

- MICHELE PANUCCIO -
CURRICULUM VITAE

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- EDUCATION -

2012 - Ph.D. in Experimental Ecology at the University of Pavia (Italy) with a thesis titled "Across and around a barrier: migration ecology of raptors in the Mediterranean basin".

2006 - M.Sc. at the University of Camerino (Italy) with a graduation thesis on ethology entitled: "To cross the sea or to follow the peninsula? Strategies of migrating hawks through the Central Mediterranean".

- GRANTS AND SCHOLARSHIPS -

2016 - Scholarship University of Pavia (Italy). Analysis of raptor migration at the Strait of Messina, Southern Italy.

2014 - Scholarship University of Pavia (Italy). Radar study on bird migration in the area of the Strait of Messina.

2012 - Small grant European Science Foundation, in the field of Eurapmon activities, for a collaboration with the Fundación Migres for the analysis of time-series data of soaring birds migrating at the Strait of Gibraltar in relation to climate change.

- MAIN RESEARCH EXPERIENCES -

Since 2012 - Breeding ecology of raptors -

The two study species are: Kestrel (*Falco tinnunculus*) breeding in nest-boxes and Black Kite (*Milvus migrans*). The study area is located in Central Italy.

Since 2012 - Tracking bird -

with the association *Ornis Italica*, both with radar (Ustica, Strait of Messina) and GPS data loggers.

Since 2004 - Wintering ecology of raptors -

In Italy, Greece and Caucasian area (with the Acopian Center for the Environment of the American University of Armenia). I performed mostly road transects and analysis of data in relation to land cover, geomorphology, spatial distribution of environmental elements and the raptor community structure and density.

Since 1998 - Raptor migration -

I have been making research focusing on orientation, navigation and information transmission, on water-crossing behaviour and on influence of weather conditions on migratory behaviour. I used visual observations, radar monitoring and ringing recoveries analysis.

Fieldwork sites: Strait of Messina, Calabrian Apennines (southern Italy), Circeo Promontory (central Italy), Apuane Alps (central Italy), Mount Capodarco (central Italy), island of Antikythira (Greece), Mount Olympus (Greece), Batumi (Georgia), Bosphorus and the Strait of Dardanelles (Turkey), Strait of Gibraltar (Spain), islands of Marettimo, Ustica, Panarea and Pantelleria (Sicily). In collaboration with: LIPU - BirdLife Italy, Hellenic Ornithological Society, NABU (Naturschutzbund Deutschland), Hawk Mediterranean Foundation, Fundación Migres, Batumi Raptor Count.

- MEMBERSHIPS -

MEDRAPTORS (Mediterranean Raptor Migration Network), I'm a founding member of this association that works to improve research and protection of migrating birds of prey. Other memberships: Ornis Italica, Association of Field Ornithologists, Raptor Research Foundation, Centro Italiano Studi Ornitologici, Società Italiana di Scienze Naturali.

- JOURNAL REFEREE -

Bird Study, Journal of Ornithology, Current Zoology, Systematics and Biodiversity, Journal of Field Ornithology, Ethology Ecology & Evolution, Journal of Raptor Research, Ringing & Migration, European Journal of Wildlife Research, Journal of Biological Research-Thessaloniki, Acrocephalus, Avocetta.

- TEACHING EXPERIENCE -

Performed several lessons and seminars relying on bird migration, raptor conservation and research techniques. I have been the co-supervisor for the following theses:

- Martina Scacco - Individual preferences in the diet and in the breeding success of Kestrel (*Falco tinnunculus*). Università degli Studi La Sapienza a.a. 2014-2015. M.Sc. thesis.

- Giacomo Biasi - How weather conditions influence the flight strategies of migrating raptors: a case study from a migration bottleneck. Università degli Studi di Siena a.a. 2014-2015. M. Sc. thesis.

- Sara Capotosti - RaptorMigration portale per lo studio e l'osservazione delle migrazioni dei rapaci [*RaptorMigration a portal for the study and observation of the migration of raptors*]. Università degli Studi La Sapienza a.a. 2013-2014. B.Sc. thesis.

- Massimo Sotto - Distribuzione invernale, consistenza e

uso dell'habitat della Poiana comune (*Buteo buteo*) in Italia settentrionale [*Winter distribution, density and habitat selection of the Common Buzzard in northern Italy*]. Università degli Studi di Pavia a.a. 2011/2012. M. Sc. thesis.

- Diego Tarini - Migrando di isola in isola. Analisi del passaggio autunnale dei rapaci e dell'influenza delle condizioni meteorologiche nella Grecia meridionale [*An island hopping migration. Analysis of the southbound passage in relation to weather conditions in Southern Greece*]. Università degli Studi di Pavia a.a. 2009/2010. M. Sc. thesis.

- Lisa Muner - Analisi della migrazione, dello svernamento e della dispersione del Falco di Palude (*Circus aeruginosus*) e dell'Albanella Minore (*Circus pygargus*) tra l'Europa e l'Africa [*Analysis of the migration, wintering and post-reproductive dispersion of Marsh and Montagu's Harriers between Europe and Africa*]. Università degli Studi di Parma a.a. 2009/2010. M. Sc. thesis.

- PERSONAL DATA -

Knowledge of written and spoken English. Use of the following software for PC and Mac systems: Office, Photoshop, SPSS, R, QGIS and Dream Weaver. Experienced wildlife photographer and populariser. Ranger at the Regional Natural Reserve of Decima Malafede (6080 ha) in central Italy for the Regional authority of RomaNatura since 2005 where I'm responsible for birds monitoring projects.

- PUBLICATIONS -

SCIENTIFIC PAPERS ON ISI JOURNALS

1. Panuccio M., Martin B., Morganti M., Onrubia A. & Ferrer M. 2016. Long-term shift of migratory date at the Strait of Gibraltar reflect population trend of soaring birds. **Ibis**, in press.
2. Panuccio M., Barboutis C., Chiatante G., Evangelidis A. & Agostini N. 2016. Pushed by increasing air temperature and tailwind speed: weather selectivity of raptors migrating across the Aegean Sea. **Ornis Fennica**, in press.
3. Agostini N., Gustin M., von Hardenberg J. & Panuccio M. 2016. Wind patterns affect migration flyways and flock size of a soaring bird over sea. **Avian Biology Research**, in press.
4. Panuccio M., Stanzione V., Catoni C., Santini M. & Dell'Omo G. 2016. Radar tracking reveals influence of crosswinds and topography on the migratory behaviour of European Honey Buzzards. **Journal of Ethology**, 34: 73-77.
5. Panuccio M., Lucia G., Agostini N., Ottonello D. & Bogliani G. 2015. Motion capacity, geography and ecological features explain the present distribution of a migratory top predator. **Ecological Research**, 30(1): 181-190.
6. Agostini N., Panuccio M. & Pasquaretta C. 2015. Morphology, flight performance, and water crossing tendencies of Afro-Palaeartic raptors during migration. **Current Zoology**, 61(6): in press.
7. Agostini N., Scuderi A., Chiatante G., Bogliani G. & Panuccio M. 2015. Factors affecting the visible southbound migration of raptors approaching a water surface. **Italian Journal of Zoology**, 82(2): 186-193.
8. Panuccio M., Agostini N., Mellone U. & Bogliani G. 2014. Circannual variation in movement patterns of the Black Kite (*Milvus migrans migrans*): a review. **Ethology, Ecology & Evolution** 26(1):1-18.
9. Panuccio M., Agostini N., Baghino L. & Bogliani G. 2013. Visible migration of Short-Toed Snake-Eagle: interplay of weather and topographical features. **Journal of Raptor Research**, 47: 60-68.

10. Panuccio M., Mellone U. & Muner L. 2013. Differential wintering area selection in Eurasian Marsh Harrier (*Circus aeruginosus*): a ringing recoveries analysis. **Bird Study**, 60: 52-59.
11. Panuccio M., Chiatante G. & Tarini D. 2013. Two different migration strategies in response to an ecological barrier: Western Marsh Harriers and juvenile European Honey Buzzards crossing the central-eastern Mediterranean in autumn. **Journal of Biological Research-Thessaloniki**, 19: 10-18.
12. Panuccio M., Agostini N. & Premuda G. 2012. Ecological barriers promote risk minimization and social learning in migrating Short-toed Snake Eagle. **Ethology, Ecology & Evolution**, 24: 74-80.
13. Agostini N., Lucia G., Mellone U., Panuccio M., Von Hardenberg J., Evangelidis A. & Kominos T. 2012. Loop migration of adult European Honey Buzzards (*Pernis apivorus* Linnaeus, 1758) through the Central-Eastern Mediterranean. **Italian Journal of Zoology**, DOI: 10.1080/11250003.2011.623245.
14. Panuccio M. 2011. Wind effects on visible raptor migration in spring at the Strait of Messina, Southern Italy. **Journal of Raptor Research**, 45(1): 88-92.
15. Panuccio M., Agostini N., Lucia G., Mellone U., Wilson S., Ashton-Booth J., Chiatante G., & Todisco S. 2010. Local weather conditions affect migration strategies of adult Western Honey Buzzards (*Pernis apivorus*) through an isthmus area. **Zoological Studies** 49(5): 651-656.
16. Agostini N. & Panuccio N. 2010. Western Marsh harrier (*Circus aeruginosus*) migration through the Mediterranean sea: a review. **Journal of Raptor Research** 44(2): 136-142.
17. Agostini N., Panuccio M., Mellone U., Lucia G., Wilson S. & Ashton-Booth J. 2007. Do migration counts reflect population trends? A case study of the Honey Buzzard, *Pernis apivorus*. **Ardeola** 54:339-344.
18. Agostini N., Premuda G., Mellone U., Panuccio M., Logozzo D. & Bassi E. 2005. The influence of wind and geography on the orientation behaviour during migration over water: a case study of adult Honey Buzzards. **Acta Ornithologica** 40: 71-74.

19. Agostini N., Coleiro C. & Panuccio M. 2004. Analysis of the autumn migration of juvenile Honey buzzards (*Pernis apivorus*) across the Central Mediterranean. **Journal of Raptor Research** 38: 283-286.

SCIENTIFIC PAPERS ON NON-ISI JOURNALS

1. Agostini N. & Panuccio M. 2015. Is the water-crossing tendency of adult European Honey buzzards influenced by a time minimization strategy during spring migration? **Research in Ornithology**, in press.
2. Panuccio M., Agostini N. & Barboutis C. 2013. Raptor Migration in Greece: a review. **Avocetta** 37(1): 1-7.
3. Mellone U., Agostini N., Panuccio M. & Gustin M. 2012. La migrazione primaverile dei rapaci Accipitriformi attraverso le isole Eolie: primi dati. In: Benussi E. & Perco F. (eds). Atti del XIV Convegno Italiano di Ornitologia. **Rivista Italiana di Ornitologia** 82: 235-237.
4. Panuccio M., Agostini N., Mellone U., Lucia G., Booth J.A., Wilson S., Chiatante G. & Todisco S. 2012. Le Serre Catanzaresi: Important Bird Area (IBA) per la migrazione autunnale dei rapaci. In: Benussi E. & Perco F. (eds). Atti del XIV Convegno Italiano di Ornitologia. **Rivista Italiana di Ornitologia** 82: 239-241.
5. Panuccio M., Gustin M. & Bogliani G. 2011. A comparison of two methods for monitoring broad-winged raptors approaching a long water-crossing (Marettimo, Southern Italy). **Avocetta** 35: 13-17.
6. Lucia G., Agostini N., Panuccio M., Mellone U., Chiatante G., Tarini D. & Evangelidis A. 2011. Raptor migration at Antikythira, in Southern Greece. **British Birds** 104: 266-270.
7. Panuccio M. & Agostini N. 2010. Timing, age classes and water crossing behaviour of Black Kites (*Milvus migrans*) during spring migration across the Central Mediterranean. **Ring** 32(1-2): 55-61.
8. Panuccio M. & Agostini N. 2010. Comparison of the water-crossing behaviour of Western Marsh Harriers (*Circus aeruginosus*) and European Honey Buzzards (*Pernis apivorus*) during autumn migration. **Chinese Birds** 1(1): 30-35.

9. Agostini N., Panuccio M., Lucia G., Liuzzi C., Amato P., Provenza A., Gustin M. & Mellone U. 2009. Age-dependent migration strategies in the Short-toed Eagle. **British Birds** 102(9): 506-508.
10. Panuccio M. & Mellone U. 2009. Autumn migration of Bee-eaters (*Merops apiaster*) at the Straits of Messina. **Riv. It. Orn.** 78(2): 132-135.
11. Agostini N. & Panuccio M. 2008. Are migration pathways of European Honey Buzzards *Pernis apivorus* passing over Cyprus age-related? **Sandgrouse** 30(1): 97-99.
12. Panuccio M. & Agostini N. 2007. Visible spring migration of *Ciconiiformes* and cranes, *Grus grus*, across the Tyrrhenian Sea (southern Italy). **Riv. It. Orn.** 77(1): 64-67.
13. Panuccio M. 2006. A survey of the visible spring migration of ducks along the Tyrrhenian coast of central Italy. **Riv. It. Orn.** 76(1): 83-86.
14. Panuccio M. & Agostini N. 2006. Spring migration of Pallid (*Circus macrourus*) and Montagu's Harriers (*Circus pygargus*) in relation to age and sex classes at two watchsites of the Central Mediterranean. **Buteo** 15: 3-10.
15. Panuccio M. & Agostini N. 2006. Comments on the roosting behaviour of Marsh Harrier during migration. **British Birds** 99:365-367.
16. Panuccio M., Agostini N., Wilson S., Lucia G., Ashton-Booth J., Chiatante G., Mellone U. & Todisco S. 2006. Does the Honey-buzzard feed during migration? **British Birds** 99:367-368.
17. Panuccio M. & Agostini N. 2006. Spring passage of 2nd cy Honey Buzzards (*Pernis apivorus*) at the Straits of Messina (Southern Italy)? **British Birds** 99: 95-97.
18. Agostini N. & Panuccio M. 2005. Analysis of the spatial migration patterns of adult honey buzzards (*Pernis apivorus*) during spring and autumn in the Central Mediterranean. **Ring** 27(2): 215-220.

19. Panuccio M., Agostini N. & Mellone U. 2005. Autumn migration strategies of honey buzzards, black kites, marsh and montagu's harriers over land and over water in the Central Mediterranean. **Avocetta** 29: 27-32.
20. Panuccio M., D'Amicis B., Canale E. & Roccella A. 2005. Sex and age ratios in Marsh Harriers, *Circus aeruginosus*, wintering in central-southern Italy. **Avocetta** 29: 13-17.
21. Agostini N., Panuccio M. & Massa B. 2005. Flight behaviour of Honey buzzards (*Pernis apivorus*) during migration over water. **Buteo** 14:3-9.
22. Panuccio M., Polini N., Forconi P., Fusari M., Giorgetti G., Marini G. & Agostini N. 2004. Mount Capodarco: a survey of the migratory behaviour of Accipitriformes along the Adriatic coast of Central Italy. **Riv. It. Orn.** 74(2): 160-163.
23. Agostini N., Premuda G., Mellone U., Panuccio M., Logozzo D., Bassi E. & Cocchi L. 2004. Crossing the sea en route to Africa: autumn migration of some *Accipitriformes* over two Central Mediterranean islands. **Ring** 26(2): 71-78.
24. Panuccio M., Agostini N. & Massa B. 2004. Spring raptor migration at Ustica, southern Italy. **British Birds** 97:400-403.
25. Agostini N., Baghino L., Panuccio M., Premuda G. & Provenza A. 2004. Orientation, navigation and information transmission in migrating Short-toed Eagles *Circaetus gallicus*. **Avocetta** 28(1): 25-28
26. Panuccio M. 2003. Osservazioni eco-etologiche sull'erpetofauna dell'isola di Ustica (Sicilia). **Naturalista sicil.**, S. IV, XXVII (3-4): 201-208.
27. Agostini N., Coleiro C. & Panuccio M. 2003. Autumn migration of Marsh Harriers (*Circus aeruginosus*) across the central Mediterranean in 2002. **Ring** 25(1-2): 47-52.
28. Panuccio M. & Canale E. 2003. Osservazioni sui movimenti post-riproduttivi del Nibbio bruno, *Milvus migrans*, nel Lazio. [Observations on post-reproductive movements of Black kite in Latium (Central Italy)]. **Riv. It. Orn.** 73(2): 180-182.

29. Agostini N. & Panuccio M. 2003. How do Accipitriformes behave during autumn migration at the Circeo Promontory (Central Italy)? **Riv. It. Orn.** 73(2): 165-167.
30. Agostini N., Logozzo D., Panuccio M. & Premuda G. 2003. Circular migration of adult Honey buzzards, *Pernis apivorus*, crossing the Central Mediterranean?. **Riv. It. Orn.** 73(1): 79-81.
31. Agostini N. & Panuccio M. 2003. Analysis of the spring migration of Honey buzzards (*Pernis apivorus*) and Marsh harriers (*Circus aeruginosus*) at two sites of central Italy. **Avocetta** 27: 203-205.
32. Panuccio M., Agostini N. & Massa B. 2002. Crossing the Tyrrhenian Sea: spring migration of Marsh Harriers (*Circus aeruginosus*), sex classes and relations with wind conditions. **Die Vogelwarte** 41(4): 271-275.
33. Agostini N. & Panuccio M. 2002. A note on the spring migration of Bee eaters (*Merops apiaster*) over the island of Ustica. **Riv. Ital. Orn.** 71(2): 199-201.
34. Agostini N., Coleiro C., Corbi F., Di Lieto G., Pinos F. & Panuccio M. 2002. Water-crossing tendency of juvenile Honey Buzzards *Pernis apivorus* during migration. **Avocetta** 26(1): 41-43.
35. Agostini N., Baghino L., Panuccio M. & Premuda G. 2002. A conservative strategy in migrating Short-toed Eagles *Circaetus gallicus*. **Ardeola** 49(2): 287-291.
36. Agostini N., Coleiro C., Corbi F., Di Lieto G., Pinos F. & Panuccio M. 2001. Comparative study of the autumn migration of Marsh Harriers (*Circus aeruginosus*) at three sites of the Central Mediterranean. **Die Vogelwarte** 41(2): 154-158.
37. Agostini N., Logozzo D. & Panuccio M. 2000. The island of Marettimo (Italy), Important Bird Area for the autumn migration of raptors. **Avocetta** 24(2): 95-99.

SUBMITTED OR IN PREPARATION

1. Panuccio M., Martin B. Onrubia A. & Ferrer M. Species-specific and age-dependent shifts in phenology of autumn migratory soaring birds at the Strait of Gibraltar. Submitted.

2. Panuccio M., Barboutis C., Chiatante G., Evangelidis A. & Agostini N. Pushed by increasing air temperature and tailwind speed: weather influence on raptor migration across the Aegean Sea. Submitted.
3. Panuccio M., Stanzione V., Catoni C., Santini M., Bogliani G. & Dell'Omo G. Migrating birds avoid flying through fog banks. Submitted.
4. Panuccio M., Stanzione V., Catoni C., Santini M. & Dell'Omo G. Radar tracking reveals influence of crosswind and slope effect on the migratory behaviour of European Honey Buzzards. Submitted.
5. Agostini N. & Panuccio M. Short-toed Snake Eagles seeing a water barrier show reverse direction of migration. Submitted.

CONGRESSES

1. Panuccio M., Stanzione V., Catoni C., Biasi G., Santini M., Bogliani G. & Dell'Omo G. 2014. Ground-speed of migrating raptors as revealed by a surveillance radar. **Proceedings of the XXII Congreso Español de Ornitología**: 137, Madrid, December 2014.
2. Dell'Omo G., Santini M., Catoni C., Panuccio M. & Massa B. 2014. The use of radar for "observing" bird behavior. Proceedings of the XXVI International Ornithological Congress: p08-009 (SA08 Migration & Orientation), August 2014, Tokyo. **Ornithological Science** 13: 305.
3. Panuccio M., Agostini N., Lucia G., Chiatante G. & Mellone U. 2013. Priorità di monitoraggio e conservazione per i rapaci migratori in Italia [Monitoring and conservation priorities for migrating raptors in Italy]. **Proceedings of the XVII Italian Ornithological Congress**: 37, Trento, September 2013.
4. Trotta M., Panuccio M. & Dell'Omo G. 2013. La dieta del gheppio *Falco tinnunculus* nidificante in un paesaggio agricolo dell'Italia centrale [The diet of kestrel breeding in an agricultural landscape of Central Italy]. **Proceedings of the XVII Italian Ornithological Congress**: 142-143, Trento, September 2013.

5. Santini M., Catoni C., Panuccio M., Massa B. & Dell'Omo G. 2013. L'uso del radar per lo studio del comportamento negli uccelli. **Proceedings of the XVII Italian Ornithological Congress**: 52, Trento, September 2013.
6. Panuccio M., Agostini N. & Barboutis C. 2012. Raptor Migration in Greece: a review. Oral speech, **II Italian Congress of Diurnal and Nocturnal Raptors**, Treviso, 12-13 ottobre 2012.
7. Catoni C., Santini M., Panuccio M., Massa B. & Dell'Omo G. 2012. Radar applications to study bird behaviour. Oral speech, **XXV National Congress of the Italian Society of Ethology**, 12-14 September 2012 Viterbo.
8. Panuccio M., Agostini N. & Bogliani G. 2011. Mount-Olympus: a new raptor migration bottle-neck in northern Greece. Poster presentation, **Proceedings of the XVI Italian Ornithological Congress**, Cervia September 2011.
9. Lucia G., Panuccio M., Agostini N. & Bogliani G. 2011. A two-year study of wintering raptors in Basilicata (southern Italy). Poster presentation, **Proceedings of the XVI Italian Ornithological Congress**, Cervia September 2011.
10. Panuccio M. 2009. Lo svernamento degli uccelli acquatici e dei rapaci nella R.N.R. di Decima Malafede. [Waterfowl and raptors wintering in the Natural Reserve of Decima Malafede (Central Italy)]. Poster presentation, Proceedings of the XV Italian Ornithological Congress, Sabaudia 14 – 18 October 2009, **Alula XVI** (1-2): 112-114.
11. Mellone U., Agostini N., Panuccio M. & Gustin M. 2007. La migrazione primaverile dei rapaci Accipitriformi attraverso le isole Eolie: primi dati. [Spring migration of Accipitriformes through the Eolian islands (Southern Italy)] Poster presentation, **Proceedings of the XIV Italian Ornithological Congress**, Trieste 26 – 30 September 2007.
12. Panuccio M., Agostini N., Lucia G., Mellone U., Ashton Booth J., Wilson S., Chiatante G. & Todisco S. 2007. Le Serre Catanzaresi: Important Bird Area (IBA) per la migrazione autunnale dei rapaci. [The Serre chain mountain: Important Bird Area for the autumn migration of raptors] Poster presentation, **Proceedings of the XIV Italian Ornithological Congress**, Trieste 26 – 30 September 2007.

13. Panuccio M. 2005. La migrazione dei rapaci attraverso il mare: metodi di studio usati nel Mediterraneo centrale. [Raptor migration across water surface: study methods used in the Central Mediterranean]. Poster presentation, Proceedings of the XIII Italian Ornithological Congress, Varallo Sesia, 29 September – 2 October 2005 **Avocetta** 29: 28.
14. Agostini N., Amato P., Provenza A. & Panuccio M. 2005. Do common buzzards *Buteo buteo* migrate across the Channel of Sicily? Poster presentation, Proceedings of the XIII Italian Ornithological Congress, Varallo Sesia, 29 September – 2 October 2005, **Avocetta** 29: 23.
15. Panuccio M. 2005. Dati sulla presenza del Nibbio bruno, *Milvus migrans*, in due discariche di rifiuti urbani. [Data on the Black kites at two rubbish dumps]. Oral speech, Proceedings of the “Birds in Rome” Conference, Rome, 18 March 2005, **Alula** 12(1-2): 189-192.