 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 25.000-40.000 pairs (1990-2000).

Estimated population in SPA Babadag Forest

- breeding 300-400 pairs.

Distribution

- Widespread throughout Central and Eastern Europe up to Western Asia
- it winters in Eastern Africa.

Habitat

- temperate forests;
- brushwood, areas with shrubs and rich vegetation, rare forests with shrubs.

Biology

- reproductive period: May - June;
- the nest looks like a cup consisting of dry grass, lined with grass and roots
- the clutch: 4-6 eggs, incubated for 12-13 days by the female;
- their diet consists of invertebrates; outside the breeding season, their diet is granivorous;
- migratory.

Threats

- habitat altering and fragmentation, forest fires.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection, appropriate forestry

management.

Falco cherrug

Dimensions

- length: 45-55 cm;
- wingspan: 110-125 cm.

Status

- Vulnerable - VU according to the IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 5-10 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding 1-2 pairs;
- passage 6-8 individuals.

Distribution

- widespread in the Palearctic region, from Eastern Europe to West China.

Habitat

- species adapted to hunting close to the ground, in open lands, specializing in average sized, diurnal, terrestrial rodents from grassy terrains, areas of semi-desert, steppes, arid mountain regions or near waters;
- nesting habitat: rocky areas, in niches, on rocky edges, sometimes directly on the ground, on pillars or posts, sometimes using old nests of other birds (eg crows).

Biology

- their mating flight can be seen in early March;
- the clutch varies from 1-5 eggs, being deposited at the earliest in late March; incubation lasts 28-30 days;
- the juvenile males begin to hunt earlier than the females, in early August; the males also start the autumn migration first, in mid-August, while females remain near the nest until the end of September; adults leave in early November; they winter in areas neighboring their nesting habitats;
- food: in areas with open lands, they hunt rodents; in areas near waters they hunt birds;
- adults are sedentary (Turkey), partially-migratory (Central Europe) or migrant (parts of Russia), depending on the availability of food, for the winter; birds leave the nesting territories in March-April.

Threats

- excessive hunting, affecting the rodent populations.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures: legislative, habitat protection.

Anthus campestris

Dimensions

- length: 16-18 cm;
- wingspan: 25-28 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 150.000-220.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding 1600-2000 pairs.

Distribution

- Summer guest in most of Europe, representing less than half of its global area of distribution; spread from Spain to Mongolia;
- The species winters in sub-Saharan Africa.

Habitat

- from Mediterranean regions to steppes;
- they prefer dry lands, but not arid; their preferred habitats tend to be localized in rather sunny continental lowland areas;
- they avoid steep or rocky terrains, obstacles consisting of water bodies, tall vegetation areas, forests, wetlands, agricultural lands or shrubs.

Biology

- reproduction begins in May-June;
- it nests on the ground, in shallow cavities or hollows, often in clumps of vegetation; the nest is a cup made of stems and leaves, lined with plant material and hair or fur; it has a side opening, usually oriented to the North or East; the nest is built mostly by the female;
- the clutch: 4-5 eggs, incubated by the female for about 12 days;
- food: insects and seeds, especially in winter, it feeds on the ground and in short vegetation;
- migratory.

Threats

- loss of habitat.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|----------------------------------|
| <i>Emberiza hortulana</i> |
|----------------------------------|

Dimensions

- length: 16-17 cm;
- wingspan: 23-29 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 125.000-255.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding 600-800 pairs.

Distribution

- summer guest in most of Europe, representing over 50% of its global area of distribution;
- in some parts of Europe and W Asia;
- it winters in sub-Saharan Africa;

Habitat

- varied;
- attracted to trees, they reproduce in forest clearings, coniferous forests, plantations, forest-steppes, slopes, steep lands, orchards, alluvial deposits, rocky terrain covered with

thorny bushes, agricultural land.

Biology

- they reproduce in April-June;
- they nest in crops, vineyards, clearings, in nests made of plant materials, lined with grass and fur or hair;
- the clutch contains 4-5 eggs, incubated for 11-12 days by the female; food: invertebrates, seeds; they forage on the ground, in crops, deciduous trees, especially oak - for defoliating caterpillars and pines for seeds;
- they migrate over long distances.

Threats

- fragmentation or loss of habitat;

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|------------------------------|
| <i>Aquila heliaca</i> |
|------------------------------|

Dimensions

- length: 72-83 cm;
- wingspan: 180-215 cm.

Status

- Vulnerable species - VU, according to the IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 5-10 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- passage 3-5 individuals.

Distribution

- from central, Southern, South-Eastern Europe, to the area of Lake Baikal in Russia.

Habitat

- they prefer lowlands; their habitat is represented by forests, up to a maximum altitude of 1000 m, but also by steppes, open fields and agricultural areas;
- their hunting area is represented by open areas and wetlands; during migration, various habitats are used, although the species seems to have a preference for wetlands for wintering.

Biology

- the nest is massive, made of twigs, located toward the top of the trees, in deciduous or coniferous forests; occasionally on electricity poles; they also accept artificial nests;
- the clutch 2-3 eggs, deposited in March-April; hatching: 42-44 days; juveniles remain with their parents over the summer, then migrate;
- their diet consists of large and small mammals, mainly rodents, but also bird corpses (quail, pheasant, poultry, corvidae, Passeriformes, lizards, etc.).
- adults are partially migratory birds, while juveniles are completely migratory - leaving the reproduction territories in mid-September - October; adults remain inside or near the breeding territories.

Threats

- persecution, habitat destruction (forestry exploitation).

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural

- protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Pernis apivorus

Dimensions

- length: 52-59 cm;
- wingspan: 113-135 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 2.000-2.600 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- passage 3190-7050 individuals.

Distribution

- summer guest in Europe, representing over 75% of its global area or distribution.

Habitat

- It nests in the forested regions, where it can also find its favorite food; in deciduous or coniferous forests with clearings, meadows and thickets.

Biology

- The nests are relatively small, often built over crow nests;
- the clutch: 3 to 5 eggs, deposited in June-July, incubated by both parents, for 30-35 days;
- chicks are fed by both parents and fledge and they fly after 40-44 days;
- their preferred food consists of wasps and bumblebees;
- at the beginning of the reproductive period, they also feed on small birds, small mammals and worms to supplement their diet.

Threats

- loss of habitat.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Circaetus gallicus

Dimensions

- length: 62-69 cm;
- wingspan: 162-178 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 220-300 pairs (1995-2002).

Estimated population in SPA Babadag Forest

- breeding 20-30 pairs;
- passage 195-300 individuals.

Distribution

- The species reproduces in S Europe, N Africa, the Middle East and Central Asia;
- It winters mainly in sub-Saharan Africa;

Habitat

- They prefer cultivated plains, rocky areas with shrubs, foot hills and semi-arid regions.

Biology

- They arrive in their nesting areas in mid March-April, the period coinciding with the period of intense activity of reptiles, which are fresh out of hibernation;
- The hatching period (June-July) coincides with the warm and dry season, and with the peak of prey abundance, which probably increases the chance of survival of the clutch, and the optimal development of the juveniles;
- the clutch consists of a single egg;
- The nest is built at heights that can vary from 2 - 25 m, usually in trees or, nevertheless, in inaccessible areas, away from the ground; it often uses the nests of other bird species; the same nest may be used for several years in a row;
- The nest is relatively small: 50-100 cm in diameter, 20-30 cm tall, made of small sticks, 5-10 cm long, lined with plants
- incubation lasts 45-47 days and is carried out by both sexes;
- chicks come out of the nest at about 60 days, but their full development takes about another 10-15 days;
- sexual maturity is reached at least at 3-4 years of age;
- their diet consists of reptiles - snakes (including vipers), lizards, some species of amphibians, mammals (rabbits, rats), injured or sick birds and large insects;
- the Palearctic populations are migratory; the main migration route between Africa and Europe crosses the Strait of Gibraltar, and between Africa and Asia, the Gulf of Suez.

Threats

- intensification of agriculture.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended include habitat protection.

| |
|----------------------------------|
| <i>Circus aeruginosus</i> |
|----------------------------------|

Dimensions

- length: 32-7 cm;
- wingspan: 62-76 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 1.700-2.500 pairs (1998-2002).

Estimated population in SPA Babadag Forest

- passage 1517-3970 individuals.

Distribution

- widespread in Europe, Africa, Asia;
- It can also occasionally be found in Wales and Ireland.

Habitat

- swampy areas, covered with a lot of reed, with open areas nearby;
- their breeding habitats are represented by wetlands covered with reed, from the vicinity of lakes or rivers.

Biology

- monogamous species;

- they usually hunt at dusk or dawn, on plains and agricultural terrains;
- mating season: April-May;
- the clutch consists of 4-5 eggs, and eggs are laid every three days;
- incubation lasts 32-33 days;
- they nest in vast bushes; nests are large, can measure up to 80 cm;
- their diet consists of small mammals, rodents, birds, frogs, insects;
- migratory species.

Threats

- loss of habitats.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|------------------------------|
| <i>Circus cyaneus</i> |
|------------------------------|

Dimensions

- length: 45-55 cm;
- wingspan: 97-118 cm;
- weight of the male: 290-400 g;
- weight of the female: 370-708 g.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 150-500 specimens (1990-2000).

Estimated population in SPA Babadag Forest

- wintering 20-30 specimens.
- passage 110-330 specimens.

Distribution

- It occupies a wide variety of areas, from America to Eurasia **Habitat**
- most often, it is associated with open wetlands, including marsh pastures, vacant lands, freshwater or brackish marshes;
- tall, dry lands, meadows, drained marshes, agricultural lands, riparian forested areas.

Biology

- They are both monogamous and polygamous; in the case of polygamy, each female has a nest and the male takes care of each one, individually;
- it is possible for the female to abandon the male even during nest building, if the courtship dance is not convincing and if he does not bring enough food;
- males arrive first at the breeding territories; the courtship dance can take place at heights between 10 and 300 m;
- the nest is built on the ground, usually in open habitats, by both partners;
- the nest is usually located in areas with shrub vegetation, tall grass or wetlands, in order to reduce the risk preying; nest construction can last from days to weeks; the partners continue to add materials to the nest even during incubation, sometimes even until the chicks are 4 weeks old;
- the clutch : 4-6 eggs, incubation starts from the first egg deposited, for 29-39 days;
- the young are taken care of until they are 12-14 days old; then, the female cares for her young mostly at night, up to 2 weeks;
- the male brings food to the nest; food is transferred to the female, and if she is not on the

- nest, she is thrown into the nest, but the male does not feed the young directly;
- food: small rodents - average in summer, but also reptiles, amphibians, insects; in winter - mammals and birds; they often hide their excess food, especially during the reproductive period;

Threats

- loss of habitat, persecution.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Circus pygargus

Dimensions

- length: 39-50 cm;
- wingspan: 96-116 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 0-12 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding 0-3 pairs;
- passage 500-830 individuals.

Distribution

- from the Iberian Peninsula and England to Mongolia; they also reproduce in Morocco; they winter in sub-Saharan Africa;

Habitat

- Steppes and wetlands from most of Eurasia;
- Regions with a temperate, Mediterranean and even boreal climate;
- It can reach altitudes of 1500 m, but is mainly a species of low altitude;
- for nesting, it prefers broad river valleys, plains, edges of lakes, sea shores;
- it can nest in wetlands, fields, dunes, grasslands, can also adapt well in areas with shrubs, conifer plantations, and in the absence of a suitable habitat, it will nest in agrarian cultures, being vulnerable during harvest;
- in Western Europe, 70% of the population reproduces in artificial habitats.

Biology

- Their hunting flight is typical – overflying the land from a low altitude, then diving on prey, once it locates it;
- pairs are formed at 2-3 years of age and can sometimes last a lifetime, although cases of polygamy were registered;
- the nest is built on the ground, in natural vegetation or cultivated area, puddled, in young planted forests or sand dunes;
- the clutch contains 4-5 eggs, incubated mostly by the female, for 30-40 days;
- food: small mammals, especially rodents, sometimes small birds, including juveniles, reptiles and large insects;
- they migrate over long distances.

Threats

- intensive agriculture, persecution, unselective hunting;

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection

Aquila pomarina

Dimensions

- length: 55-65 cm;
- wingspan: 143-168 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 2.500-2.800 pairs (1996-2002).

Estimated population in SPA Babadag Forest

- breeding 15-30 pairs;
- passage 4270-8580 individuals.

Distribution

- Central, S and SE Europe.

Habitat

- It reproduce in forests, but it feeds on the surrounding pastures, grasslands or croplands;
- breeding habitat: hills, lowlands, flood plains, forests;
- an important factor in choosing the nesting site is the presence in the vicinity of an open field; they hunt over open terrains and crops, however, tall crops such as sunflower and corn makes access to the pray more difficult;
- important elements for its feeding habitat are: solitary trees or groups of trees, stacks of straw and other vertical structures;
- during migration and for wintering, they use a range of habitats: open lands, areas with shrubs, wetlands.

Biology

- the nest is large, made of sticks, in trees, under the canopy, more frequently in deciduous forests, rarely in pine forests; in exceptional cases, they nest on cliffs or directly on the soil; they accept artificial nests of nests of other species; they usually do not use the same nest for several years;
- one clutch is deposited, of 1-3 eggs, incubated for 38-41 days; adult plumage is completed after 3-4 years;
- food: small mammals (rodents), some amphibians, snakes, lizards; insects, and other birds;
- they migrate; they winter in central and Southern Africa.

Threats

- persecution, loss of habitat .

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Hieraaetus pennatus

Dimensions

- length: 42-51 cm;
- wingspan: 110-135 cm.

Status

- Least Concern – LC, with a low probability of extinction, according to the IUCN Red List

Estimated population in Romania (pairs or individuals/years)*

- 80-120 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding 20-30 pairs;
- passage 270-400 individuals.

Distribution

- From SW Europe to North Africa and Central Asia;
- summer guest, widespread in most of Eastern and Southwest Europe, which represents less than half of the world population of the species;
- wintering area: Sub-Saharan Africa.

Habitat

- coniferous and deciduous forests, in mountainous regions, up to 3000 m in altitude, but sometimes in plain areas, at low altitudes; they prefer clusters of forest with clearings, or open areas with isolated trees.

Biology

- The nuptial dances are spectacular, both during the breeding period and afterwards;
- It usually nests in trees, at a 6-15 m height; the nest is a solid structure made of branches, deeply lined with leaves and coniferous twigs; when there are too few trees in the area, they nest in the corner of cliffs; the nest is used for years in a row, but one pair may have several nests;
- the clutch: 1-2 eggs at intervals of a few days; incubation begins with the first egg deposited; only the female carries out the incubation; there are significant length differences between the two chicks, and only one survives in the end; the male supplies the nest with food, including during the development period of the juveniles;
- food: small and medium sized birds, lizards and small mammals, insects occasionally;
- they stalk their prey through the canopy, but also in open terrains;
- migratory species; in exceptional cases, it winters in Southern Europe, occasionally in NW Africa and Egypt; most of the Western Palearctic breeders are trans-Saharan migrants;

Threats

- destruction, degradation or loss of habitat, use of pesticides

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures: habitat protection.

Pelecanus onocrotalus

Dimensions

- length: 140-175 cm;

- wingspan: 245-295 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 3.500-4.000 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- passage 270-400 individuals.

Distribution

- the species is widespread throughout Eastern Europe, Asia and Africa; its distribution is fragmented in SE Europe.

Habitat

- wetlands: swamps, limnicolous lacustrine systems, rich in fish, generally wet areas with enough reed, deltas;
- the fishing technique of the species requires the presence of shallow warm water surfaces.

Biology

- Reproductive period: April - June, in the temperate areas of Europe; in Africa, reproduction can occur anytime during the year;
- The male displays a specific nuptial plumage, the gular sac is brightly colored; pair formation, nesting site selection and building the nest take place over less than a week;
- the clutch can contain 2 eggs, on average, and is incubated for 29-36 days;
- it nests in large colonies, near waters;
- the species is ichthyophagous; it prefers large sized specimens; it can sometimes feed on cormorant eggs and chicks; they feed in groups, the individuals cooperate (rare habit among birds) - fish are surrounded and driven to shallow waters by a smaller group of pelicans, placed in a horseshoe-shaped row;
- migratory species, summer guest in Romania; they arrive in March-April to their nesting territories; autumn migration takes place mainly in October; they migrate in flocks, arranged in a "V" shape at high altitudes;
- they winter in Northern Africa.

Threats

- pollution of aquatic systems / persecution, poor management of wetlands

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of reproduction habitats, appropriate management of wetlands.

| |
|-----------------------------|
| <i>Ciconia nigra</i> |
|-----------------------------|

Dimensions

- length: 90-105 cm;
- wingspan: 173-205cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 160-250 pairs (1996-2002).

Estimated population in SPA Babadag Forest

- passage 1877-2123 individuals.

Distribution

- Widespread in central and Southern Europe and in the Palearctic areas of Asia;
- some specimens from Southern Europe are sedentary, but most of the population winters in South-Saharan Africa.

Habitat

- they inhabit forested areas, usually in the vicinity of lakes, rivers or wetlands.

Biology

- rare, solitary species;
- it is a typical bird of deciduous or mixed forests, from areas of hills and depressions, with wetland habitats where it feeds;
- it builds its nest in forests, in tall trees. Outside the breeding period, it is also found in open areas;
- the nest is large sized, lined with muscle, grass, leaves,
- The female lays 3-4 eggs, incubated for 32-38 days;
- They feed on fish, frogs, amphibians, insects, snails, crabs and small reptiles, mammals and birds;
- They migrate in small groups.

Threats

- Habitat destruction, draining wetlands.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna;
- conservation measures recommended: protection of habitats, especially of wetlands.

| |
|---|
| <i>Calandrella brachydactyla</i> |
|---|

Dimensions

- length: 13-14 cm;
- wingspan: 25-30 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 10.000-12.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding 200-300 pairs.

Distribution

- Widespread in the Mediterranean regions of Europe and N Africa, up to central Asia;

Habitat

- arid regions with a low, scattered, vegetation cover, on rocky or sandy terrains, raw lands, xerophile pastures.

Biology

- They are migrant (except the populations in Greece); they winter mainly in the Sahel region of Africa;
- in SE Europe, the clutch is deposited starting with mid-July; the nuptial flight is accompanied by songs of the male, at heights of 30-50 m;
- the nest is built by the female, from herbaceous vegetation, roots, lined, placed directly

on the ground, in a small hollow, usually under shrubs, bushes or patches of tall vegetation;

- two clutches are deposited ranging between 2-5 eggs, rarely 6;
- chickens are cared for by both parents; their main threat consist of nest being preyed by snakes or destroyed by livestock herds;
- food: mainly invertebrates (beetles, Heminoptera, snails) during the spring, but also seeds and other plants in other seasons;
- they collect their food from the ground.

Threats

- agriculture intensification, loss of habitat.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|-------------------------------|
| <i>Ciconia ciconia</i> |
|-------------------------------|

Dimensions

- length: 95-110 cm;
- wingspan: 180-215 cm.

Status

- Least Concern – LC, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 4.000-5.000 pairs (1996-2002).

Estimated population in SPA Babadag Forest

- Passage 35000-122000 individuals.

Distribution

- prevalent in Europe, N Africa, Asia Minor and the Middle East, with a fragmented distribution;
- it migrates to tropical Africa for wintering;

Habitat

- open wetlands, savannas, steppes, meadows, pastures and farmlands;
- they prefer habitats with shallow, stagnant water;
- the habitat preferences of the species coincide with those of humans -agricultural regions and human settlements;
- they seek areas with tall structures for nesting, optimal for nest building, with a predilection for roofs and tall trees from sunny regions; they can also nest in straw piles, ruins, fireplace chimneys or artificial nesting platforms.

Biology

- the nest is massive, made of twigs, lined with moss, grass, leaves, all cemented with earth;
- the clutch contains 3-4 eggs, incubation lasts 32-38 days;
- sexual maturity is reached at 3 years of age;
- their diet includes amphibians, insects, snails, crabs, small reptiles, mammals or even birds;
- they forage in shallow waters.

Threats

- destruction of habitats, draining wetlands.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of habitats, especially of wetlands.

Oenanthe isabellina

Dimensions

- length: 16-17 cm;
- wingspan: 29-30 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 500-700 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding 20-30 pairs.

Distribution

- Summer guest spread throughout SE Europe, this region accounting for less than a quarter of its global reproduction area;
- It winters in N Africa;
- It migrates mainly at night.

Habitat

- They prefer open, gently sloping lands, with enough shrub vegetation or rockery, with clay or sandy soils, banks of rivers with a high plant cover;
- steppe and arid steppe species, but can also be encountered in forest-steppes; opportunistic in terms of its nesting habitat (areas with burrows).

Biology

- Reproduction: from March to June;
- They nest in rodent burrows or redbreast nests, occasionally in natural cavities in the ground or rockeries;
- The nest is a bulky cup made of dry vegetation, roots, fur, lined with fur and wool, hair and feathers;
- the clutch consists of 5-6 eggs, incubated by the female for about 12 days;
- their diet consists mainly of invertebrates - ants, beetles in particular;
- it captures its prey on the ground or lurks it from fixed points and captures it in flight, consuming it before reoccupying its initial position.

Threats

- Habitat degradation.

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Buteo lagopus

Dimensions

- length: 49 - 59 cm;
- wingspan: 125 - 148 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 500-2000 individuals (1990-2000).

Estimated population in SPA Babadag Forest

- wintering R.

Distribution

- the nesting species is widespread throughout Fennoscandia and Northern Russia.

Habitat

- It nests in valleys between mountains, in tundra or taiga, sometimes in wooded areas of low hills.

Biology

- Depending on winter temperatures, the breeding migration begins from April to May;
- their diet is seasonal, predominantly of small mammals, which represent 62-98% of their diet;
- reproduction takes place in May, but the month depends on the migration period for reproduction;
- the nest is built as soon as the birds arrived from migration, and is finished in 3-4 weeks. It is constructed using twigs, sedge, old feathers and other materials, is between 60-90 cm in diameter and 25-60 cm tall;
- the preferred nesting areas are rocky areas and areas without forests ;
- the female can deposit between 2 and 7 eggs, with a minimum incubation period of 31 days, during which the male flies to bring the prey;

Threats

- loss of habitat.

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|---------------------------------|
| <i>Carduelis chloris</i> |
|---------------------------------|

Dimensions

- length: 14-16 cm;
- wingspan: 25-27 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 850.000-910.000 pairs (1999-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- widespread throughout most of Europe .

Habitat

- open areas, cultivated, with trees and bushes; also in gardens and parks, orchards, conifer plantations, frequently on roadsides.

Biology

- sedentary in Romania;
- reproductive period: April – July; the clutch consists of 4-6 blue eggs with brown spots,

- incubated by the female, for about 11 to 15 days;
- their diet consists of small insects, grains, seeds of *Carduelinae*, *Polygonaceae*, *Rosaceae*, *Compositae*;
- quick flight in wavy ample lines.

Threats

- the main threats are loss of habitat and pollution.

Conservation

- from a legal standpoint, the species is protected at a national level through the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|--------------------------------|
| <i>Columba palumbus</i> |
|--------------------------------|

Dimensions

- length: 38-43 cm;
- wingspan: 68-77 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 12.000-16.000 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding C.

Distribution

- widespread throughout Europe;
- winters in S Europe and N Africa.

Habitat

- found in parks, gardens and in all types of forests.

Biology

- it is strictly a monogamous species;
- reproductive period: April - June;
- the nests are arranged in trees, sometimes they occupy abandoned nests of other birds;
- each female deposits two clutches per year; both parents alternate at incubating, for 17-19 days;
- the chicks are nidicolous, being fed in the first week of life with a secretion of the dewlap, then with regurgitated seeds for 3-4 weeks; they sit on branches for another week and are fed similarly;
- they quickly become independent after leaving the nest and gather in flocks at fall;
- food is varied and consists of various seeds, fruits, buds and parts of leaves, plants and grain seeds.

Threats

- degradation of habitats.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of habitat.

Cuculus canorus

Dimensions

- length: 32-36 cm;
- wingspan: 54-60 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 400.000 -800.000 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding C.

Distribution

- species spread throughout Europe, reaching Asia and North Africa.

Habitat

- fairly common species in a wide range of habitats, especially forests, from plains to mountains; it avoids human settlements.

Biology

- reproductive period: May - June;
- it parasitizes the nests of other birds, whose clutch consists of only one egg;
- each female chooses a certain bird - the 'host', depending on the color of the eggs;
- the average clutch consists of 6-8 eggs, deposited at intervals of 1-3 days;
- their diet consists of insects, and other invertebrates;
- migrant, they are summer guests in Romania; they usually arrive in April and leave towards their wintering territories in the fall, around September.

Threats

- not known

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: considered not necessary.

Hippolais icterina

Dimensions

- length: 13-14cm;
- wingspan: 20-24 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 60.000-75.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- summer guest, with a wide distribution throughout almost all of Europe, except the areas from the South and West;
- in Romania, it is spread in the Eastern lowlands of the country, found in deciduous forests with a rich plant substrate.

Habitat

- it prefers deciduous forests from lowlands, although it is also found in hilly areas;
- it is found along river valleys or at the edges of meadows and forests, in trees with an open crown.

Biology

- it winters South of the Sahara;
- it lives in variable numbers in deciduous forests with undergrowth, in parks with rich vegetation and large gardens;
- it feeds on insects, and with fruit late in the summer;
- the nest is built in trees or ornamental shrubs or in fruit trees, at a distance of 1-4 m from the ground;
- the nest is built in the form of a deep "cup", made of twigs, grass, roots, moss, and lined with hair, fine grass;
- the clutch consists of 4-5 eggs, whose incubation lasts between 12 and 16 days.

Threats

- destruction of habitat, persecution.

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;

| |
|-------------------------------|
| <i>Hirundo rustica</i> |
|-------------------------------|

Dimensions

- length: 17-21 cm;
- wingspan: 32-34 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 800.000-1.000.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding P;
- passage C.

Distribution

- summer guest in most of Europe, representing less than 50% of its global area of distribution.

Habitat

- open lands for hunting, and for nesting – building, bridges and other man-made structures;
- they avoid thick forests and very arid areas;
- the original habitats were most likely formed by mountainous and marine shores with caves, crevices, rotten trees; at present, the species is adapted to living along humans and is found in agricultural areas, suburbs, along highways, near waters, wherever there are open lands and structures where they can nest.

Biology

- the nest is built by both partners and consists of an earth, straw, feathers and sticks structure;
- the clutch consists of 4-5 eggs, incubated by both partners, for 12 to 17 days;
- the chicks are fed by both parents;
- diet: mainly flying insects, especially flies; they occasionally feed on berries, seeds and

dead insects from the ground.

Threats

- nest disturbance and destruction.

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of nest.

Lanius excubitor

Dimensions

- length: 22-26 cm;
- wingspan: 30-34 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 14.000-17.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- wintering R.

Distribution

- species prevalent in most of Europe;
- the Northern populations migrate, the Southern ones are apparently sedentary.

Habitat

- they are present throughout the Northern hemisphere, its breeding areas are the Northern boreal forests;
- they prefer semi-open lands along watercourses or steep banks;
- they winter in open areas with shrub and tree vegetation cover.

Biology

- the nest is usually located in a shorter tree or in large shrubs, about 2-5 m from the ground;
- the nest is a massive cup of branches, grass, bark and moss, lined with hair and feathers;
- the clutch of 4-7 eggs is incubated by the female for 15 to 17 days;
- their diet consists mainly of small vertebrates, particularly rodents; they can also feed on large insects or small birds.

Threats

- the irrational use of pesticides and loss of habitat.

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Lanius senator

Dimensions

- length: 17 - 19 cm;
- wingspan: 25 - 30 cm;
- weight: 25 - 35g;

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 40-80 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding P.

Distribution

- They reproduce in Southern Europe, the Middle East and North-West Africa, and winter in tropical Africa.

Habitat

- They nest in open, arid regions, with trees and bushes, sometimes in more forested places.

Biology

- It feeds mainly on insects and other invertebrates, and occasionally with small vertebrates;
- They reproduce during April-July, they always builds the nest in trees, especially in fruit trees and olive trees;
- They build their nest out of plant material, lined with wool, hair, grass strands, moss and lichen;
- They deposit between 5-6 eggs, which are incubated for 14-15 days by the female, rarely by the males.

Threats

- loss and deterioration of habitat.

Conservation

- from a legal standpoint, the species is not mentioned by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- specific conservation measures: habitat protection.

| |
|------------------------------|
| <i>Motacilla alba</i> |
|------------------------------|

Dimensions

- length: 16-19 cm;
- wingspan: 25-30 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 1.500.000-1.900.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding C.

Distribution

- Wide distribution area;
- the Northern from the West-Palearctic region migrate to the South of the Mediterranean region, and to tropical and subtropical regions of Africa; the Eastern populations migrate for wintering to peninsular India and SE Asia;
- the return to their nesting territories takes place in March-April.

Habitat

- it prefers habitats near waters, banks of rivers or lakes;
- agricultural crops, wetlands, parks and gardens, urban areas, farms.

Biology

- Reproduction: territorial species, it defends its nesting area;

- The nest is built under roofs (under tiles), in cracks in the walls, among communities of ivy or under rocks;
- the clutch contains 5-6 eggs, incubated for 11-16 days;
- their food consists of insects hunted on the ground, usually in open field.

Threats

- unknown.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna .

Motacilla flava

Dimensions

- length: 16-17 cm;
- wingspan: 24-27 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 800.000-1.200.000 pairs (1997-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- common species throughout most of its area of distribution;
- the global population is high, but could not yet be estimated;
- it winters in Africa.

Habitat

- plain lowlands, especially along riverbanks or ponds;
- it nests on pastures and crops.

Biology

- reproductive period: May - July, they nest in colonies;
- the nest is built on the ground, well camouflaged in grass or tall vegetation;
- the female deposits 5-6 eggs in two series per year, incubated by both parents for 14-16 days;
- food consists of various insects;
- in late autumn, the yellow wagtails gather in flocks to migrate to warmer areas and come back in March.

Threats

- unknown.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna .

Muscicapa striata

Dimensions

- length: 14-15 cm;
- wingspan: 20-23 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 350.000-450.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- summer guest in Europe and in N Africa;
- winters in S Africa and W Asia.

Habitat

- forest areas, light forests, parks and gardens.

Biology

- reproductive period: May-June;
- It not only nests in hollows, but also in other tight unusual places;
- The nest is made of dry grass, moss, lichens, lined with hair, feathers, fine fibers;
- Two clutches per year, of 4-6 eggs, incubated by the female only for 12-16 days;
- Their diet consists mainly of insects, and other invertebrates;
- The return to breeding territories in Europe takes place in May-June.

Threats

- forestry exploitation.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: adequate forest management.

Oenanthe oenanthe

Dimensions

- length: 14-16 cm;
- wingspan: 28-32 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 225.000-343.000 pairs (2000-2002)

Estimated population in SPA Babadag Forest

- breeding C.

Distribution

- Summer guest, widespread throughout most of Europe, which represents less than half of its global breeding area;

Habitat

- tundra region with shrubs from boulders, rocky slopes, screes, alpine meadows.

Biology

- reproduction: April to June, they deposit 1-2 clutches;
- it nests in cracks in the walls, among rocks and boulders, in artificial nests and other man-made structures;
- the nest consists of a foundation comprising a mass of dry vegetation, grass and occasional large feathers and a finely woven cup of grass threads, stems and leaves, moss and lichen;
- the clutch: 4-7 or 2-9 eggs incubated for only 13 or 10 - 16 days by the female only, although the male can help in this regard, occasionally; chicks can leave the nest 10 days after hatching;

- their diet consists of insects, spiders, mollusks and other small invertebrates, supplemented with berries.

Threats

- the species is not threatened at present.

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna
- conservation measures recommended: not necessary at the present

Parus lugubris

Dimensions

- length: 12-13 cm ;
- wingspan: 16-17 cm;

Status

- Least Concern (LC), according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 15.000-25.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- Resident, 700-800 pairs.

Distribution

- polytypic species; it nests in the East of the country, generally appearing in a small number of specimens, rarely in mountainous regions, found primarily in hilly and plateau areas.

Habitat

- They prefer deciduous forests from hilly and mountainous areas;
- It is found at the edge of deciduous forests, especially oak;
- it prefers shrubs and sub-shrubs from forest-steppe areas and from open forests with tall grasses and bushes;
- it is often found in orchards.

Biology

- It nests since mid-March;
- It nests in tree hollows, using the ones made by woodpeckers
- the clutch consists of 5-7 eggs, incubated by the female only, for 13 to 14 days, while hatching; both parents feed the young;
- their diet consists of invertebrates, caterpillars, larvae, occasionally seeds, especially outside the cold season;
- sedentary species.

Threats

- the species is not threatened at present.

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna
- conservation measures recommended: not necessary at the present.

Oriolus oriolus

Dimensions

- length: 23-25 cm;

- wingspan: 45-47 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 680.000-890.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding C.

Distribution

- Widespread throughout most of Europe, Asia, North-West Africa
- It winters in W Europe and S and N Africa

Habitat

- It nests in the forests near cultivated areas, preferring to nest in trees with high canopy.

Biology

- Migratory;
- It nests on thin branches; the nest is made of plant materials, lined with feathers, grass and moss;
- The breeding season begins in May and lasts until July;
- the clutch consists of 3-4 eggs, incubated by both parents for 16-17 days;
- their diet consists of insects and berries.

Threats

- destruction of habitat;

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: nests and habitat protection.

| |
|---------------------------------------|
| <i>Phoenicurus phoenicurus</i> |
|---------------------------------------|

Dimensions

- length: 13-15 cm;
- wingspan: 22-27 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 160.000-190.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- summer guest in most of Europe ;

Habitat

- Common in deciduous forests, taiga.

Biology

- reproductive period: May - June;
- the nest is usually sheltered in hollows and is lined with grass, feathers and hair;
- the female lays 5 to 7 eggs in May, with an incubation period of 12-14 days;
- it feeds on small insects, which they search for both in the canopy and on the ground;
- it is a migratory bird that usually arrives to us in April and leaves in October.

Threats

- the main threats are habitat loss or degradation.

Conservation

- from a legal standpoint, the species is protected at a national level by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Phylloscopus collybita

Dimensions

- length: 10-12 cm;
- wingspan: 18-21 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 980.000-1.600.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding C;
- passage C.

Distribution

- It is found in boreal, continental and oceanic temperate regions, but also in areas with a Mediterranean climate.

Habitat

- They prefer mature lowland forests, but can also be found in closed forests from the higher mountain areas.

Biology

- The nest is built close to the ground, hidden in tall vegetation, among dwarf shrubs and branches;
- The nest is a domed structure, with a side entrance, built from dry grass, stems, leaves, moss, leaves and other plants, lined with fine grasses and feathers;
- the clutch contains 4 to 7 eggs, and incubation lasts between 13 and 15 days;
- it feeds mainly on insects.

Threats

- reduction of habitat.

Conservation

- species mentioned in the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;

Phylloscopus sibilatrix

Dimensions

- length: 11-13 cm;
- wingspan: 20-24 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 260.000-460.000 p (2000-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- summer guest with a wide distribution throughout most of Eastern Europe;
- it winters in Sub-Saharan Africa.

Habitat

- forests with tall trees with abundant foliage, with little or no undergrowth;
- it prefers moist and shady deciduous forests: beech, mixed oak and hornbeam, chestnut, spruce.

Biology

- reproductive period: May - June;
- the nest is built of dry grass, leaves, stems,
- the clutch consists of 5-7 eggs, incubated only by the female for 12-14 days;
- their diet consists mainly of insects and other invertebrates, but also fruits and seeds (in the fall);
- migratory: summer guest – they arrive in April and return to their wintering territories in September.

Threats

- the main threats are loss of habitat and pollution.

Conservation

- from a legal standpoint, the species is protected at a national level by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

| |
|---------------------------------|
| <i>Saxicola torquata</i> |
|---------------------------------|

Dimensions

- length: 11-13 cm;
- wingspan: 21-23 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 164.000-240.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- widespread in Europe and Asia;
- It winters in West Africa in Cameroon, and from Sudan to Zambia, present also in Asia and Japan.

Habitat

- They prefer open fallow areas,;
- They nests on fields with grass and bushes.

Biology

- The reproductive period begins in April-June;
- They build their nest in dense and tall grass or bushes, and the entrance to the nest is shaped like a tunnel;
- the clutch consists of 4-6 eggs, in 2 series per year, incubation lasts 13-14 days, both parents participating in raising the young;
- their food consists of different kinds of small insects that they look for on the ground; they rarely happen to catch insects in flight.

Threats

- habitat degradation.

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna;
- conservation measures recommended: habitat protection.

Streptopelia turtur

Dimensions

- length: 24-27 cm;
- wingspan: 47-53 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 15.000-25.000 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding C.

Distribution

- Spread throughout most of central and Southern Europe, West and Central Asia;
- the European population is very numerous; it was estimated at 1.5 million individuals.

Habitat

- they prefer deciduous forests, forest-steppes;
- agricultural lands with bushes and clumps of forest; fields and orchards.

Biology

- migratory;
- breeding season: April-May;
- it occasionally uses old nests of other birds;
- the nest has a loose structure, made of roots and grass, lined with fine grass, sometimes hair or fur;
- the clutch: 2 eggs, incubated for 15 days by both partners;
- diet: seeds, fruits, small invertebrates.

Threats

- the use of insecticides or pesticides.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: the proper management of agricultural terrains, and ecological agricultural practices

Sturnus vulgaris

Dimensions

- length: 20-23 cm;
- wingspan: 31-40 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 840.000-1.224.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding C;
- passage C.

Distribution

- widespread in most of Europe, which represents less than half of its global reproductive area;
- the European population is numerous, and has been estimated at 45-110 000 000 individuals.

Habitat

- the species is associated with habitats disturbed by human activities;
- it can be found in virtually all habitats, except for massive forests or pristine alpine regions.

Biology

- They tend to remain sedentary in urban areas; the migratory populations winter in W and S Europe and N Africa;
- They forage in agricultural regions (where they can be found in massive effectives, along rooks), open terrains, turf and other areas developed by man, but require areas with cavities for nesting nearby;
- They nest in hollows or other cavities, but prefer natural cavities, such as old woodpecker nests;
- The nest is a loose structure of sticks, twigs, plant material, feathers, grass, with a small central dent;
- the clutch consists of 4-6 eggs incubated by both parents for about 12 days;
- omnivorous, they prefer insects, as well as fruits, grains and seeds; they can be frequently observed feeding from artificial feeders.

Threats

- the species is not considered as threatened at present.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna.

| |
|----------------------------------|
| <i>Sylvia atricapilla</i> |
|----------------------------------|

Dimensions

- length: 13 cm;
- wingspan: 20-23 cm;
- weight: 14-20 g.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 650.000-900.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- The species shows a wide distribution in Europe, Asia and North Africa, from Western Europe to South-Western Siberia, towards Southern Turkey and South-Western Russia.

Habitat

- It is one of our most common species, prevalent in lowland forests, hills and mountains;
- bird frequent in forests with rich undergrowth, in parks and gardens.

Biology

- it nests in bushes and shrubs, in nests woven from plant fibers and hair, placed at some height;
- their food consists mainly of insects and insect larvae, but they also eat fruit in the fall;
- the female lays 4-5 eggs in two series per year, starting in April;
- chicks leave the nest at 10-15 days of age and are cared for by their parents for another 2-3 weeks;
- active defense of the nest is made through a wide range of behavioral manifestations, making detour flights which induce confusion regarding the site.

Threats

- currently, the species is not threatened, it is widespread, its population has grown, and its distribution area expanded to the North, mainly due to afforestation and growing shrubs, in association with a decrease of grazing

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- there are no known conservation measures for this species.

| |
|------------------------------|
| <i>Sylvia curruca</i> |
|------------------------------|

Dimensions

- length: 13cm;
- wingspan: 17-19cm;
- weight: 10-16 g.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 860.000-1.100.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- It reproduces in temperate Europe, except the South-West, and West and Central Asia.

Habitat

- fairly common bird in dense bushes, in the garden hedges, in young groves, from plains to mountains.

Biology

- Their food consists of small insects, larvae or their eggs, rarely of soft fruit;
- after selecting its habitat, the *Sylvia curruca* male marks its territorial boundaries, which are not very precise, but supervised and proved by 'posts' and intense singing, associated with flights between marginal branches or tree tops from the territory;
- after the occupation of the territories, starts the building of the nest; while collecting construction materials or food, the *Sylvia curruca* male song begins with a brief muffled chirp, which continues with a series of clear sound - called trill, characteristic to the species;
- defending the nest is made by direct attack (frontal flight) combined with strong noise emissions;
- the nest is made of plant fibers and lined with hair, wool, gathered together by threads of cobwebs; it is built in dense thickets, at low heights;
- they reproduce in May-June, laying 4-6 eggs.

Threats

- common species, widespread, not currently threatened.

Conservation

- from a legal standpoint, the species is not mentioned by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- there are no known conservation measures.

Upupa epops

Dimensions

- length: 25-29 cm;
- wingspan: 44-48 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 24.000-42.000 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- breeding C.

Distribution

- widespread in most of Southern Europe, representing less than a quarter of its global breeding area;
- migratory populations (from the Northern area of distribution) winter in N Africa and the Mediterranean basin.

Habitat

- open woodlands, orchards, parks, cultivated terrains, steppes;
- they prefer short vegetation or the bare soil, with rare, scattered trees, or rocks and hollows for nesting.

Biology

- they reproduce from January to May;
- monogamous, solitary, territorial
- the nest is built in stumps, trees, walls, ruins and rocks and has little lining;
- the clutch: 5-8 eggs, incubated by the female for 16 to 18 days;
- diet: large insects and their larval stages, small vertebrates: reptiles, amphibians;
- it forages on the ground, digging, searching through the boscage.

Threats

- use of pesticides, persecution, destruction of nests.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: nest protection.

Accipiter nisus

Dimensions

- length: 29- 41 cm;
- wingspan: 58 - 80 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 1.200-1.400 pairs (1998-2002).

Estimated population in SPA Babadag Forest

- In passage 2503-3970 specimens.

Distribution

- residents throughout most of Europe (except for the far North of Scandinavia), North Africa and the Canary Islands; they winter around the Red Sea and up to Asia in the East.

Habitat

- fairly common in dense forests interlaid with open areas.

Biology

- the reproductive period begins in April-May;
- it flies quickly at low heights and hides behind trees in order to attack by surprise; it often glides at high altitudes, to then throw itself at the prey;
- nests are built in the area of tree belts, in tree crowns (4 -7 m); they are made of twigs, bark, leaves,
- the clutch consists of 4-6 eggs, pale blue, with reddish brown signs, incubation lasts 33 - 35 days;
- their diet consists mainly of small finches birds, sparrows, small rodents;
- sedentary.

Threats

- persecution, loss of habitat .

Conservation

- from a legal standpoint, the species is not protected by EGO 57/2007 on the regime of natural protected areas, conservation of natural habitats, wild flora and fauna
- conservation measures recommended: habitat protection.

| |
|---------------------------|
| <i>Buteo buteo</i> |
|---------------------------|

Dimensions

- length: 46-58 cm;
- wingspan: 110-132 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 750-1.000 pairs (1990-2002).

Estimated population in SPA Babadag Forest

- breeding 1-4 pairs.

Distribution

- common, widespread in most of Europe, representing less than 50% of its global distribution area.

Habitat

- it occupies various habitats, always with shrub vegetation (with varying degrees of coverage);
- it prefers the edge of woods and regions where cultivated areas, pastures, meadows, marshes alternate with woodland or shrub clusters (coniferous, deciduous);
- it winters on open lands, steppes or wetlands; it prefers land without humps or with gentle slopes, from low or moderate altitude areas.

Biology

- The clutch is deposited in March-May;
- It nests in large trees, especially at the edge of woods;
- The nest consists of a platform of twigs, sticks, lined with vegetation and is built at the fork of branches or on branches, near the trunk;
- the clutch consists of 2-4 eggs incubated by the female for 35 -38 days, food being provided by the male;
- their diet is adapted according to the local and seasonal and available prey and consists mainly of rodents, small mammals, reptiles, and invertebrates - insects (grasshoppers, crickets) and Oligochaeta (worms); when the stock of small mammals decreases, they can move on to birds;
- they hunt in open areas, forest clearings, near cliffs, at the edge of woods; usually, prey is captured on the soil; invertebrates are captured by walking on the ground.

Threats

- hunting, persecution, destruction of habitats.

Conservation

- from a legal standpoint, the species is not protected by EGO 57/2007 on the regime of natural protected areas, conservation of natural habitats, wild flora and fauna
- conservation measures recommended: nest protection, social awareness .

Oenanthe pleschanka

Dimensions

- length: 14-15 cm;
- wingspan: 25-27 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 680-750 pairs (2000-2002).

Estimated population in SPA Babadag Forest

- no information available.

Distribution

- widespread summer visitor in South-Eastern Europe, which accounts for less than a quarter of its global distribution area.

Habitat

- steppe and temperate areas, mainly in low altitude areas, but they can reach up to 1800 m altitudes;
- they occupy desert, rocky areas, scattered with boulders, and rarely uncultivated plains at the edge of cultivated terrains

Biology

- reproduction begins in May-June; they nest in holes of banks, rocks, under rocks or in human constructions;
- the nest is a cup of dry grass and stems, lined with grass, roots, wool or hair;
- the clutch: 4-6 eggs, incubated by the female for 13 -14 days;
- insectivorous; they hunt insects from the ground or low vegetation; it lurks insects from heights of up to 1.5 m; after it captures the prey, it immediately returns to height, rarely spending time on the ground.

Threats

- Habitat degradation.

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Milvus migrans

Dimensions

- length: 55-60 cm;
- wingspan: 135-150 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 120-160 p (2000-2002).

Estimated population in SPA Babadag Forest

- no information available.

Distribution

- Africa and Eurasia, from the Iberian Peninsula to Japan. Northwards, found up to 65°N;
- European populations winter in sub-Saharan Africa.

Habitat

- Ubiquitous species, found in semi-desert areas, grassland, savannas; it avoids dense forests;
- Frequent in aquatic habitats, rivers, lakes, wetlands, seashores and near meadows along wetlands. It is often linked to the human factor.

Biology

- necrophagous;
- in the temperate areas of Eurasia, it reproduces from March to June;
- slight colonial tendencies, they nest in trees, building their nest at the fork of branches, and also on the edges of cliffs or along coasts;
- the nest is a platform of twigs, often mixed with pieces of plastic, cloth, paper, leather;
- the clutch: 2-3 eggs, incubated for 26-38 days, almost exclusively by the female, if the male manages to bring enough food;
- they mainly eat corpses, but also mammals, birds, small and medium length fish, lizards, amphibians and invertebrates; their diet varies depending on the productivity of the occupied habitat; a greater amount of prey is captured in the breeding season;
- they can search for food near landfills, water edges, slaughterhouses, roads, where debris or bodies can be found.

Threats

- Due to its diet, it is very exposed to poisoning

Conservation

- from a legal standpoint, the species is protected by EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

**APPENDIX 4. DESCRIPTIONS OF THE SPECIES LISTED IN ANN. 4 B OF GEO
57/2007**

Aegithalos caudatus

Dimensions

- length: 14-15 cm;
- wingspan: 17-19 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 740,000 - 910,000 pairs, (2000-2002).

Distribution

- residents throughout most of Europe, but absent from the central and Northern parts of Scandinavia.

Habitat

- Fairly common species, found almost all year round in deciduous but also mixed forests, often with dense bushes.

Biology

- the breeding period begins early, in late February and can last up to June;
- they build one of the most spectacular nests, made of lichen, spider webs, hair and feathers, giving it elasticity and stability. Therefore, the nest increases along with the growth of the youngsters;
- the clutch consists of 8-12 eggs, the incubation period is of 14-21 days, during which the male brings food to the female;
- both parents feed the chicks;
- their diet consists of insects, their larvae or eggs, occasionally seeds;
- sedentary species.

Threats

- the species is not threatened at the moment.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: not necessary at the moment .

Athene noctua

Dimensions

- length: 23-27 cm;
- wingspan: 50-57 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 40.000 - 60.000 pairs (1990-2002).

Distribution

- Widespread species in central and Southern Europe, in open, often rocky areas; also encountered in settlements.

Habitat

- it nests in the hollows of trees, on cliffs, ravines and holes in buildings.

Biology

- It feeds on rodents, birds, insects, worms, etc.
- surprisingly, considering the typical carnivorous diet of the species, it seems that the owl deliberately eats some plant materials such as grass or other leaves, and occasionally small fruits, corn;
- they reproduce in the months between March - August and form monogamous pairs that stay together for at least one year, or until one of the partners dies;
- it is a bird active both during the day and night;
- it uses telegraph poles and wires as observation posts;
- when agitated, it "bows".

Threats

- destruction of habitat.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;;
- conservation measures recommended: protection of habitat.

Carduelis cannabina**Dimensions**

- length: 12-14 cm;
- wingspan: 22-26 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 780,000 - 1,100,000 pairs (1990-2002).

Distribution

- Widespread across Europe, North Asia and Eastern Europe;
- It winters in the British Isles and continental Europe, Africa, India, Pakistan.

Habitat

- it frequently nests in open areas, with brambles and bushes, in parks and gardens.

Biology

- during the breeding season, they form groups of 20 individuals;
- the breeding period lasts from April to August;
- they can deposit up to 2-3 clutches per year, and a clutch includes 4-6 eggs, incubated only by the female for 11-13 days; juveniles are fed by both parents;
- their diet consists mainly of seeds.

Threats

- degradation of habitats.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of habitat.

Carduelis carduelis

Dimensions

- length: 13-15 cm;
- wingspan: 22-25 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 887,000 - 964,000 pairs (1999-2002).

Distribution

- Widespread across much of the British Isles and Europe, but limited in the Southern extremity of Scandinavia;
- species also present in North Africa.

Habitat

- areas with shrubs, screes, meadows and orchards.

Biology

- the reproductive period begins in mid-July;
- the nest consists of a foundation which includes a mass of dry vegetation, grass and occasionally feathers, fine woven from grass strands, stems and leaves, moss and lichen;
- the clutch: 4-6 eggs, incubated by the female only for 9-14 days, although the male and can help in this respect, occasionally; chicks can leave the nest 10 days after hatching;
- sociable outside the nesting period; often found in small flocks;
- their diet consists of small seeds - mainly Compositae seeds;
- during fall and winter it is found in fallow lands with many thistles and burs;
- sedentary species.

Threats

- capturing of specimens for marketing as pets.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;.

Carduelis chloris

Dimensions

- length: 14-16 cm;
- wingspan: 25-27 cm.

Status

- Least Concern (LC), with a low probability of extinction, according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 850.000-910.000 pairs (1999-2002).

Estimated population in SPA Babadag Forest

- breeding RC.

Distribution

- widespread throughout most of Europe .

Habitat

- open areas, cultivated, with trees and bushes; also in gardens and parks, orchards, conifer plantations, frequently on roadsides.

Biology

- sedentary in Romania;
- reproductive period: April – July; the clutch consists of 4-6 blue eggs with brown spots, incubated by the female, for about 11 to 15 days;
- their diet consists of small insects, grains, seeds of *Carduelinae*, *Polygonaceae*, *Rosaceae*, *Compositae*;
- quick flight in wavy ample lines.

Threats

- the main threats are loss of habitat and pollution.

Conservation

- from a legal standpoint, the species is protected at a national level through the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: habitat protection.

Carduelis flammea

Dimensions

- length: 12-14 cm;
- wingspan: 21-23 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- not evaluated.

Distribution

- widespread across Europe;
- they are resident species, especially in Europe;
- the populations from Northern Europe migrate to Southern Europe in winter in very variable numbers, occasionally in the form of invasions

Habitat

- it nests in clumps of trees, forests, parks and gardens, scattered forests.

Biology

- the reproductive period is at the end of April;
- the nest is built by the female, made of spruce branches, at a height of 1-2 m from the soil;
- the clutch contains 4-6 eggs, incubated only by the female for 10-11 days;
- their diet consists mainly of seeds and buds.

Threats

- Habitat degradation.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of habitat.

Carduelis spinus

Dimensions

- length: 11-12 cm;

- wingspan: 20-23 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 24,000 - 65,000 pairs (1999-2002).

Distribution

- widespread across Europe, Northern and Eastern Asia, as well as the Near and Middle East.

Habitat

- they prefer coniferous or mixed forests, mainly in temperate and boreal areas.

Biology

- They prefer coniferous forests during the reproductive period;
- The nest is shaped like a bucket, quite deep, and is built solely by the female; the nest materials used are small branches, thin roots, feathers;
- The reproduction period begins in April-June;
- The clutch consists of 3-5 eggs, that are incubated by the female only for 12 to 13 days;
- Their food consists mainly of seeds: birch, black alder, grasses and some invertebrates collected from the leaves of trees;
- In autumn, the siskins from the mountains or those arrived from the Northern regions of Scandinavia in search of food to the lower regions, winter in Western Europe and Southern Europe;
- It is mostly migratory, but some are resident.

Threats

- degradation of habitats .

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of habitat.

| |
|---|
| <i>Coccothraustes coccothraustes</i> |
|---|

Dimensions

- length: 16-18 cm;
- wingspan: 29-33 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 760,000 - 940,000 pairs (2000-2002).

Distribution

- Widespread throughout most of Europe, North Africa, but also East Asia and Japan.

Habitat

- they prefer deciduous and mixed forests with rich undergrowth;
- they are attracted by orchards, and easily break the pits with their thick and strong beak.

Biology

- fairly hard to see, as they are easily scared, rather quiet and spend most of the time hidden in the canopy;
- the reproductive period begins in April-May;

- they prefer old oak trees or fruit trees for building the nest;
- the clutch consists of 4-5 eggs, incubated only by the female for 11-13 days;
- their food consists of seeds (elm, hornbeam, maple), buds of trees and shrubs, invertebrates (caterpillars);
- migratory (most are diurnal, but also nocturnal).

Threats

- loss of habitat .

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;;
- conservation measures recommended: protection of habitat.

Corvus corax

Dimensions

- length: 54-67cm;
- wingspan: 120-150cm;
- weight: 0.8 - 1.5 kg.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 24,000 - 35,000 pairs (2000-2002).

Distribution

- Species found in Europe, North Africa, Asia (except the South and SouthEast), Greenland, Iceland, North America and Australia.

Habitat

- they prefer wooded areas with large open lands nearby, or coastal regions for their nesting and feeding places.

Biology

- omnivorous and highly opportunistic: their diets varies considerably, especially with location and season; in some areas they are mainly scavengers, feeding on carcasses;
- their vegetal food consists of cereals, berries and fruit; they also eat various invertebrates, amphibians, reptiles, small mammals and birds; also, undigested portions of animal feces or rotten food;
- they store the excess food, especially that with a high fat content, and learn to hide it from other ravens;
- they wonder to different places, visit landfills, slaughterhouses and other places of this kind;
- birds known for their intelligence, also playful, making spectacular acrobatics during flight, playing with other species and passing stones from one to another;
- the pair lasts for life;
- hatching occurs early in February-March;
- the nest is large and is built either on top of old trees, or on rocks as hard to reach as possible;
- the nest consists of multiple layers of woven twigs, then covered with mud, hair, wool and other soft materials;
- they lay the eggs even since February, starting the brooding from this month;
- the male, when not seeking food for the female, stays in the proximity of the nest,

guarding it with great care;

- after hatching, the chicks remain in the nest for about 40 days, being fed in turns by the parents;
- they have powerful wing beats, producing a characteristic sound.

Threats

- common bird, it is not currently considered endangered;
- persecuted in the past by farmers and hunters; as a result, the populations of the species declined in many areas, but is still perceived as a threat and is shot despite the fact that it is protected.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ; (Annex 4B Species of National Interest; Animal and Plant Species Requiring Strict Protection)
- no conservation measures were taken for this species.

Erithacus rubecula

Dimensions

- length: 12-14 cm;
- wingspan: 20-23 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 1,854,000 - 2,670,000 pairs (2000-2002).

Distribution

- residents in the British Isles, Western Europe and parts of North Africa;
- they winter in Southern Europe, North Africa and South-West Asia.

Habitat

- gardens, parks and forest areas;
- in summer, they prefer mountain forests, and less plains; in winter, it is found in lowland forests, in parks and gardens of cities.

Biology

- They are territorial birds; in winter, both females and males defend their territory;
- The reproductive period begins in late March or early May;
- They nest in hollows under banks or fallen trunks, in a cup-shaped nest of dead leaves and moss, which they line with hair;
- The nest contains 5-6 blue eggs with rusty spots; the female broods alone, for 13-14 days;
- food is collected from the ground, their diet consists of invertebrates, berries, other fruits and seeds.

Threats

- the species is not threatened at the moment.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: not necessary at the moment .

Falco subbuteo

Dimensions

- length: 28-36 cm;
- wingspan: 69-84 cm;
- weight of female: 131-232 g;
- weight of male: 141-340g.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 3,200 - 4,000 pairs (1990-2002).

Distribution

- It is found in Africa, Europe and Asia.

Habitat

- It is found in relatively open habitats with few trees, but also in open wetlands, open forest areas, on the edge of rivers, groups of trees or areas with human activity - agricultural fields.

Biology

- It adapts very quickly and well to periods of intensive agriculture;
- It tolerates fragmented habitats well;
- They hunt during flight, often towards sunset, when it also catches the quickest preys;
- It feeds on insects, which are usually swallowed in flight, with small birds that is swallows; it occasionally feeds on bats or lizards or follows places with fire or agricultural machines;
- Breeding occurs rather late, at the end of March, until August;
- both parents hunt in flight. The prey caught by a parent during flight is thrown the other (also in flight) at a high speed;
- the clutch with 2 or 4 eggs is deposited in abandoned nests of other birds; they typically use nests built in trees;
- The young chicks leave the nest 27 or 33 days after hatching, but continue to depend on the parents for five more weeks;

Threats

- The nests are attacked by crows and squirrels

Conservation

- Species mentioned in the GEO 57/2007 on the regime of natural protected areas, the conservation of natural habitats, wild flora and fauna

Falco tinnunculus

Dimensions

- length: 31-37 cm;
- wingspan: 68-78 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List

Estimated population in Romania (pairs or individuals/years)*

- 10,000 - 14,000 pairs (1990-2002).

Distribution

- Common species, widespread in most of Europe, representing less than 25% of its global reproductive area.

Habitat

- species well adapted to anthropic processes; found in a wide range of habitats - parks, gardens, small wooded areas, ravines, gorges, urban areas, arid and semi-arid steppes, cultivated areas.

Biology

- They usually nest in isolated pairs, but can also form loose breeding colonies;
- They nest in abandoned nests, hollows, rocks or even man-made structures;
- The clutch contains 3-5 eggs and is deposited in April-May; the eggs are laid every 2 days;
- incubation lasts 26-30 days and is carried out by the female; the offspring growth rate is fast; food is provided by the male;
- their diet includes small mammals, rodents, birds and invertebrates - Orthoptera and annelids, and sometimes debris;
- they can see in the UV spectrum;
- migratory or partially migratory; they migrate towards the South and South-West.

Threats

- persecution.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;

Jynx torquilla**Dimensions**

- length: 16-17 cm;
- wingspan: 25-27 cm;
- weight: 30-45 g.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 28,000 - 36,000 pairs (2000-2002).

Distribution

- species widespread throughout most of Europe, Russia and Central Asia.

Habitat

- Fairly common species on the continent in sunny, wooded and open areas (clearings), parks and orchards.

Biology

- They eat various insects, especially ants, but also spiders, etc.
- They nest in tree hollows;
- they spend most of their time in trees, hidden by the foliage, but also visits the ground, moving by jumping;
- they reproduce in May-June, depositing 7-10 eggs which are incubated by the female for 12-14 days;
- the young are fed with ants and ant larvae for about 3 weeks, both parents participating in their feeding;

- if there is enough food, birds can reproduce for a second time in July-August;
- in critical situations, they defend themselves by twisting their head and neck like a snake (hence the name of the species);
- it is not a true woodpecker – it does not cling to trees, and does paddle.

Threats

- loss of habitat .

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ; (Annex 4B Species of National Interest; Animal and Plant Species Requiring Strict Protection);
- conservation measures recommended: protection of habitat.

Merops apiaster

Dimensions

- length: 25-29 cm;
- wingspan: 36-40 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 15,000 - 20,000 pairs (2000-2002).

Distribution

- Southern and Southeastern Europe, also spread in neighboring regions of Asia and North Africa;
- It winters in Western and Southern Africa.

Habitat

- Sunny hillsides, meadows, pastures and croplands with shrub belts (for shelter), scattered trees, plains, steppes, wide river valleys, river shores with shrubs.

Biology

- Colonial and migrant;
- The populations arrive to their reproduction territories in early May and leave them by the end of August;
- the interval between the first egg deposited and the beginning of the incubation is of about 28 days;
- the clutch consists of 4-7 eggs, deposited at 2 day intervals, in a gallery;
- the room where the nest is located is at the end of a tunnel about 1 m long, built in a bank of sand or earth or at ground level;
- some galleries are used for many years in a row, but most couples dig new galleries every year;
- helper individuals help supply the nest with food;
- their diet consists mainly of bumblebees and honeybees, but also any other daytime insects;
- they lurk their prey from a high point, track it in flight and then bring it to the observation point to kill it.

Threats

- disturbance or destruction of nesting areas, the use of insecticides

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of

- natural protected areas, conservation of the natural habitats, wild flora and fauna ;;
- conservation measures recommended: protecting the nesting areas.

Miliaria calandra

Dimensions

- length: 16-19 cm;
- wingspan: 27-30 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 940,000 - 1,200,000 pairs (2000-2002).

Distribution

- Widespread nesting species throughout most of Europe, except in the Northern part, this representing more than 50% of its global area of distribution;
- mainly resident.

Habitat

- they prefer open lowlands, with small bumps, near seacoasts;
- they avoid forests, wetlands, steep terrain, rocky areas, mountains or high plateaus, as well as built-up areas;
- they require tall structures for observing the land and for singing.

Biology

- Reproduction: May-July;
- They nest on the ground, in dense vegetation or shrubs in hollows of arable lands, pastures, weeds;
- The nest is large, has a loose structure consisting of stems, roots and grass, lined with fine grass, sometimes hair or fur;
- The clutch: 4-6 eggs, incubated for 12-14 days by female only;
- Their diet: seeds, plants, invertebrates, especially during the breeding season; it feeds the soil, in crops, grasslands, dwarf vegetation; in autumn, it also feeds in stubble, on harvested fields, among piles of garbage-in cold winters.

Threats

- aggressive agricultural practices, the use of insecticides or pesticides.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;;
- conservation measures recommended: proper management of agricultural land and ecological agricultural practices.

Panurus biarmicus

Dimensions

- length: 14-16 cm ;
- wingspan: 16-18 cm;

Status

- Least Concern – LC species, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 85,000 -125,000 pairs (2000-2002).

Distribution

- widespread in Europe, Central and North-East Asia, up to the Pacific Ocean;
- a species common in the Danube Delta reed areas, in lagoon areas and all wetlands.

Habitat

- it is found in wet areas at low attitudes, with surfaces covered with reed;
- it prefers both freshwater areas, and brackish water.

Biology

- nesting begins in late March up to July;
- the nest is built between several strands of reeds, over the water, and is cup-shaped;
- they can deposit up to 2-4 clutches per season; a clutch consists of 5-7 eggs, incubated for 11-14 days by both parents;
- Their diet consists of invertebrates and seeds;
- Sedentary or partially migratory species, in winter they gather in flocks for foraging, flying through the reed and dry aquatic vegetation.

Threats

- the species is not threatened at the moment.

Conservation

- from a legal standpoint, the species is not protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna;
- conservation measures recommended: not necessary at the moment .

Otus scops**Dimensions**

- length: 19-21 cm;
- wingspan: 47-54 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 25.000 - 40.000 pairs (1990-2002).

Distribution

- Species widespread in Europe, Central Asia and North Africa.

Habitat

- they prefer plains and hills;
- their nesting areas are represented by clusters of trees, gardens, parks, orchards with old trees.

Biology

- usually these night birds are solitary, very rarely they can be seen in small groups;
- the mating period begins in the second half of April;
- they build their nests in caves and hollow trees, sometimes in rock crevices or cracks of the walls of old buildings;
- the female deposits 3-5 eggs, which are incubated for a period of 25 days, while the male brings in food and remains in the proximity, to observe any possible danger;
- the young are fed with insects and insect larvae by both parents;
- at only 40 days, the chicks manage to fly and to search for their own food, and then after another 20 days, they leave the nest for good and become independent;
- juveniles reach sexual maturity at the age of 10 months;
- they are monogamous birds, if one partner dies during the mating period, the individual

left alone no longer looks for a new partner;

- it is generally a hunter of insects, but sometimes catches spiders, crickets, grasshoppers, beetles, works, bats, reptiles, frogs, rats and various small birds (usually swallows its prey whole and later regurgitates the hair feathers bones and other indigestible parts in the form of balls);
- migratory species.

Threats

- improper forest management.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of habitat.

Passer hispaniolensis

Dimensions

- length: 14 - 16cm;
- wingspan: 20 - 22cm;
- weight: 20 - 25g;

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 125,000 - 254,000 pairs (2000-2002).

Distribution

- It is a species widespread in Europe, from Portugal and Southern Spain to Turkey;
- It is also found in various countries from the Middle East, as well as from Russia to Central Asia and North Africa.

Habitat

- it nests in Spain (rarely) and SE Europe, up to the Carpathians to the North; in open areas, without being tied to the village, in stands of trees, in large colonies; sometimes it nests in stork nests.

Biology

- It reproduces in April-July;
- it feeds mainly on plant materials, consisting mainly of seeds and crops such as wheat, oats, millet and barley; it also feeds on leaves and fruits and occasionally insects, especially caterpillars, grasshoppers, ants ;
- they usually breed in large colonies, sometimes up to several hundred thousand pairs;
- Nests are located near each other, sometimes with up to 100 nests in a single tree;
- the nest is built by both sexes and consists of a spherical structure of grass and plant stems; the inside is lined with blades of grass and with feathers;
- the entire nest is usually found attached to tree branches, or can be built at the bottom of the nest of a prey bird or on a pillar;
- they deposit from 2 to 6 eggs, which are incubated by both sexes for 10 -11 days; the young are cared for by both parents;
- it is a gregarious species, that takes part in many social activities, including "social singing", in which the birds chirp together on bushes and trees;
- Groups of sparrows also prefer "dust baths", rolling in dust or sand to clean their feathers and remove parasites.

Threats

- common and widespread species, it is not currently threatened

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna;
- no specific conservation measures are known.

Phoenicurus ochruros

Dimensions

- length: 13-14 cm;

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 240,000 - 410,000 pairs (2000-2002) .

Distribution

- less the half of the nesting populations of the world are a guest; they reproduce in Southern and central Europe and in Asia, from England, Southern Sweden and Russia, the South of the Mediterranean and the Black Sea, to the East of Asia.
- the species is resident in most of the regions listed, and the populations at Northern latitudes winter in Southern Europe and Northern Africa.

Habitat

- they stand in open areas, rocky areas with a specific vegetation, including mountain hills, peaks, rocks and so on;
- they also live in urban and rural areas.

Biology

- It is an opportunistic species and feeds mainly on insects, larvae, spiders, snails, worms and fruits (in the autumn);
- it feeds on the ground, sometimes digs into the ground to remove the larvae to the surface, it also catches insects in flight;
- reproduction begins in mid-April and lasts until July;
- during mating the males sing intensively, in order to mark their territory;
- they sing standing high on natural or artificial structures, but avoid tall trees and shrubs;
- the female builds the nest of dried plants, leaves, moss and lines it with hair, wool and feathers;
- the nesting areas chosen are adjacent to open areas, near a flowing source of water - rivers, streams, canals, etc., or in areas with sparse vegetation, rocky terrain.
- the nest is usually built at altitudes between 3-50m, in holes, caves, rock crevices; the female deposits 4 to 6 eggs.

Threats

- loss of habitat;

Conservation

- from a legal standpoint, the species is protected at a national level by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of habitat.

Picus viridis

Dimensions

- length: 30-36 cm;
- wingspan: 45-51 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- not evaluated.

Distribution

- Widespread in Europe, but absent from Scandinavia, Ireland, Scotland and the islands of the Mediterranean.

Habitat

- common species in deciduous forests, but also in open areas with isolated trees or clumps of trees.

Biology

- mating begins in winter;
- they nest in hollows, they particularly preferred rotten trees for digging their gallery;
- the clutch contains 5-8 eggs, incubated 17-19 days;
- they feed on insects that live on or under the bark of trees, but also with their larvae;
- they particularly prefer ants, but will eat grains in the cold season
- Sedentary species.

Threats

- forest exploitation.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: adequate forest management.

Sitta europaea

Dimensions

- length: 12-15 cm;
- wingspan: 23-27 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 480,000 - 660,000 pairs (2000-2002).

Distribution

- Widespread throughout most of Europe.

Habitat

- They prefer the older deciduous forests, parks and gardens

Biology

- Sedentary;
- It nests in tree hollows, often reduces the dimensions of the entry to the nest by applying a layer of mud; they use the same nest for several years in a row;
- pairs are set for life and are very devoted to the nesting site;

- they move over an area of up to 2 km around the nest;
- the clutch consists of 4-8 small white eggs that are incubated only by the female for 18 days;
- their diet consists of seeds that they store in tree cracks, which they then breaks, also eating insects with pleasure;

Threats

- loss of habitat .

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of habitat.

Sturnus roseus

Dimensions

- length: 20-22 cm;
- wingspan: 37- 40 cm.

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 250 - 24,000 pairs (2000-2002).

Distribution

- found in Europe, Greece, Kazakhstan, Hungary.

Habitat

- gregarious species, they feed on invertebrates;
- they gather in open areas, often arid areas, as well as in pastures, stony or rocky terrains.

Biology

- They have the habit of staying in small groups in trees;
- They prefer wetlands for permanent access, but do not depend on them;
- The nest is made using holes among stones, rocks or cliffs, on bridges, under roofs;
- The nest is made of thin twigs and grasses, lined with fine grass, fresh or dried feathers or stems and leaves of plants;
- The nest is reused every year by the same pair;
- The clutch consists of 3-6 eggs and the incubation period lasts between 13 and 16 days;
- during reproduction, they have a special diet consisting of invertebrates, mainly insects and of plants such as grapes, mulberries. Outside of the warm period, they feed on seeds.

Threats

- no threats are known.

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;

Tyto alba

Dimensions

- length: 33-39 cm;
- wingspan: 80-95 cm

Status

- Least Concern – LC species, with a low probability of extinction, according to IUCN Red List.

Estimated population in Romania (pairs or individuals/years)*

- 800-1.200 pairs (2000-2002).

Distribution

- widespread in Central and Eastern Europe.

Habitat

- They live in cultivated areas;
- They often nest in barns and church towers.

Biology

- sedentary, mostly nocturnal;
- monogamous species;
- it installs its nest in attics of houses or other human settlements, but also in hollows, holes in the sides of tall banks careers;
- reproduction period: May - June;
- the clutch contains 2-11 eggs; the incubation period is of 29-34 days and is carried out only by the female;
- the male feeds the female during incubation;
- juveniles remain with the parents for up to 3 years, then leave definitively;
- their diet consists of small mammals, rodents, birds.

Threats

- loss of habitat .

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna ;
- conservation measures recommended: protection of habitat.

ANNEX 5. DESCRIPTIONS OF THE MIGRATORY SPECIES LISTED IN ANNEX 1 OF LAW 13/1998

Pelecanus crispus

Dimensions

- length: 160-180 cm;
- wingspan: 310-345 cm.

Status

- Vulnerable – VU according to IUCN Red Lists.

Estimated population in Romania (pairs or individuals/years)*

- 20-50 pairs (1900-2000).

Distribution

- fragmented reproduction habitat, from the Balkan Peninsula to Mongolia;

Habitat

- wetlands: swampy regions, lacustrine systems rich in fish, with reed, deltas, estuaries;
- for nesting and shelter, they require isolated habitats, separated from land by stretches of water - floating islets (reed islet), Sandbanks, ridges;
- low salinity lagoon systems from the Mediterranean region.

Biology

- reproduction period: February to April;
- the clutch can contain up to 4 eggs and is deposited about 10 days after the arrival to the nesting territories; incubation lasts 31-32 days; hatching success varies between 35-70%;
- they nest in small colonies;
- they can tolerate temperatures Below 0°C for short periods of time (7-8 days);
- exclusively ichthyophagous species; they can feed on specimens with sizes ranging from 3-50 cm; they can sometimes feed far away from the nesting colony;
- partially migratory species, summer guest to Romania; the first specimens arrive in February; autumn migration begins in August;
- they winter in North Africa, Turkey.

Threats

- Eutrophication or persecution, poor management of wetlands; loss of optimal nesting habitats;
- preying of the nests with eggs, killing of the young (the real threat is represented by wild boars).

Conservation

- from a legal standpoint, the species is protected by the EGO 57/2007 on the regime of natural protected areas, conservation of the natural habitats, wild flora and fauna;
- conservation measures recommended: protection of reproduction habitats, appropriate management of wetlands

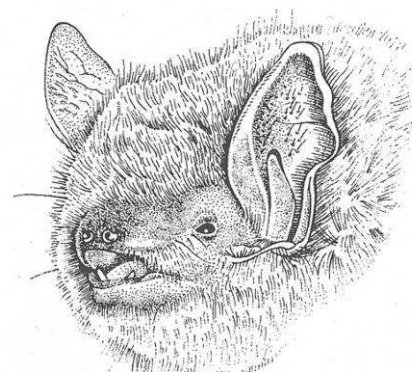
* the other two migratory species listed in the Annex I of the Law 13/1998 potentially present on Pontica flyroute are described in Appendix 3.

APPENDIX 6. DESCRIPTIONS OF THE TARGET BAT SPECIES

Myotis daubentonii

Biometrical and morphological distinguishing characters

Head and trunk (40) 45-55 (60) mm;
Tail: 31-44.5 (48);
Forearm: (33) 35-41.7 (42) mm;
Ear: 10.5-14.2 (16) mm
Wingspan: 240-275 mm;
Condylbasal length (12.8) 13.2-14.6 mm;
Length of upper tooth row: 5-5.7 mm.



Drawing: Nazareanu M.

Medium-sized ($L = 76-99.5$ mm). The ears are short, with 4-5 transverse folds and mild excavation in the inferior part of the external edge; the tragus is straight, narrowed toward the tip and does not reach half of the length of the ear. Non-imbricate lower incisors. Inferior PM3 twice as large than PM1. The coat is gray-brown, from dark bronze dorsally to silver gray ventrally; their mouth is brown – reddish, the ears and patagium gray-brown. The spur, thin at the base, reaches a third of the length of the uropatagium edge, the plagiopatagium is inserted at the base of the fingers; the last vertebra exceeds the uropatagium caudally; the legs are long.

Body weight (5) 7-10 (15-17) g;

Habitat, bionomy It is a forest and hydrophilic species, it prefers plains with forests and parks in the vicinity of waters. In summer, it was observed up to 400-750 m, in hollows of trees, buildings, under bridges, in nests of birds (eg *Riparia riparia*) in rock crack and walls. They hibernate from late September – middle of October until the end of March/April in caves (rarely), forts and abandoned mines, often in cellars and bunkers from major cities, old wells, in debris, up to 4500 m, at a temperature of 3-6 ° C (but can temporary endure even - 2 ° C) and a high humidity; in general, individuals are found isolated in narrow fissures, but can also form imbricate colonies of hundreds of individuals. Every season, it can associate with individuals of *Myotis*, *Pipistrellus*, *Plecotus*, *Nyctalus*.

They start to hunt at dusk, approximately two hours after sunset; they fly rapidly, 5-20 cm above the flowing water, and slowly over stagnant waters, or around trees. Their food consists of Diptera (especially Tabanidae), Lepidoptera, Hemiptera, Trichoptera, Ephemeroptera, Coleoptera, and exceptionally with small fish, alevins or crustacean that they capture by using their long legs – such as *Noctilio* or *Pizonyx*. (It was observed that when flying over water accumulations without vegetation, they often touch the water with their mouth, and it seems that in this way they do not only drink water, but also capture the animals at the surface of the water).

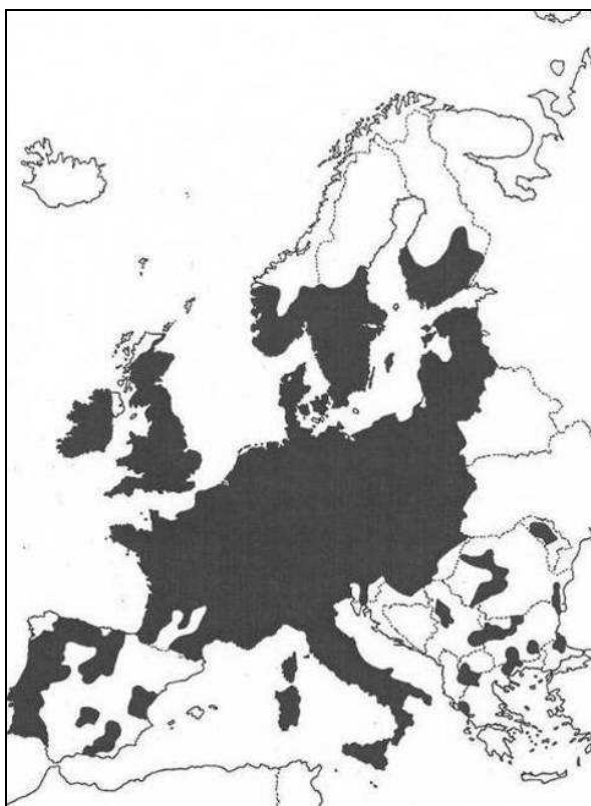
Reproduction: Copulation takes place from September until spring, often in the winter shelters; maternity colonies may consist (in May) of 20 to 25 females (but colonies of 200-600 were reported in Switzerland, and even of 1300 - 1400 in Italy); after a gestation of 50-55 days at the of June - early July, females give birth to one pup (rarely two), which becomes independent after 3-4 weeks.

Movements: In general performed over less than 100 km; the maximum known movement is 260 km.

Geographic Distribution: Across the globe: in the Palearctic and Oriental region (European-Asian distribution).

Etymology: Gr. *Mys*, *myos* : mouse ; gr. *ous*, *otos* : ear + lat. *daubentonii* : genitive of the name of French zoologist Jean Louis Marie DAUBENTON (1716-1800) ; ‘Daubenton’s’ mouse-eared bat’.

Conservation status: LC according to IUCN Red List of Threatened Species.

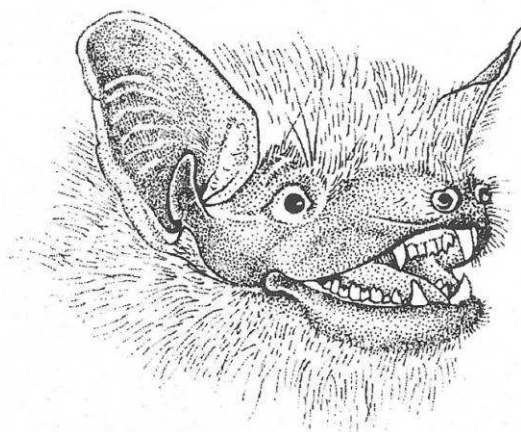


Distribution of *Myotis daubentonii* species in Europe

Eptesicus serotinus

Biometrical and morphological distinguishing characters

Head and trunk: 62-82 (86) mm ;
Tail: (39)40-54 (66) mm ;
Forearm: 48-56 (58) mm ;
Ear: (12)14-22 mm
Wingspan: 315-380 mm ;
Condylobasal length: 18-21.8 mm ;
Length of upper tooth row: 7-8.6 mm.



Drawing: Nazareanu M.

Relatively large-sized species, robust (length 108-136 mm). The ears are relatively short, triangular, with seven transverse folds, with a convex internal edge and concave external one, slightly narrow subapically, ending before the corner of the mouth; banana shaped tragus, three times longer than wide, with a maximum width in the basal area. The lower incisors are imbricate and trilobites. The wings are wide. The fur is long, dark-brown on the dorsal side, yellowish-brown ventrally; black mouth and ears.

Body weight: 14-33 (35) grams;

Habitat, bionomy: They are primarily a forest species, at present it is predominantly anthropophile, found particularly in semi-forested areas, with parks and gardens, at low altitudes and the edge of inhabited areas; in summer, they can move up to altitudes of 900 m; in winter they reach altitudes of 1100 m; maternity colonies are housed in buildings, rock crevices, artificial bird nests, rarely in tree hollows or in caves in Southern Europe; in the case of buildings, they prefer calm bridges, spaces between tiles or slates, as an access of 2 cm is enough for the bat to enter the shelter. In winter, hibernation colonies take shelter (from October to April) in buildings, tree hollows, rarely in underground cavities, wood piles, at a temperature of 2-4 ° C (they can withstand -6 ° C for a short period) and relatively low humidity.

They start to hunt shortly after sunset, but also earlier, in broad light, with a slow and heavy flight, at a height of 6-10 m in wide circles, in gardens, forest edges, in cities around lampposts. Their food consists of large Coleoptera and Lepidoptera of large size, Ordonata, Orthoptera, Gastropoda, caught in flight or from the soil and other substrates.

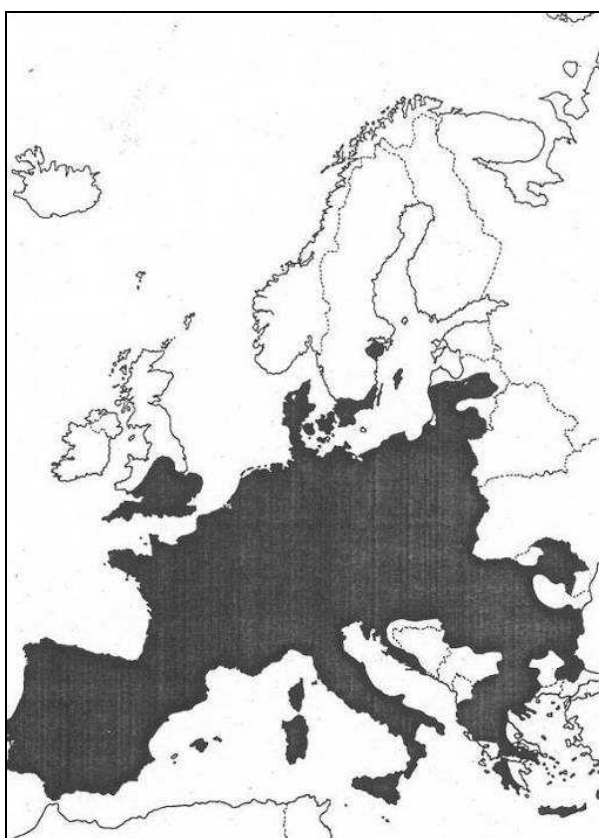
Reproduction: Maternity colonies are formed in April-May and consist of 10-50 (400) females; after a gestation of 60 days, in June, they give birth to one pup (rarely two or even three) which becomes independent after 4-5 weeks.

Movements: some species travel over distances of over 330 km.

Geographical distribution around the world: In the Palearctic and Oriental regions (Central Asian - Europeo – Mediterranean distribution)

Etymology: Gr. epten: which flies; gr. oikos: home+lat.*serotinus*: nocturnal, 'Bat that flies at night by houses'

Conservation status: LC according to IUCN Red List of Threatened Species.

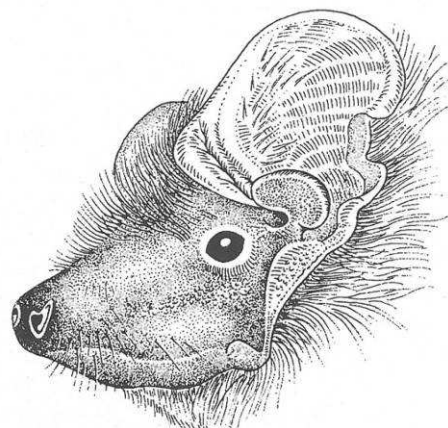


Distribution of *Eptesicus serotinus* species in Europe

Nyctalus noctula

Biometrical and morphological distinguishing characters

Head and trunk: 60-82 (85) mm;
Tail: 40-60,6 mm;
Forearm: (47) 48-58 mm;
Ear: (10,5) 16-21,1 mm;
Wingspan: 320-400 mm;
Condylbasal length (16,9) 17,4-19,9 mm;
Length of upper tooth row: 6,7-7,5 mm.



Drawing: Nazareanu M.

Large sized and robust (L = 100-145 mm). The mouth is broad and baggy; the ears are relatively long, with 4-5 folds at the outer edge and rounded tips; the tragus is short (6-8.5 mm) broad and recurved, mushroom-shaped, with the superior part of the internal edge slightly sharp and sinuous, and with the external edge broadly rounded. The upper Pm_1 is located on the lingual side, invisible from a lateral position; Pm_2 is in contact with the C and Pm_1 . The wings are narrow and long, with an abundant pubescent membrane under the arms; finger 3 is 90-101 mm long; the insertion of the plagiopatagium, spurs and epiblema, is as that of the *N. leisleri*. The mouth is dark brown; the fur is short, without folds, with unicolored hairs, in summer it is reddish-brown dorsally and light-brown ventrally (in winter the coloring is darker); the extremity of the last caudal vertebra exceeds the uropatagium.

Body weight: (10,7)19-40 (46) g;

Habitat, bionomy: It is a typical forest species (arboreal), but also with anthropophilic tendencies, also found in cities, parks, alleys; in the forested areas, it inhabits especially their edges; in summer, it can move up to 2000 m altitudes, but it is mainly found at low and medium altitudes (from the sea level to 500-1000 m). It takes shelter in tree hollows (especially *Quercus* si *Populus*), located 4-20 m above the ground and small in size (approximately 6 mm, the small size having a protective role), under bridges, in artificial nests, in different constructions (bridges, ventilation ducts, caissons of blinds). In winter, their shelters are represented by hollow trees, rock fissures (from the fissures of Razelm lake watershore, colonies of 500 individuals were reported) and wall fissures, and very rarely of caves (in SE Europe); they hibernate from early October to mid-March/early April at a temperature of 0-1 ° C (but also in warm shelters, with temperatures of 18-21 ° C), hanging on walls crack, stuck in pairs, back to back; in cold winters, up to 50% of the individuals can freeze (at a temperature of -7 ° C of a fissure in a building, for example, the bat body temperature drops to -4, 5 ° C).

They start to hunt early, in groups, not rarely before sunset, at a height of 10-40 m, above grasslands, lakes, rivers, forests and at a distance of up to 6 km from the shelter; they make a quick flight in the evening, and another one in the morning, before sunrise. Their food consists of Lepidoptera, Diptera, Hemiptera, mayflies, Trichoptera, Formicidae – winged, Araneidae, and the capture and consumption of a *Mus musculus* was cited. They may drive away birds (such as crows) flying in their hunting territory, and hide from predators (from *Falco subbuteo*, for example).

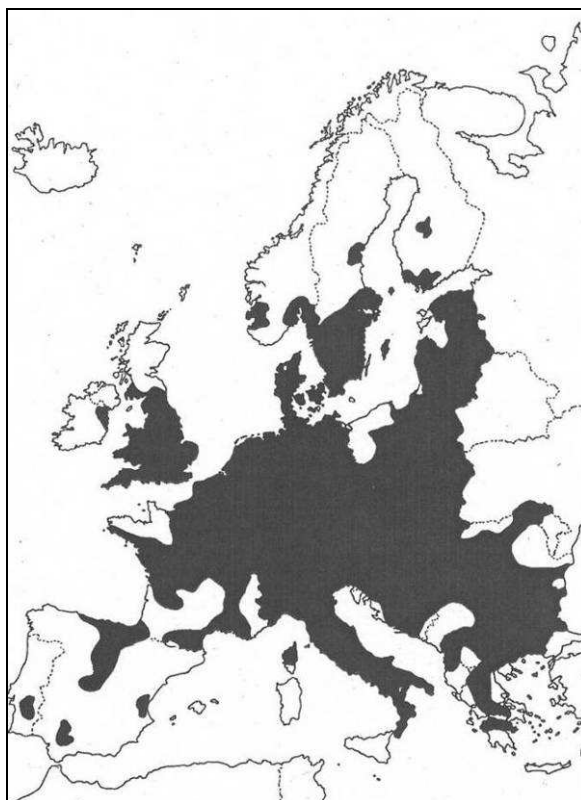
Reproduction: Generally in tree hollows, where a male (polygamist) remains for 1-2 days with 4-5 (20) females; the maternity colonies consist of 20-50 females (occasionally 100) and may have *P. pipistrellus* and *V. murinus* individuals in their structure; towards the end of June, after a gestation of 70-73 days, in Central Europe, females give birth to 1-2 (rarely 3) young, which become independent after the fourth week of life.

Movements: They migrate over large distances in Central and Northern Europe; the maximum migration distances known: 930 km and 1600 km in the former USSR; between early September and mid-November, they migrate mainly from the NE to the SW (according to some authors, the species is sedentary).

Geographical distribution around the world. Around the world: In the Palearctic and Oriental region (Central Asian-European distribution)

Etymology: Probably gr. *nyx*, *nyktos*: nocturnal; lat. *ala*: wing (sau *nyx*, *nyktos*+ latina desinence *us*) +ital.*notolla*: bat

Conservation status: LC according to IUCN Red List of Threatened Species



Distribution of *Nyctalus noctula* species in Europe

Nyctalus leisleri

Biometrical and morphological distinguishing characters

Head and trunk: 48-68 (75) ;

Tail: 35-45 (47) mm;

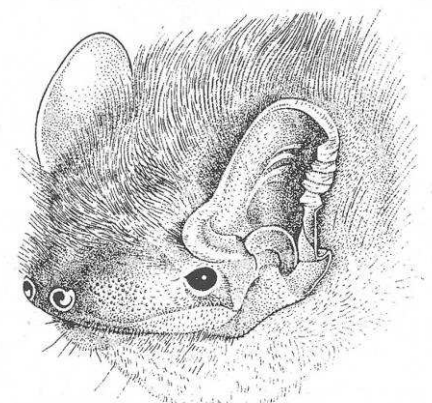
Forearm: (38) 40-47 mm ;

Ear: 12-16,5mm;

Wingspan: 260-320 mm ;

Condylbasal length:14,7-16,1 mm ;

Length of upper tooth row: 5,8-6,3 mm.



Drawing: Nazareanu M.

Relatively large-sized (L = 83-113 mm). The ears are short, broad, with 4-5 folds at the external edge which is rounded, and ends near the corner of the mouth; tragus of 6-8 mm, mushroom-shaped, with the upper part of the internal edge more blunt and straight than in

N. noctula, and with the external edge more tightly curved. The upper Pm_2 separate from C. The Pm_1 is visible from the side; finger 3 is 72-81 mm long; the third metacarpus is 8.5mm longer than the fifth metacarpus. The fur is short, with bi-colored dorsal walls, dark at the base and brown at the tip; the dorsal fur is reddish-brown, the ventral yellowish-brown. The plagiopatagium is inserted into heel; the spur is half the length of the uropatagium edge.

Body weight: 11-20 g;

Habitat, bionomy: It is a forest species, with an anthropophilic tendency; in summer, it can be found at altitudes up to 2000 m; the summer colonies are housed in tree hollow, parks, buildings, artificial bird nests, often associated with *N. noctula*, *N. lasiopterus*, *M. bechsteinii*, *M. daubentonii* and *P. pipistrellus*. In winter, the shelters are the same, but they prefer buildings, hibernate isolate or in small groups, homo or hetero-specific.

They start to hunt shortly after sunset (about 10-40 minutes) and sometimes even before, in clearings, forest edges and around floorlamps; their hunting behavior is identical that of *N. noctula*, with rapid flight and at height, (but rarely more than 15 m from the soil). Food consists of Lepidoptera, Coleoptera, Ephemeroptera, Neuroptera, Hemiptera, Trichoptera, Hymenoptera, Diptera.

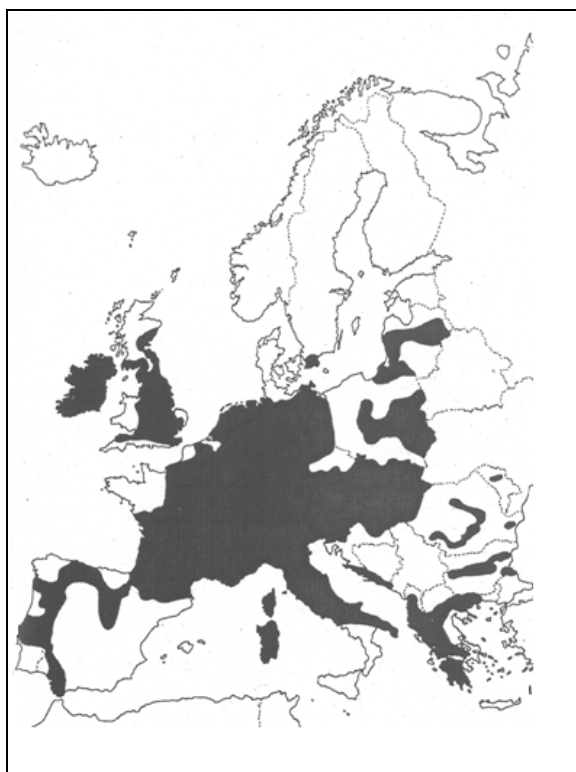
Reproduction: Copulation occurs from late July to October/November; males are polygamous and form harems; maternity colonies are made up of 20-50 females and are located in tree hollows; towards the middle of June, after a gestation of 75 days, females give birth to one cub each (often two, in Eastern Europe).

Movements: Some populations migrate, the maximum known distance crossed: 1052 km

Geographical distribution: around the Globe : in the Palearctic and marginal Oriental region (Turanian-European distribution)

Etymology: Probably gr.*nyx*, *nyktos*: nocturnal; lat. *ala*: wing (or *nyx*, *nyktos*+ Latin desinence *us*)+ lat. *leisler*: genitive of the name of the German Naturalist Johann Philipp Achilles Leisler (1772-1813); ‘Leisler’s *Nyctalus*’.

Conservation status: LC according to IUCN Red List of Threatened Species

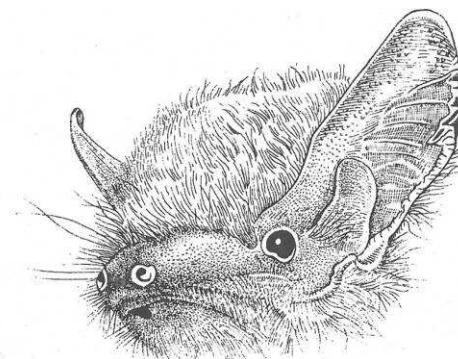


Distribution of *Nyctalus leisleri* species in Europe

Pipistrellus pipistrellus

Biometrical and morphological distinguishing characters

Head and trunk: (32) 36-52 mm;
Tail: (20) 24-36 mm;
Forearm: 28-35 mm ;
Ear: 9-13,5 mm;
Wingspan: 180-250 mm ;
Condylbasal length: 11-12,3 mm ;
Length of upper tooth row: 4-4,8 mm.



Drawing: Nazareanu M.

It is one of the smallest bats ($L = 60-88$ mm) and one of the smallest mammals in Europe. Its ears are short, triangular, with 2-5 transverse folds on the external side; the tragus is longer rather than wide, narrower in the upper half, slightly bent inward and rounded at the top. The lower incisors are easily imbricate; bicuspid upper I_1 ; upper I_2 shorter than the small tip of I_1 , small upper Pm_1 , equal or shorter than the cingulum of the C, located on the midline of the dental string, and visible from the exterior; the C separated from the Pm_2 . The coat is dark colored, yellowish brown to brown-gray ventrally, reddish-brown to dark-brown dorsally; the ears, nose and alar membranes are brown-black or black. The uropatagium is covered with relatively rare hairs along the calf, on the inferior side, and up to the middle on the superior side. The end of the wing is excavated between fingers 3 and 4. The spur is about $1/3$ of the length of the uropatagium edge; the plagiopatagium is inserted at the base of the fingers.

Body weight: 3,5-8,5 g

Habitat, bionomy: It is a primarily forest species, very anthropophilic, found in villages, towns and semi-forested regions. The maternity colonies are found generally below 600 m in altitude, and are housed in churches, bell towers, bridges, buildings, under tiles and slates, in artificial bird nests, tree hollow, and isolated individuals can be found in cracks of walls, behind shutters, preferring narrow slits (rarely, they can be found resting outside this type of shelter); 2 cm is sufficient access room for bats to enter the shelters. In winter, they occupy a wide range of shelters, including churches, bridges, caves, natural and artificial underground cavities; they hibernate from October to March/April, isolated or in small or large groups, at a temperature of $0-6^\circ\text{C}$ and a relative umidity of 85%; it is a gregarious species, it associates with other pipistrelles, *Myotis*, *Nyctalus*, *Pelcotus*, *Vespertilio*, *Barbastella* individuals in shelters.

They start to hunt early, little after sunset (often even before); their flight is fast, butterfly-like, at 5-10 m from soil; they often hunt around floorlamps in villages and towns; in winter they are active until the temperature reaches 8°C ; in spring and autumn it also appears in broad daylight. Food, captured in flight or from different substrates, consist of small *Lepidoptera* and *Coleoptera*, *Hymenoptera*, *Trichoptera*, *Neuroptera*, *Diptera*, *Ephemeroptera*.

Reproduction: Maternity colonies include between 20-1000 females, often associated with *P. nathusii* and *P. kuhlii* individuals; in mid-June they give birth to 1-2 cubs (the number varies in different geographical regions), which become independent after 3-4 weeks.

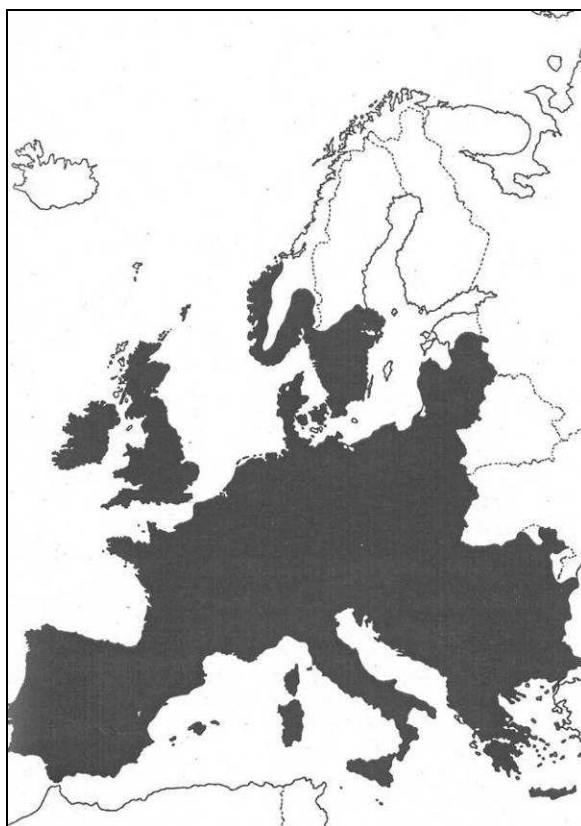
Movements: Most populations are sedentary; between the summer and winter shelters they can cross distances of 10-20 km

Etymology: Italy. pipistrello: lilac. After Collins (1993) are derived from lat *Pipistrellus*. pipio is: to peep, meaning 'The common pipistrelle'.

Geographical distribution: around the world: in the Palaearctic and marginal Oriental region (Central Asian-European distribution)

Etymology: ital. *pipistrello*: bat. After Collins (1993) *Pipistrellus* derives from the lat. *pipio*, is: to peep, meaning ‘The small pipistrelle bat’

Conservation status: LC according to IUCN Red List of Threatened Species



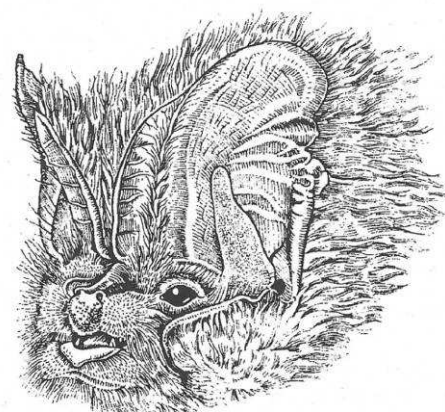
Distribution of *Pipistrellus pipistrellus* species in Europe

Barbastella barbastellus

Biometrical and morphological distinguishing characters

Head and trunk: (44) 45-58 mm;
Tail: (36) 38-52 mm;
Forearm: (35) 36,5-43,5 (47,5) mm ;
Ear: 12,1-14,7 mm;
Wingspan: (240) 262 – 292 mm ;
Condylbasal length: 12-14,7 mm ;
Length of upper tooth row: 4,6-4,9 mm.

It is one of the largest bat species in Europe. Relatively large sized (L = 83-110 mm) and with a particular aspect of the head; the eye is surrounded by the pinna; the nose is short and snub; the mouth is narrow, with small teeth; the nostrils are extended dorsally, with the area between them being smooth; the ears are joined by their bases and their outer edges have 5-6 transverse folds and, in some individuals, an appendix with a button in the middle; the inner ear base is hairless or has scarce and long hairs; the tragus is triangular, 9-9.5 mm long, with



Drawing: Nazareanu M.

a rounded tip and a 2.8 mm wide basis. The upper canines have two grooves, one on the labial side and the other on the lingual side; M_1 and M_2 have no metacone. The upper Pm_1 is smaller than the belt of the other teeth, and is located towards the lingual edge, being invisible from a lateral position. Pm_2 is in contact with C. The wing has an average width (60 mm), and a sharp distal extremity. The plagiopatagium is inserted at the base of the fingers; the spur is half of the size of the uropatagium edge; The fur is long and silky, gray-blackish dorsally, with the tip of the hairs lighter, and is lighter ventrally.

Body weight: 6- 13,5 (14) g

Habitat, bionomy:

Predominantly forest species, it inhabits forested regions with oaks, chestnut, hornbeam, beech (preferential mature mixed forests) in plains with wetland areas and low and average height mountains. Summer colonies reach altitudes of up to 1100 m and take shelter in buildings cracks, holes between roof timbers and holes of bridge beams, in hollows and under bark of old trees, in nests, in cave entrances; 2 cm of access are enough for bats to enter the shelter. In winter, they take shelter in natural and artificial cavities, in tree hollows, in cellars, isolated or in small groups (they can rarely form important colonies, of thousands of individuals, associated with *P. pipistrellus*); they are relatively resistant to cold, the species hibernates from October/November to March/April, at low temperatures of 0 (2) - 5 (8) and C (rarely at -6 ° C and even -16.5 ° C for short periods).

They start to hunt late, after sunset, and until dawn; they fly quickly over trees, orchards, gardens, above large roads and waters; they have a small mouth and weak jaw muscles, which is why they capture small insects (mainly diurnal and nocturnal Lepidoptera) and Diptera and other arthropods (Neuroptera, Trichoptera, Coleoptera, Homoptera, Araneids) with soft skin, including from trees, litter and other substrates. They do not hunt around artificial light sources.

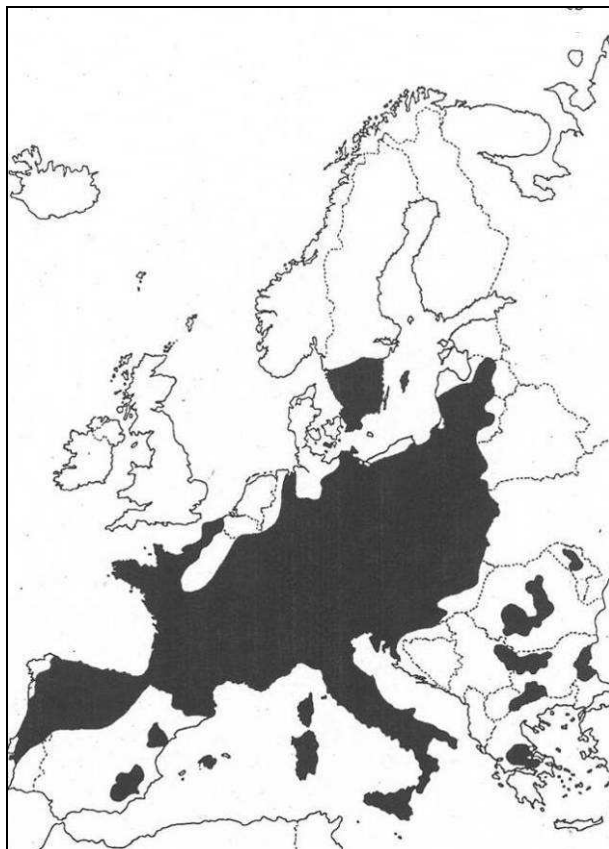
Reproduction: the maternity colonies are generally formed of 10-20 individuals (rarely 100); after a gestation of 60 days, females give birth to 1-2 young, which become independent after 8-9 weeks.

Movements: the species is occasionally migratory; they can travel a few tens of km from the maternity shelter; the maximum distance covered known: 300 km.

Geographical distribution: Around the world: in the Western-Palaeartic (European-Mediterranean distribution)

Etymology: ital. *barbastello*: bay. After Collins, *Barbastella* would derive from lat. *barba*: beard; 'The small bearded bat'

Conservation status: NT conform IUCN Red List of Threatened Species



Distribution of *Barbastella barbastellus* species in Europe

Plecotus auritus

Biometrical and morphological distinguishing characters

Head and trunk: 42-53 (55) mm;

Tail: 32-55 mm;

Forearm: (35) 37-42 mm ;

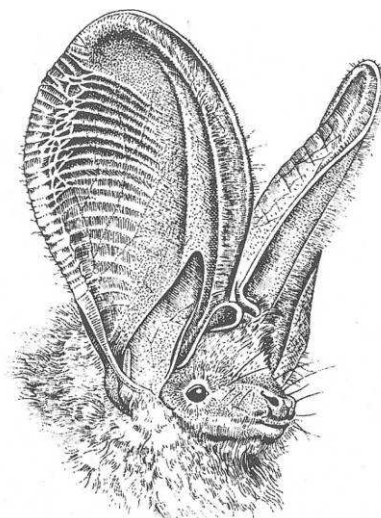
Ear: 31-41 (43) mm;

Wingspan: 240 – 285 mm ;

Condylbasal length: (13,2) 14-16,3 mm ;

Length of upper tooth row: 5,2 mm.

Relatively large sized (L = 74-108 mm). The ears are very long (as long as its forearm, but not longer than 45 mm), with 22 to 24 transverse folds united by their bases; during hibernation and diurnal lethargy, the ears are flat and covered by the wings. Their eyes are relatively large; some individuals have swellings as large as the eye on the front edge of the upper eyelids, and the distance between them is about two diameters. The tragus is light colored, 14.7 to 17.4 mm long, no wider than 5.5 mm (4.5-5.5 mm) and lanceolate. The lower Pm_1 is taller than the Pm_2 ; the trigonid the lower M1 is approximately equal to the talonid; the lower C, Pm_1 and Pm_2 are smaller than in *P. austriacus*. The wings are long; finger 1 is longer than 6 mm (6.5-6.8 mm) and the claw is 2.5-3 mm long; the 5th finger is longer than 51 mm. The plagiopatagium is inserted at the base of the fingers; the spur is long, 6.5 to 9.2 (11) mm. The toes are pubescent. The coat is long, reddish-brown dorsally, ash-white



Drawing: Nazareanu M.

ventrally; the facial skin, brown, porphyric, is only darker around the eyes, but without a dark mask.

Body weight: (4,6) 6,5-9,2 (12) g.

Habitat, bionomy: Predominant forestry species, it populates closed, semi-forested regions, deciduous and coniferous, from plains and mountains, to parks and gardens in cities, in groups of 5-10 (rarely 20 to 25) individuals. Maternity colonies have been found up to 2000 m in altitude (and even 3200 m in Kashmir) in tree hollows, in artificial nests, in rock crevices and often in buildings where they can enter through narrow openings. The winter shelters are represented by houses, cellars, natural and artificial cavities, rarely trees with hollows, with temperatures of (0) 2-5 (10) °C (but can withstand up to -3 ° C for a few days) and high humidity; they hibernate from October/November to late March-early April, solitarily, in small groups of a few individuals or of a few tens of individuals, or associated with other species of *Myotis*, *Pipistrellus* or *Rhinolophus*.

They start to hunt later, along vegetation and walls; their flight is agile and low (to 2-7 m above ground, rarely more than 15 m); small prey animals are consumed in flight; the larger ones are consumed in shelters, or on different stands. Their food consists of Lepidoptera, Coleoptera, large Diptera, Araneidae, Dermaptera, caught in flight or from trees; it is possible that eyesight has a role in capturing prey.

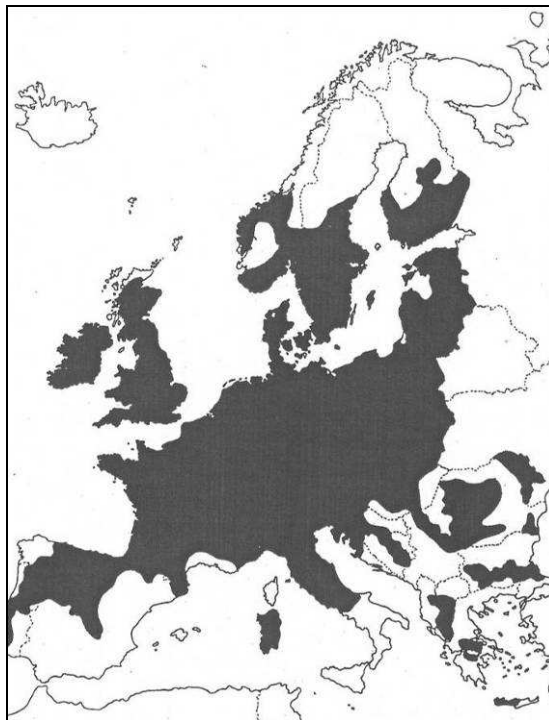
Reproduction: Copulation occurs in late summer and in autumn, but it is possible for it to continue through Winter: after a gestation period of 50 days, females give birth to one (rarely two) young, in mid-June, which becomes independent after 5-6 weeks.

Movements: it is a sedentary species; it travels a few miles between shelters, the maximum movement known: 66 km

Geographical distribution: around the globe: in the North-Palearctic region (European-Asian distribution)

Etymology: Gr. *pleko*, *ein*: to weave, to weld; gr. *ous*, *otos*: ear+lat.*auritus*: big ear; “The bat with big, weeded ears (weaved, welded)”.

Conservation status: LC according to IUCN Red List of Threatened Species



Distribution of *Plecotus auritus* species in Europe

Rhinolophus ferrumequinum

Biometrical and morphological distinguishing characters

Head and trunk: (56) 57-71 mm;
Tail: 35-43 mm;
Forearm: (51) 54-61 mm ;
Ear: 20-26 mm;
Wingspan: 350-400 mm ;
Condylbasal length: 19-22 mm ;
Length of upper tooth row: 8-9,5 mm.



Este cel mai mare rinolof european (L=92-114 mm). Vazute din profil, apendicele superior al seii este rotunjit si proeminent, iar cel inferior, mic si ascutit; vazut de deasupra, apendicele inferior este lat si rotunjit, iar laturile seii sunt concave. Pm1 superior este deplasat inspre marginea labiala. Blana este matasoasa, dorsal gri-bruna sau gri-fumarie, ventral gri-albicioasa pana la gri-galbuie; patagiul si urechile, gri-brune. Mamelele false (2) sunt bine dezvoltate la 3 ani. Ca si celelalte4 specii de rinolofi, plagiopatagiul este inserat pe calcai.

Body weight: (16,5) 17-35 g

Habitat, bionomy: It is a predominantly troglophile species, inhabiting warm, semi-forested regions, preferably with limestone (which have favorable thermal properties), with stagnant and flowing waters, at altitudes up to 800 m (rarely up to 2000 m); they are found as isolated individuals (especially adults), but also form colonies of several hundred individuals (especially the young individuals, for thermoregulation). Maternity colonies, of hundreds of females, take shelter especially in large buildings, little disturbed, with warm spaces, compartmentalized, where they can fly in (as the large *Myotis* and *Plecotus*) and can evolve easily (in the North), or in large, warm underground cavities (in the South). They exclusively hibernate underground in basements, underground quarries, caves, at a temperature of 7-11 ° C and a high relative humidity (about 94%, as 85% is the minimum tolerable) from September/October until April; as other Holarctic bat species, during hibernation, they can leave and change their shelter, in a systematic search of favorable microclimatic conditions, thus accomplishing, thanks to reverse hypothermia, big savings in energy consumption.

It is a solitary hunter, which does not travel far from a forested eco-tone; it begins to hunt at night, with a slow flight, at a low height (0.30-3m), in open wooded areas, along cliffs and edges of areas grazed by sheep and cattle, in ripisylves, gardens, sometimes at long distances from their diurnal shelter (> 10 km); they spot insects where they stand, then capture them, including the ground; they rarely fly on cold, windy or rainy weather. Their food consists of large insects belonging to *Lepidoptera* and *Coleoptera* *Scarabaeidae*, *Coprophagia* or phytophagous (*Aphodius*, *Geotrupes*, *Melolontha*) and, secondary, of *Diptera* *Tipulidae* and *Muscidae*, , *Ichneumonidae* hymenoptera, *Trichopteralor*. Between the end of December - end of February, the bat is in deep hypothermia, does not eating, and its bowel is blocked by a rectal cap.

Reproduction: Females reach sexual maturity after 3-4 years; copulation takes place from autumn, until spring; maternity colonies generally consist of up to 200 (rarely 600) grouped females, sometimes associated with *Rh. Euryale*, *Rh. Mehelyi*, *M.schreibersii* and *Myotis emarginatu*; in the period from mid-June to late July, they give birth to one pup each, which becomes independent after 3-4 weeks.

Geographical distribution: Around the globe: in the South-Palearctic region (Central Asian-European distribution)

Etymology: gr. *rhis*, *rhinos*: nose; gr.*lophos*: crest+ lat. *ferrum*:iron; lat. *equinum*: of horse, 'The crest horseshoe bat'.

Conservation status: LC according to IUCN Red List of Threatened Species



Distribution of *Rhinolophus ferrumequinum* species in Europe

Myotis myotis

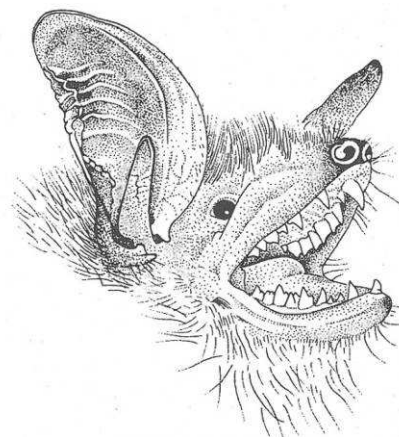
Biometrical and morphological distinguishing characters

Head and trunk: (65) 67-80 (84) mm;
Tail: (40) 45-60mm ;
Forearm: (54) 58-66 (68) mm ;
Ear: (24) 26-31 mm;
Wingspan: 350-430 mm ;
Condylbasal length: (21,5) 22-24 mm ;
Length of upper tooth row: 9,8-10,6 mm.

Large-sized (L = 112-140 mm); it is one of the largest species of *Myotis* in Europe. The ears are long (bent forward, beyond the nostrils with more than 5 mm) and large (between 9.9 and 13 mm) with 7-8 transverse folds; the anterior edge is convex, with a wide extremity; the tragus is broad at the base, almost half the height of the ear; the mouth is short and broad. The thick fur is gray-brown (sometimes reddish) dorsally, and white or gray ventrally; the mouth, ears and patagium are brown-gray. The plagiopatagium is inserted at the base of the fingers; the spur has a narrow skin edge and is half the length of the uropatagium.

Body weight: (20) 28-41 g.

Habitat, bionomy: It is a thermophilic species, mostly synanthropic in the North of the area where it takes shelter in buildings, hedges, parks; it was observed in summer at up to 2000 m, and up to 1500 m winter. Maternity colonies are formed in the N in warm, large (approximately 900 m), non-paneled and compartmentalized bridges, in which individuals



Drawing: Nazareanu M.

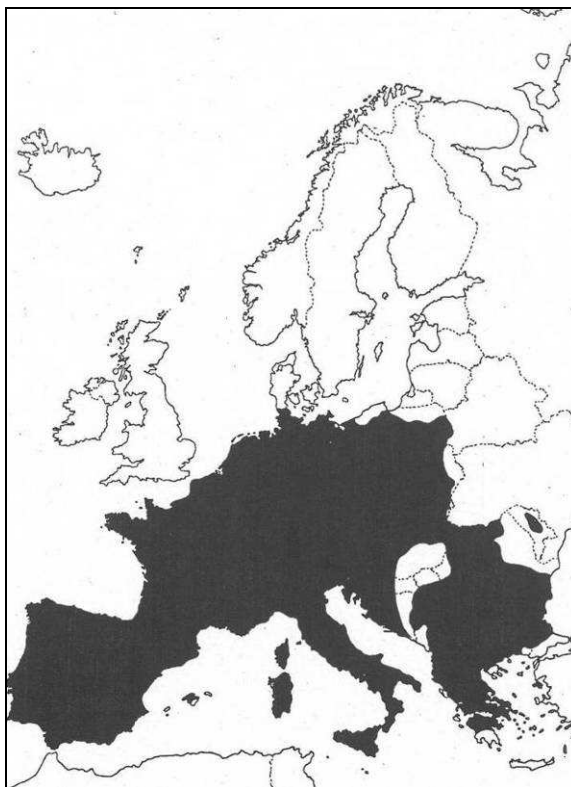
can fly through windows or clerestories, or crawl among tiles or slits, and more rarely in underground cavities; they can associate with other individuals of *Rhinolophus* and *Myotis*, especially with *M. schreibersii*. They hibernate preferentially from October to March/April in natural and artificial underground cavities, at a temperature of 7-12 ° C and high humidity (but individuals were found and -4 ° C), isolated or in groups; in the past, colonies formed and from 4500 individuals existed, but today this number decreased at only a few hundreds. They start to hunt at nightfall, mainly in deciduous or mixed plantations, with rare shrubs, in parks, fields, meadows, from 0.5-10 m above ground, with a slow flight; they hunt especially on the ground. Their food consists mainly of Coleoptera Carabidae (> 10 mm) and Diptera Tipulidae, large Lepidoptera (adults and larvae) and Orthoptera Gryllotalpidae (in April – end of July) and, secondarily, Chilopods, Opiliones, Araneidae, Hymenoptera, Dermaptera. They hunt all through the night, especially by 'passive listening' (they orient themselves by the prey-generated sound), within a radius of about 10 km.

Reproduction: Maternity colonies are formed at an altitude less than 600 m; copulation occurs starting with August, a male can have a harem of maximum 5 females; gestation lasts 50-70 days; females give birth to one youngster each in mid-June-early July, which becomes independent after 5-6 weeks. Changes in shelters are very common, and unfavorable weather conditions from May and June may cause significant mortalities among the young.

Geographical distribution: Around the world: in the West-Palearctic region (European-Mediterranean distribution. Extending to the South of England and Azores)

Etymology: gr. mys, myos: mouse+gr.ous, otos: ear, 'The mouse-eared bat'

Conservation status: LC according to IUCN Red List of Threatened Species

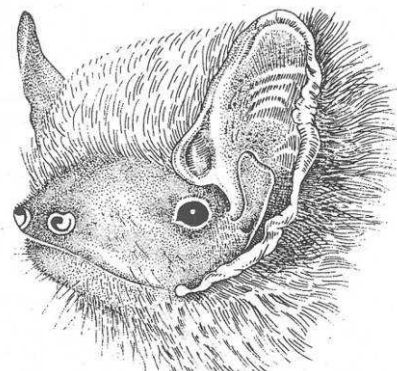


Distribution of *Myotis myotis* species in Europe

Pipistrellus nathusii

Biometrical and morphological distinguishing characters

Head and trunk: 42,2-56 (58) mm;
Tail: (30) 32-40 (44,6) mm ;
Forearm: (31) 32-37 mm ;
Ear: 10-14 mm;
Wingspan: 220-250 mm;
Condylbasal length: 12,3-13,4 mm ;
Length of upper tooth row: 4,4-5,3 mm.



Drawing: Nazareanu M.

Medium-sized (L = 76-96 mm). The ears are short, triangular, with 4-5 transverse folds and rounded at the top; short tragus, longer than wide, slightly inclined inward and rounded at the top. Non-imbricate lower incisors with a clear diastema between I2 and I3; bicuspid upper I1; upper I2 is longer than the small (secondary) tip of I1; upper Pm1 is well developed, located on the midline of the teeth row, visible from the exterior and taller than the cingulum of the C; C is separated from Pm2. Finger 1; finger 5 larger than 42 mm; superior M1 and M2 have no metacone. The dorsal fur is reddish-brown and the ventral light-brown to yellowish-brown; the ears, mouth and alar membranes are dark brown. The spur reaches 1/3 of the length of the uropatagium; the plagiopatagium, generally without a white border, is inserted at the base of the fingers.

Body weight: 6-15,5 g.

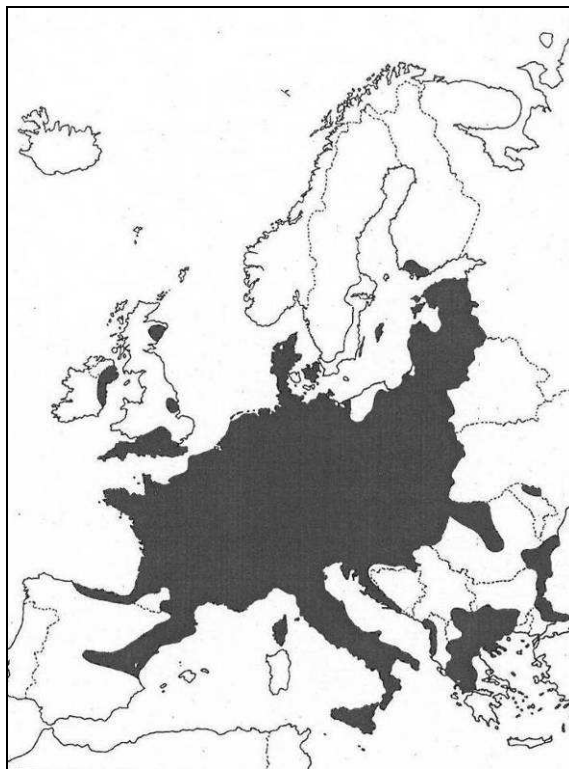
Habitat, bionomy: It is a predominantly forestry species, that inhabits both moist deciduous forests and the dry coniferous forests, located mainly along rivers, and is less common in areas inhabited by humans; in summer, it can be found up to 2000 m; summer colonies find shelter in hollows and under bark of dead trees, in artificial bird nests, rarely in homes, sometimes associated with *P.kuhlii*, *V.murinus*, *N.noctula*, *M.dasycneme*. In winter, they take shelter in crevices of rocks or of old houses walls, in underground cavities (rarely), in hollows, where they can form mixed colonies with *M.brandtii* si *P.pipistrellus*. They start to hunt late (about an hour after sunset) with a fast flight, 4-15 m above the ground. Their food consists of Diptera, Neuroptera, Hemiptera, Coleoptera and small Lepidoptera.

Reproduction: Copulation begins in the second half of July, up to September; males are polygamous (with harems of 3-10 females) and territorial; maternity colonies (April-May) are formed of 50-200 females, often associated with *M.brandtii* and *P.pipistrellus*; after a gestation period of 60 days, females give birth to two young each, which become independent after 4 weeks

Geographical distribution: around the globe: in the Western Palearctic region (Turanian-European distribution).

Etymology: ital. *pipistrello*: bat+lat.*nathusii*: genitive from the name of the German naturalist Hermann Engelhard von Nathusius (1809-1879): 'Nathusius' pipistrelle'. After Collins (1993) *Pipistrellus* derives from lat. *pipio*, is: to peep, and would be translated 'The small peeping bat of Nathusius'

Conservation status: LC according to IUCN Red List of Threatened Species



Distribution of *Pipistrellus nathusii* species in Europe

APPENDIX 7. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2006

| No. Crt. | Species | Oct. 2006 | Nov. 2006 | Dec.2006 | Total observations |
|-------------|--------------------------------------|-----------|-----------|----------|-----------------------|
| 1 | <i>Alauda arvensis</i> | 4 | 8 | 6 | 18 |
| 2 | <i>Anthus campestris</i> | 1 | 6 | 2 | 9 |
| 3 | <i>Buteo buteo</i> | 5 | 6 | 3 | 14 |
| 4 | <i>Buteo rufinus</i> | 8 | 3 | 2 | 13 |
| 5 | <i>Buteo lagopus</i> | 0 | 0 | 3 | 3 |
| 6 | <i>Calandrella brachydactyla</i> | 4 | 0 | 0 | 4 |
| 7 | <i>Carduelis carduelis</i> | 13 | 12 | 15 | 40 |
| 8 | <i>Corvus corone cornix</i> | 25 | 38 | 22 | 85 |
| 9 | <i>Corvus frugilegus</i> | 21 | 10 | 13 | 44 |
| 10 | <i>Corvus monedula</i> | 12 | 9 | 8 | 29 |
| 11 | <i>Coracias garrulus</i> | 0 | 0 | 0 | 0 |
| 12 | <i>Cuculus canorus</i> | 2 | 0 | 0 | 2 |
| 13 | <i>Dendrocopos major</i> | 4 | 2 | 3 | 9 |
| 14 | <i>Falco tinnunculus</i> | 7 | 12 | 4 | 23 |
| 15 | <i>Fringilla coelebs</i> | 9 | 16 | 3 | 28 |
| 16 | <i>Galerida cristata</i> | 5 | 7 | 5 | 17 |
| 17 | <i>Miliaria calandra</i> | 4 | 9 | 17 | 30 |
| 18 | <i>Passer domesticus</i> | 24 | 14 | 17 | 55 |
| 19 | <i>Passer montanus</i> | 14 | 7 | 4 | 25 |
| 20 | <i>Phasianus colchicus</i> | 0 | 3 | 0 | 3 |
| 21 | <i>Perdix perdix</i> | 6 | 7 | 9 | 22 |
| 22 | <i>Pica pica</i> | 18 | 8 | 3 | 29 |
| 23 | <i>Riparia riparia</i> | 0 | 0 | 0 | 0 |
| 24 | <i>Sturnus vulgaris</i> | 49 | 58 | 55 | 162 |
| 25 | <i>Upupa epops</i> | 0 | 5 | 0 | 5 |

APPENDIX 8. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2007

| No. Crt. | Species | Jan.2007 | Feb.2007 | Mart.2007 | Apr. 2007 | May. 2007 | Jun. 2007 | Jul. 2007 | Aug. 2007 | Sept. 2007 | Total observations |
|-------------|--------------------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-----------------------|
| 1 | <i>Alauda arvensis</i> | 3 | 10 | 8 | 6 | 2 | 15 | 7 | 6 | 9 | 66 |
| 2 | <i>Anthus campestris</i> | 0 | 0 | 0 | 4 | 8 | 8 | 16 | 22 | 19 | 77 |
| 3 | <i>Aquila pomarina</i> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 4 | <i>Buteo buteo</i> | 5 | 3 | 4 | 7 | 2 | 6 | 3 | 7 | 4 | 41 |
| 5 | <i>Buteo rufinus</i> | 5 | 4 | 1 | 7 | 3 | 3 | 7 | 9 | 2 | 41 |
| 6 | <i>Buteo lagopus</i> | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 7 | <i>Calandrella brachydactyla</i> | 0 | 0 | 3 | 4 | 2 | 2 | 4 | 1 | 6 | 22 |
| 8 | <i>Carduelis carduelis</i> | 17 | 11 | 15 | 12 | 8 | 6 | 5 | 7 | 9 | 90 |
| 9 | <i>Corvus corone cornix</i> | 56 | 18 | 6 | 8 | 18 | 21 | 22 | 26 | 45 | 220 |
| 10 | <i>Corvus frugilegus</i> | 48 | 11 | 29 | 32 | 39 | 34 | 14 | 14 | 42 | 263 |
| 11 | <i>Corvus monedula</i> | 8 | 16 | 8 | 8 | 4 | 18 | 16 | 22 | 18 | 118 |
| 12 | <i>Coracias garrulus</i> | 0 | 2 | 0 | 2 | 6 | 4 | 0 | 0 | 0 | 14 |
| 13 | <i>Cuculus canorus</i> | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 2 | 0 | 6 |
| 14 | <i>Dendrocopos major</i> | 2 | 3 | 6 | 0 | 1 | 4 | 3 | 5 | 3 | 27 |
| 15 | <i>Falco tinnunculus</i> | 4 | 2 | 3 | 1 | 2 | 1 | 3 | 7 | 15 | 38 |
| 16 | <i>Ficedula parva</i> | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 5 |
| 17 | <i>Fringilla coelebs</i> | 2 | 15 | 2 | 8 | 22 | 0 | 3 | 2 | 0 | 54 |
| 18 | <i>Galerida cristata</i> | 7 | 8 | 12 | 13 | 4 | 13 | 6 | 1 | 1 | 65 |
| 19 | <i>Hirundo rustica</i> | 0 | 0 | 0 | 18 | 28 | 25 | 32 | 19 | 0 | 122 |
| 20 | <i>Hieraetus pennatus</i> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 21 | <i>Lanius collurio</i> | 0 | 0 | 0 | 0 | 8 | 18 | 25 | 12 | 9 | 72 |
| 22 | <i>Lanius minor</i> | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 8 | 7 | 23 |
| 23 | <i>Miliaria calandra</i> | 9 | 6 | 18 | 8 | 21 | 8 | 14 | 17 | 7 | 108 |
| 24 | <i>Melanochorypha calandra</i> | 0 | 0 | 4 | 5 | 2 | 8 | 17 | 2 | 0 | 38 |
| 25 | <i>Merops apiaster</i> | 0 | 0 | 0 | 0 | 19 | 17 | 34 | 21 | 14 | 105 |
| 26 | <i>Oenanthe oenanthe</i> | 0 | 0 | 0 | 11 | 28 | 6 | 5 | 0 | 0 | 50 |
| 27 | <i>Oriolus oriolus</i> | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 |
| 28 | <i>Passer domesticus</i> | 44 | 15 | 6 | 12 | 29 | 20 | 3 | 16 | 15 | 160 |
| 29 | <i>Passer montanus</i> | 16 | 28 | 8 | 3 | 12 | 3 | 7 | 1 | 3 | 81 |
| 30 | <i>Phasianus colchicus</i> | 1 | 1 | 11 | 12 | 14 | 0 | 11 | 0 | 2 | 52 |
| 31 | <i>Perdix perdix</i> | 15 | 3 | 3 | 8 | 18 | 7 | 19 | 16 | 13 | 102 |
| 32 | <i>Pica pica</i> | 23 | 12 | 6 | 14 | 22 | 11 | 9 | 14 | 8 | 119 |
| 33 | <i>Riparia riparia</i> | 0 | 0 | 0 | 0 | 28 | 25 | 32 | 26 | 32 | 143 |
| 34 | <i>Sturnus vulgaris</i> | 44 | 53 | 48 | 19 | 8 | 7 | 29 | 8 | 54 | 270 |

APPENDIX 9. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2008

| No. | Species | Jan. 2008 | Feb. 2008 | Mar. 2008 | Apr. 2008 | May. 2008 | Jun. 2008 | Jul. 2008 | Aug. 2008 | Sept. 2008 | Oct. 2008 | Nov. 2008 | Dec. 2008 | Total observations |
|-----|----------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|--------------------|
| 1. | <i>Alauda arvensis</i> | 0 | 0 | 5 | 9 | 2 | 11 | 9 | 2 | 6 | 2 | 0 | 0 | 46 |
| 2. | <i>Buteo buteo</i> | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 5 |
| 3. | <i>Calandrella brachydactyla</i> | 0 | 0 | 2 | 6 | 6 | 8 | 9 | 4 | 9 | 3 | 3 | 0 | 50 |
| 4. | <i>Circus cyaneus</i> | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 4 |
| 5. | <i>Carduelis carduelis</i> | 4 | 0 | 2 | 6 | 9 | 3 | 3 | 6 | 2 | 0 | 4 | 0 | 39 |
| 6. | <i>Coracias garrulus</i> | 0 | 0 | 0 | 0 | 3 | 4 | 5 | 3 | 0 | 0 | 0 | 0 | 15 |
| 7. | <i>Corvus corone cornix</i> | 15 | 0 | 20 | 14 | 25 | 7 | 3 | 3 | 9 | 35 | 18 | 0 | 149 |
| 8. | <i>Corvus frugilegus</i> | 8 | 0 | 18 | 10 | 29 | 12 | 9 | 30 | 64 | 29 | 30 | 0 | 239 |
| 9. | <i>Corvus monedula</i> | 16 | 0 | 9 | 17 | 19 | 7 | 23 | 18 | 9 | 12 | 14 | 0 | 144 |
| 10. | <i>Dentrocopos major</i> | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 9 |
| 11. | <i>Falco tinnunculus</i> | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 6 |
| 12. | <i>Galerida cristata</i> | 0 | 0 | 8 | 14 | 7 | 16 | 21 | 15 | 8 | 7 | 5 | 0 | 101 |
| 13. | <i>Hirundo rustica</i> | 0 | 0 | 0 | 14 | 9 | 12 | 6 | 4 | 0 | 0 | 0 | 0 | 45 |
| 14. | <i>Lanius collurio</i> | 0 | 0 | 0 | 2 | 14 | 4 | 10 | 0 | 0 | 0 | 0 | 0 | 30 |
| 15. | <i>Miliaria calandra</i> | 0 | 0 | 10 | 14 | 6 | 12 | 20 | 14 | 2 | 8 | 0 | 0 | 86 |
| 16. | <i>Melanochorypha calandra</i> | 0 | 0 | 0 | 4 | 17 | 20 | 15 | 14 | 13 | 0 | 0 | 0 | 83 |
| 17. | <i>Merops apiaster</i> | 0 | 0 | 0 | 4 | 2 | 8 | 2 | 4 | 0 | 0 | 0 | 0 | 20 |
| 18. | <i>Oenanthe oenanthe</i> | 0 | 0 | 0 | 6 | 11 | 8 | 19 | 6 | 7 | 0 | 0 | 0 | 57 |
| 19. | <i>Passer domesticus</i> | 14 | 0 | 7 | 17 | 7 | 25 | 24 | 33 | 29 | 41 | 30 | 0 | 227 |
| 20. | <i>Passer montanus</i> | 28 | 0 | 13 | 44 | 17 | 13 | 27 | 18 | 14 | 5 | 6 | 0 | 185 |
| 21. | <i>Pica pica</i> | 7 | 0 | 5 | 4 | 4 | 16 | 4 | 17 | 10 | 23 | 14 | 0 | 104 |
| 22. | <i>Sturnus vulgaris</i> | 9 | 0 | 56 | 25 | 26 | 94 | 6 | 72 | 78 | 80 | 15 | 0 | 461 |
| 23. | <i>Upupa epops</i> | 0 | 0 | 0 | 9 | 14 | 4 | 9 | 4 | 6 | 0 | 0 | 0 | 46 |

APPENDIX 10. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2009

| No. | Species | Jan.2009. | Feb. 2009 | Mar.2009 | Apr. 2009 | May.2009 | Jun. 2009 | Jul.2009 | Aug.2009 | Sept.2009 | Oct. 2009 | Nov. 2009 | Dec. 2009 | Total observations |
|-----|----------------------------------|-----------|-----------|----------|-----------|----------|-----------|----------|----------|-----------|-----------|-----------|-----------|--------------------|
| 1 | <i>Alauda arvensis</i> | 0 | 0 | 4 | 9 | 12 | 10 | 7 | 2 | 6 | 2 | 0 | 0 | 52 |
| 2 | <i>Anthus campestris</i> | 0 | 0 | 0 | 7 | 9 | 5 | 3 | 5 | 0 | 0 | 0 | 0 | 29 |
| 3 | <i>Buteo buteo</i> | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 6 |
| 4 | <i>Buteo rufinus</i> | 0 | 2 | 0 | 0 | 1 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 8 |
| 5 | <i>Calandrella brachydactyla</i> | 0 | 0 | 2 | 6 | 16 | 8 | 19 | 4 | 7 | 0 | 0 | 0 | 62 |
| 6 | <i>Circus cyaneus</i> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 |
| 7 | <i>Carduelis carduelis</i> | 0 | 7 | 2 | 16 | 9 | 3 | 2 | 4 | 2 | 0 | 4 | 0 | 49 |
| 8 | <i>Coracias garrulus</i> | 0 | 0 | 0 | 0 | 3 | 4 | 7 | 3 | 0 | 0 | 0 | 0 | 17 |
| 9 | <i>Corvus corone cornix</i> | 15 | 9 | 17 | 24 | 30 | 7 | 13 | 18 | 9 | 15 | 28 | 8 | 193 |
| 10 | <i>Corvus frugilegus</i> | 8 | 9 | 18 | 10 | 19 | 12 | 9 | 30 | 27 | 16 | 30 | 13 | 201 |
| 11 | <i>Corvus monedula</i> | 6 | 4 | 9 | 17 | 19 | 7 | 23 | 18 | 9 | 12 | 14 | 8 | 146 |
| 12 | <i>Dentrocopos major</i> | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 3 | 0 | 1 | 1 | 0 | 10 |
| 13 | <i>Dentrocopos medius</i> | 0 | 1 | 2 | 3 | 0 | 4 | 2 | 2 | 3 | 0 | 4 | 0 | 21 |
| 14 | <i>Falco tinnunculus</i> | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 5 |
| 15 | <i>Galerida cristata</i> | 0 | 0 | 8 | 14 | 7 | 16 | 8 | 13 | 8 | 6 | 4 | 0 | 84 |
| 16 | <i>Hirundo rustica</i> | 0 | 0 | 0 | 0 | 6 | 7 | 6 | 4 | 0 | 0 | 0 | 0 | 23 |
| 17 | <i>Lanius collurio</i> | 0 | 0 | 0 | 2 | 11 | 4 | 13 | 0 | 0 | 0 | 0 | 0 | 30 |
| 18 | <i>Miliaria calandra</i> | 0 | 0 | 0 | 6 | 9 | 12 | 22 | 14 | 22 | 18 | 0 | 0 | 103 |
| 19 | <i>Melanochorypha calandra</i> | 0 | 0 | 0 | 4 | 8 | 19 | 15 | 14 | 13 | 0 | 0 | 0 | 73 |
| 20 | <i>Merops apiaster</i> | 0 | 0 | 0 | 4 | 2 | 7 | 3 | 4 | 0 | 0 | 0 | 0 | 20 |
| 21 | <i>Oenanthe oenanthe</i> | 0 | 0 | 0 | 6 | 11 | 8 | 16 | 5 | 7 | 0 | 0 | 0 | 53 |
| 22 | <i>Oriolus oriolus</i> | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| 23 | <i>Passer domesticus</i> | 14 | 5 | 7 | 17 | 7 | 16 | 24 | 33 | 29 | 20 | 30 | 0 | 202 |
| 24 | <i>Passer montanus</i> | 28 | 6 | 13 | 29 | 17 | 13 | 27 | 18 | 14 | 5 | 6 | 0 | 176 |
| 25 | <i>Pica pica</i> | 7 | 3 | 5 | 4 | 4 | 16 | 4 | 17 | 10 | 6 | 14 | 0 | 90 |
| 26 | <i>Sturnus vulgaris</i> | 9 | 11 | 56 | 25 | 26 | 5 | 6 | 72 | 78 | 18 | 80 | 45 | 431 |
| 27 | <i>Streptopelia turtur</i> | 0 | 0 | 0 | 2 | 6 | 4 | 6 | 3 | 5 | 0 | 0 | 0 | 26 |
| 28 | <i>Upupa epops</i> | 0 | 0 | 0 | 0 | 8 | 10 | 9 | 4 | 2 | 0 | 0 | 0 | 33 |

APPENDIX 11. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2010

| No. Crt. | Species | Jan. 2010 | Feb. 2010 | Mar. 2010 | Apr. 2010 | May. 2010 | Jun. 2010 | Jul. 2010 | Aug. 2010 | Sept. 2010 | Oct. 2010 | Nov. 2010 | Dec. 2010 | Total nr. observatii |
|-------------|--------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-------------------------|
| 1 . | <i>Alauda arvensis</i> | 11 | 18 | 8 | 13 | 12 | 9 | 7 | 2 | 15 | 7 | 6 | 9 | 117 |
| 2 . | <i>Anthus campestris</i> | 0 | 0 | 0 | 6 | 18 | 13 | 21 | 16 | 8 | 6 | 0 | 0 | 88 |
| 3 . | <i>Buteo buteo</i> | 2 | 2 | 3 | 1 | 3 | 4 | 3 | 2 | 4 | 3 | 5 | 4 | 36 |
| 4 . | <i>Buteo rufinus</i> | 3 | 3 | 2 | 5 | 1 | 1 | 3 | 3 | 5 | 7 | 2 | 2 | 37 |
| 5 . | <i>Calandrella brachydactyla</i> | 0 | 0 | 3 | 1 | 3 | 7 | 13 | 4 | 5 | 2 | 0 | 0 | 38 |
| 6 . | <i>Carduelis carduelis</i> | 3 | 2 | 5 | 7 | 11 | 5 | 12 | 0 | 6 | 22 | 29 | 0 | 102 |
| 7 . | <i>Corvus corone cornix</i> | 11 | 2 | 15 | 17 | 18 | 6 | 8 | 10 | 16 | 22 | 26 | 45 | 196 |
| 8 . | <i>Corvus frugilegus</i> | 30 | 10 | 13 | 8 | 10 | 20 | 22 | 39 | 30 | 54 | 44 | 42 | 322 |
| 9 . | <i>Corvus monedula</i> | 10 | 10 | 4 | 5 | 6 | 8 | 8 | 3 | 18 | 6 | 12 | 8 | 98 |
| 10 | <i>Coracias garrulus</i> | 0 | 0 | 0 | 0 | 4 | 3 | 10 | 6 | 4 | 0 | 0 | 0 | 27 |
| 11 | <i>Dendrocopos major</i> | 3 | 5 | 2 | 2 | 6 | 0 | 3 | 1 | 2 | 3 | 4 | 3 | 34 |
| 12 . | <i>Falco tinnunculus</i> | 4 | 3 | 5 | 4 | 5 | 3 | 3 | 2 | 5 | 3 | 4 | 3 | 44 |
| 13 | <i>Ficedula parva</i> | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 1 | 1 | 1 | 0 | 0 | 8 |
| 14 | <i>Fringilla coelebs</i> | 3 | 6 | 3 | 12 | 5 | 2 | 8 | 12 | 0 | 3 | 2 | 0 | 56 |
| 15 . | <i>Galerida cristata</i> | 0 | 7 | 9 | 7 | 6 | 2 | 13 | 4 | 3 | 6 | 2 | 1 | 60 |
| 16 | <i>Hirundo rustica</i> | 0 | 0 | 0 | 12 | 18 | 22 | 29 | 34 | 0 | 0 | 0 | 0 | 115 |
| 17 | <i>Hieraaetus pennatus</i> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 3 |
| 18 . | <i>Lanius collurio</i> | 0 | 0 | 0 | 12 | 8 | 15 | 12 | 9 | 0 | 0 | 0 | 0 | 56 |
| 19 | <i>Lanius minor</i> | 0 | 0 | 0 | 0 | 0 | 6 | 5 | 9 | 7 | 0 | 0 | 0 | 27 |
| 20 . | <i>Miliaria calandra</i> | 0 | 0 | 7 | 9 | 6 | 8 | 8 | 11 | 8 | 11 | 17 | 0 | 85 |
| 21 . | <i>Melanochorypha calandra</i> | 0 | 2 | 15 | 10 | 11 | 10 | 5 | 2 | 3 | 7 | 0 | 0 | 65 |
| 22 | <i>Merops apiaster</i> | 0 | 0 | 0 | 9 | 15 | 24 | 21 | 14 | 8 | 0 | 0 | 0 | 91 |
| 23 | <i>Oenanthe oenanthe</i> | 0 | 0 | 3 | 4 | 7 | 19 | 21 | 18 | 8 | 1 | 0 | 0 | 81 |
| 24 | <i>Oriolus oriolus</i> | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| 25 . | <i>Passer domesticus</i> | 35 | 0 | 27 | 24 | 25 | 16 | 12 | 23 | 22 | 13 | 16 | 19 | 232 |
| 26 . | <i>Passer montanus</i> | 10 | 10 | 6 | 6 | 8 | 8 | 9 | 9 | 13 | 7 | 11 | 3 | 100 |
| 27 . | <i>Phasianus colchicus</i> | 10 | 3 | 1 | 1 | 1 | 10 | 14 | 4 | 20 | 12 | 0 | 11 | 87 |
| 28 . | <i>Perdix perdix</i> | 10 | 7 | 13 | 13 | 11 | 9 | 18 | 4 | 7 | 9 | 6 | 3 | 110 |
| 29 . | <i>Pica pica</i> | 10 | 8 | 13 | 13 | 12 | 16 | 14 | 10 | 11 | 9 | 14 | 8 | 138 |
| 30 | <i>Riparia riparia</i> | 0 | 0 | 0 | 0 | 18 | 15 | 22 | 6 | 12 | 0 | 0 | 0 | 73 |
| 31 . | <i>Sturnus vulgaris</i> | 26 | 0 | 22 | 20 | 27 | 38 | 39 | 51 | 42 | 69 | 33 | 44 | 411 |
| 32 | <i>Streptopelia turtur</i> | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 3 | 12 |
| 33 | <i>Upupa epops</i> | 2 | 1 | 3 | 2 | 5 | 8 | 4 | 4 | 2 | 1 | 0 | 0 | 32 |

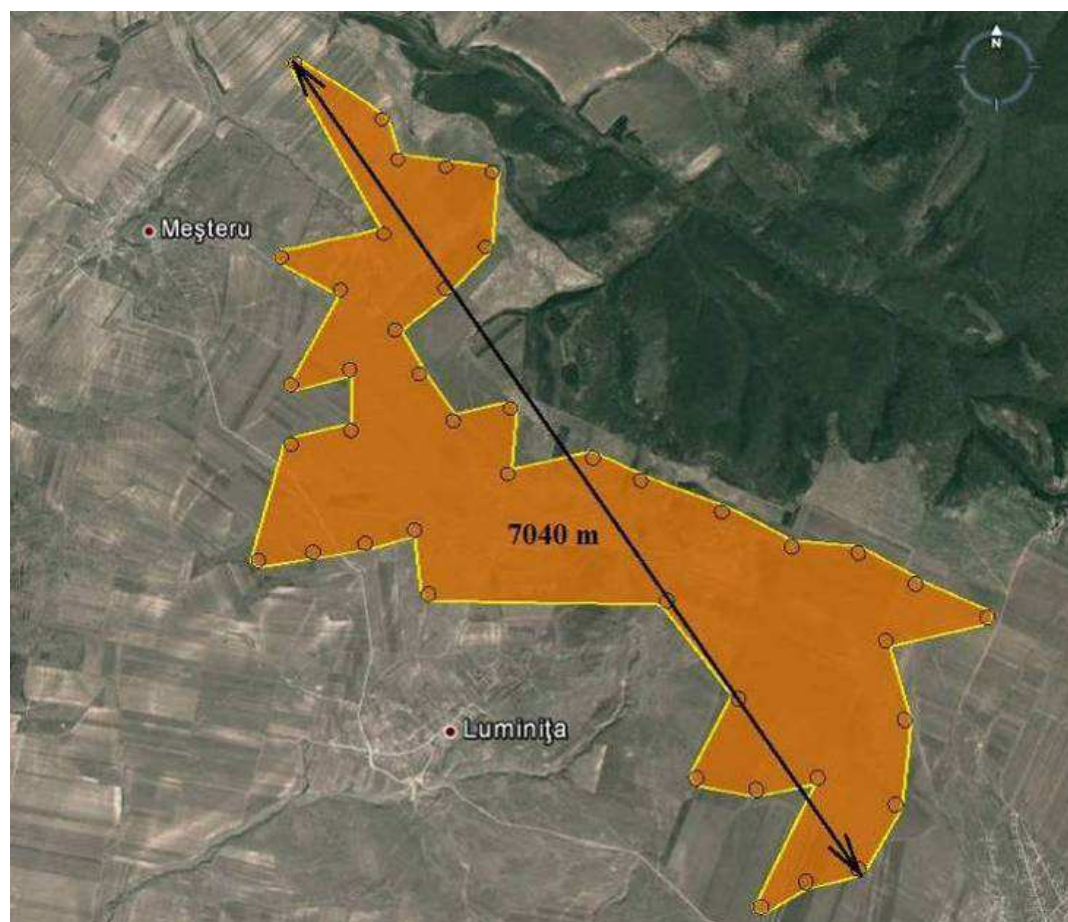
APPENDIX 12. THE STRUCTURE OF THE ORNITHOLOGICAL OBSERVATIONS FOR THE YEAR 2011

| No. Crt. | Species | Jan. 2011 | Feb. 2011 | Mar. 2011 | Apr. 2011 | May 2011 | Jun. 2011 | Jul. 2011 | Aug. 2011 | Sept. 2011 | Oct. 2011 | Nov 2011 | Dec. 2011 | Total |
|-------------|--------------------------------------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|------------|-----------|----------|-----------|-------|
| 1 | <i>Alauda arvensis</i> | 7 | 12 | 22 | 30 | 15 | 8 | 4 | 7 | 9 | 2 | 0 | 0 | 116 |
| 2 | <i>Anthus campestris</i> | 0 | 0 | 1 | 16 | 19 | 9 | 36 | 20 | 0 | 0 | 0 | 0 | 101 |
| 3 | <i>Aquila pomarina</i> | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| 4 | <i>Buteo buteo</i> | 3 | 5 | 2 | 8 | 3 | 5 | 2 | 1 | 3 | 3 | 2 | 4 | 41 |
| 5 | <i>Buteo rufinus</i> | 2 | 2 | 3 | 5 | 1 | 3 | 8 | 1 | 2 | 9 | 4 | 0 | 40 |
| 6 | <i>Calandrella brachydactyla</i> | 0 | 2 | 2 | 6 | 14 | 21 | 65 | 13 | 28 | 12 | 0 | 0 | 163 |
| 7 | <i>Carduelis carduelis</i> | 12 | 3 | 8 | 13 | 6 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 54 |
| 8 | <i>Corvus cornix</i> | 8 | 12 | 2 | 9 | 19 | 6 | 12 | 5 | 66 | 78 | 42 | 88 | 347 |
| 9 | <i>Corvus frugilegus</i> | 24 | 41 | 38 | 20 | 5 | 19 | 20 | 10 | 48 | 240 | 87 | 120 | 672 |
| 10 | <i>Corvus monedula</i> | 6 | 4 | 3 | 4 | 2 | 5 | 5 | 4 | 12 | 21 | 32 | 7 | 105 |
| 11 | <i>Coracias garrulus</i> | 0 | 0 | 6 | 18 | 14 | 0 | 5 | 3 | 1 | 0 | 0 | 0 | 47 |
| 12 | <i>Dendrocopos major</i> | 5 | 11 | 5 | 12 | 9 | 3 | 1 | 4 | 2 | 0 | 2 | 1 | 55 |
| 13 | <i>Falco tinnunculus</i> | 6 | 4 | 4 | 2 | 4 | 7 | 3 | 4 | 1 | 5 | 2 | 1 | 43 |
| 14 | <i>Ficedula parva</i> | 0 | 0 | 0 | 3 | 2 | 1 | 5 | 9 | 0 | 0 | 0 | 0 | 20 |
| 15 | <i>Fringilla coelebs</i> | 16 | 3 | 12 | 19 | 4 | 6 | 8 | 10 | 5 | 12 | 0 | 0 | 95 |
| 16 | <i>Galerida cristata</i> | 4 | 8 | 6 | 17 | 8 | 9 | 16 | 0 | 10 | 8 | 0 | 0 | 86 |
| 17 | <i>Hirundo rustica</i> | 0 | 0 | 5 | 19 | 27 | 21 | 23 | 38 | 0 | 0 | 0 | 0 | 133 |
| 18 | <i>Hieraaetus pennatus</i> | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 7 |
| 19 | <i>Lanius collurio</i> | 0 | 0 | 0 | 9 | 21 | 14 | 20 | 35 | 0 | 0 | 0 | 0 | 99 |
| 20 | <i>Lanius minor</i> | 0 | 0 | 0 | 5 | 4 | 7 | 8 | 29 | 0 | 0 | 0 | 0 | 53 |
| 21 | <i>Miliaria calandra</i> | 18 | 4 | 11 | 7 | 17 | 10 | 4 | 3 | 5 | 5 | 8 | 5 | 97 |
| 22 | <i>Melanochorypha calandra</i> | 0 | 0 | 30 | 33 | 3 | 5 | 6 | 13 | 8 | 24 | 0 | 0 | 122 |
| 23 | <i>Oenanthe oenanthe</i> | 0 | 0 | 0 | 4 | 12 | 18 | 12 | 27 | 54 | 0 | 0 | 0 | 127 |
| 24 | <i>Oriolus oriolus</i> | 0 | 0 | 0 | 1 | 0 | 3 | 4 | 2 | 0 | 0 | 0 | 0 | 10 |
| 25 | <i>Passer domesticus</i> | 13 | 10 | 10 | 19 | 15 | 18 | 19 | 40 | 55 | 12 | 20 | 22 | 253 |
| 26 | <i>Passer montanus</i> | 5 | 3 | 5 | 3 | 2 | 4 | 23 | 25 | 56 | 46 | 26 | 30 | 228 |
| 27 | <i>Phasianus colchicus</i> | 0 | 0 | 16 | 16 | 6 | 2 | 1 | 5 | 3 | 5 | 0 | 2 | 56 |
| 28 | <i>Perdix perdix</i> | 5 | 2 | 2 | 4 | 2 | 3 | 8 | 24 | 12 | 2 | 22 | 14 | 100 |
| 29 | <i>Pica pica</i> | 3 | 8 | 9 | 1 | 5 | 5 | 37 | 16 | 40 | 48 | 24 | 13 | 209 |
| 30 | <i>Riparia riparia</i> | 0 | 0 | 7 | 32 | 18 | 38 | 15 | 18 | 0 | 0 | 0 | 0 | 128 |
| 31 | <i>Sturnus vulgaris</i> | 45 | 43 | 37 | 42 | 12 | 3 | 20 | 25 | 138 | 174 | 118 | 86 | 743 |
| 32 | <i>Upupa epops</i> | 0 | 0 | 0 | 4 | 12 | 9 | 13 | 9 | 0 | 0 | 0 | 0 | 47 |
| 33 | <i>Circus cyaneus</i> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 34 | <i>Carduelis cannabina</i> | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 21 | 14 | 35 | 27 | 22 | 144 |

APPENDIX 13. CALCULATION OF COLLISION RISK

| The results regarding the collision risk of the birds which frequently use the airspace of the wind farm | | | | | | | | | | | | | | | |
|--|----------|------------|--------------|--------------------|--|-----------------|-------------------|------------|---|---|--|--------------------|--|------------------|---|
| Species | No. ind. | Length (m) | Wingspan (m) | Flying speed (m/s) | Volume swept by the rotors of the turbines | Nr.days/ period | No of birds on Vw | Vr/Vw | The estimation of the number of birds which occupy the swept volume | The time necessary for as transit through the action area of the blades | No. of birds which pass through the volume swept per time unit | *Prob. Collision % | No. of birds with collision risk without avoiding activities | Avoidance rate % | No. of birds with real risk of collision / period |
| | | | | | $Vr=N*\pi R^2*(d+l)$ | | n | | $n* (Vr/Vw)$ | $t=(d+l)/v$ | $n*(Vr/Vw)/t$ | | | | |
| <i>Accipiter gentilis</i> | 2 | 0.52 | 0.97 | 11 | 1313920.44 | 455 | 4550 | 0.00106561 | 4.8485 | 0.4473 | 10.84 | 10.9 | 1.1816 | 98 | 0.0236 |
| <i>Aquila pomarina</i> | 4 | 0.6 | 1.55 | 12 | 1335285 | 330 | 6600 | 0.00108294 | 7.1474 | 0.4167 | 17.15 | 11 | 1.8869 | 98 | 0.0377 |
| <i>Asio flammeus</i> | 2 | 0.37 | 1 | 16 | 1273861.89 | 455 | 4550 | 0.00103312 | 4.7007 | 0.2981 | 15.77 | 7.7 | 1.2141 | 98 | 0.0243 |
| <i>Buteo buteo</i> | 2 | 0.52 | 1.2 | 12 | 1313920.44 | 455 | 4550 | 0.00106561 | 4.8485 | 0.4100 | 11.83 | 10.3 | 1.2180 | 98 | 0.0244 |
| <i>Buteo lagopus</i> | 1 | 0.54 | 1.36 | 11 | 1319261.58 | 90 | 450 | 0.00106994 | 0.4815 | 0.4491 | 1.07 | 11.2 | 0.1201 | 98 | 0.0024 |
| <i>Buteo rufinus</i> | 4 | 0.54 | 1.42 | 10 | 1319261.58 | 330 | 6600 | 0.00106994 | 7.0616 | 0.4940 | 14.29 | 12.2 | 1.7440 | 98 | 0.0349 |
| <i>Circus aeruginosus</i> | 1 | 0.49 | 1.27 | 11 | 1305908.73 | 300 | 1500 | 0.00105911 | 1.5887 | 0.4445 | 3.57 | 10.9 | 0.3895 | 98 | 0.0078 |
| <i>Circus cyaneus</i> | 2 | 0.5 | 1.07 | 9 | 1308579.3 | 90 | 900 | 0.00106128 | 0.9552 | 0.5444 | 1.75 | 12.8 | 0.2246 | 99 | 0.0022 |
| <i>Circus pygargus</i> | 1 | 0.44 | 1.06 | 8 | 1292555.88 | 300 | 1500 | 0.00104829 | 1.5724 | 0.6050 | 2.60 | 13.8 | 0.3587 | 98 | 0.0072 |
| <i>Falco tinnunculus</i> | 8 | 0.34 | 0.73 | 13 | 1265850.18 | 330 | 13200 | 0.00102663 | 13.5515 | 0.3646 | 37.17 | 8.5 | 3.1591 | 95 | 0.1580 |
| <i>Falco vespertinus</i> | 4 | 0.31 | 0.7 | 13 | 1257838.47 | 150 | 3000 | 0.00102013 | 3.0604 | 0.3623 | 8.45 | 8.3 | 0.7011 | 95 | 0.0351 |
| <i>Hieraetus pennatus</i> | 4 | 0.46 | 1.22 | 11 | 1297897.02 | 300 | 6000 | 0.00105262 | 6.3157 | 0.4418 | 14.29 | 10.7 | 1.5295 | 98 | 0.0306 |

| The results regarding the collision risk of the birds which are in migration with the wind turbines. | | | | | | | | | | | |
|--|----------------|---------------------|---|--|-----------------|-------------------|--------------------|-------------------------|--|------------------|--|
| Species | No individuals | Frequency of flight | Number of birds passing through the risk window per period (no ind*frequency) | Number of birds passing through rotors | Bird lenght (m) | Bird wingspan (m) | Flying speed (m/s) | Collision probability % | No. of the birds with collision risk without avoiding activities | Avoidance rate % | No. of the birds with real collision risk / period |
| | | | n | n* A/W | | | | | | | |
| <i>Accipiter nisus</i> | 3 | 3 | 9 | 2.25 | 0.31 | 0.61 | 11 | 9.4 | 0.2115 | 98 | 0.00423 |
| <i>Aquila heliaca</i> | 1 | 3 | 3 | 0.75 | 0.77 | 1.9 | 16 | 10 | 0.0750 | 98 | 0.00150 |
| <i>Ardea cinerea</i> | 3 | 3 | 9 | 2.25 | 0.93 | 1.65 | 12 | 12.8 | 0.2880 | 98 | 0.00576 |
| <i>Buteo buteo</i> | 45 | 3 | 135 | 33.75 | 0.52 | 1.2 | 12 | 10.3 | 3.4763 | 98 | 0.06953 |
| <i>Buteo rufinus</i> | 41 | 3 | 123 | 30.75 | 0.54 | 1.42 | 10 | 12.2 | 3.7515 | 98 | 0.07503 |
| <i>Ciconia ciconia</i> | 102 | 3 | 306 | 76.50 | 1.02 | 2 | 16 | 10.9 | 8.3385 | 98 | 0.16677 |
| <i>Circus gallicus</i> | 5 | 3 | 15 | 3.75 | 0.65 | 1.7 | 11 | 12.1 | 0.4538 | 98 | 0.00908 |
| <i>Circus aeruginosus</i> | 15 | 3 | 45 | 11.25 | 0.49 | 1.27 | 11 | 10.9 | 1.2263 | 98 | 0.02453 |
| <i>Circus cyaneus</i> | 9 | 3 | 27 | 6.75 | 0.5 | 1.07 | 9 | 12.8 | 0.8640 | 99 | 0.00864 |
| <i>Circus macrourus</i> | 2 | 3 | 6 | 1.50 | 0.45 | 1.07 | 10 | 11.4 | 0.1710 | 98 | 0.00342 |
| <i>Circus pygargus</i> | 5 | 3 | 15 | 3.75 | 0.44 | 1.06 | 8 | 13.8 | 0.5175 | 98 | 0.01035 |
| <i>Falco tinnunculus</i> | 4 | 3 | 12 | 3.00 | 0.34 | 0.73 | 13 | 8.5 | 0.2550 | 95 | 0.01275 |
| <i>Hieraaetus pennatus</i> | 3 | 3 | 9 | 2.25 | 0.46 | 1.22 | 11 | 10.7 | 0.2408 | 98 | 0.00482 |
| <i>Pandion haliaetus</i> | 4 | 3 | 12 | 3.00 | 0.56 | 1.59 | 13 | 10.2 | 0.3060 | 98 | 0.00612 |
| <i>Pelecanus onocrotalus</i> | 90 | 3 | 270 | 67.50 | 1.57 | 2.7 | 16 | 13.6 | 9.1800 | 98 | 0.18360 |
| <i>Pernis apivorus</i> | 1 | 3 | 3 | 0.75 | 0.55 | 1.24 | 12 | 10.5 | 0.0788 | 98 | 0.00158 |
| <i>Phalacrocorax carbo</i> | 11 | 3 | 33 | 8.25 | 0.85 | 1.35 | 15 | 10.2 | 0.8415 | 98 | 0.01683 |



Risk window

Technical characteristics of the turbines

| | | |
|---|---|-------|
| The height of the turbines | H | 150 m |
| The number of the turbines | N | 42 |
| The radius of the rotor of the turbine | R | 45 m |

| | | |
|--|------------------|---------------------------|
| The dimension of the side of the risk window, perpendicular on the predominant flying direction | l | 7040 m |
| The surface of the risk window | $W=l * H$ | $W=1.056.000 \text{ m}^2$ |
| The action surface of the rotors of the wind farm | $A= N * \pi R^2$ | $A=267057 \text{ m}^2$ |
| The report between the action surface of the rotors and the surface of the risk window | $A/W= 0.25$ | |