

CURRICULUM VITAE ET STUDIORUM: Dr. A. Cardini



Present Position: Researcher (full-time permanent position from 2006)

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EDUCATION, PREVIOUS POSITIONS AND FELLOSHIPS, VISITS AND STAYS

- Visiting scholar at University of Greifswald, Stanford University, Durham University.
- Adjunct Associate Professor, The University of Western Australia: 2010-present.
- Honorary Fellow at the Hull York Medical School, Centre for Anatomical and Human Sciences: 2006-2014
- Associate Researcher at the Hull York Medical School: 2004-2006
- Smithsonian Postdoc. Fellow at the National Museum of Natural History, Washington DC: 2002-2003
- Honorary Research Fellow at the University College London, Department of Anatomy and Developmental Biology: 2002
- University of Modena (associated to the University of Bologna), Ph.D. in Animal Biology: 1998-2001
- University of Milano, Degree in Biology (specialization in Ecology), 110/110 *cum laude*: 1997
- 'Liceo Classico' Carducci, Milano, High School Diploma, with full marks (60/60): 1990

BRIEF DESCRIPTION OF THE RESEARCH ACTIVITY

My primary research interest is the study of morphological group differences and patterns of evolution of form in mammals, and other organisms, using geometric morphometrics. Outside my narrow area of research, I am interested in animal welfare, global environmental change and the impact humans are having on the planet.

FUNDING AND AWARDS

- National scientific habilitation to associate and full professorship in zoology/anthropology. Italy, 2017-2027.
- European Union Synthesys Grants for data collection at the natural history museums of Tervuren, Berlin, Budapest, Paris, Prague, Stockholm, Wien.
- Lang Visiting Fellowship at Stanford University; Cofund Senior Visiting Fellowship at the Institute for Advanced Studies and the Department of Anthropology, Durham University; Smithsonian Post-doctoral Fellowship at the NMNH, Washington, DC.
- Australian Research Council Grant, co-investigator; Royal Society International Joint Project, principal investigator.

TEACHING ACTIVITIES

- Biology of Mammals: 2013-present
- Animal Biology (Univ. of Modena); Methods in Systematic Zoology (Univ. of Modena): 2006-2010
- Post-grad. students supervision/co-supervision: Master theses at Univ. of Milan, Univ. of Bari, Australian National University, University of Dundee.

- PhD thesis co-supervision at Newcastle University, University of Melbourne, Hull York Medical School, George Washington University.

ORGANISATION OF SCIENTIFIC MEETINGS AND SCHOOLS

Main/Principal Organizer or Instructor in more than 20 geometric morphometric workshops in Europe, as well as Argentina and China.

REFEREE FOR

89 International journals as well as reviewer for the National Science Foundation (USA), National Fund for Scientific Research (Belgium), Agence Nationale de la Recherche (France), SYNTHESYS European Union-funded Integrated Activities grant, Leakey Foundation, Dutch Research Council, Austrian Science Fund.

EDITORIAL BOARDS

- Currently Associate editor for *Zoomorphology* and *The Ecological Citizen*.
- Previously Assistant/Associate editor for the *Journal of Zoological Systematics and Evolutionary Research*, *Hystrix* (It. J. Mammal.), *Italian Journal of Zoology*.

INVITED PRESENTATIONS at Belgrade University; University of Montpellier, Morphometric Meeting; Natural History Museum, London; Liverpool John Moores University; the American Society of Mammalogists meeting in Minneapolis; Stanford University; Agricultural University of Hebei; China Agricultural University (Beijing); Primate Society of Great Britain Winter Meeting, London; Congreso Latinoamericano de Mastozologia, Buenos Aires; VI European Congress on Mammalogy, Paris; Rodens et Spatium Congress, Zonguldak Karaelmas University, Turkey; 2nd UK morphometrics meeting, University of Kent, Canterbury; 4th Meeting of Junior Scientists in Anthropology, University of Freiburg; VI Symposium National de Morphometrie and Evolution des Formes, University of Montpellier; Primate Society of Great Britain, University of Bournemouth; 69° Congresso dell'Unione Zoologica Italiana, Senigallia; Smithsonian National Museum of Natural History (Washington)

SELECTED PUBLICATIONS

- CARDINI A., Crist E., 2024. 6,000 wolves and 331,449,281 people: can we coexist with other species if we do not abandon anthropocentrism? *Bioscience*, 74: 80–81
- CARDINI A., Verderame A.M., 2022. Procrustes shape cannot be analyzed, interpreted or visualized one landmark at a time. *Evolutionary Biology*, 49: 239–254
- CARDINI A. 2022. Rosling's fallacy: Conservation, biodiversity and the anthropocentrism of Hans Rosling's Factfulness. *The Ecological Citizen*, Vol 5 No 2 2022: epub-055 (1–6)
- CARDINI A. 2021. The pangolin is not the culprit and species do not mount invasions. *The Ecological Citizen*, Vol 5 No 1 2021: epub-045 (16-18)
- Milella M., Franklin D., Belcastro M. G., CARDINI A., 2021. Sexual differences in human cranial morphology: is one sex more variable or one region more dimorphic? *The Anatomical Record*, 12: 2789-2810
- CARDINI A., et al. 2021. On the misidentification of species: sampling error in primates and other mammals using geometric morphometrics in more than 4,000 individuals. *Evolutionary Biology*, 48: 190–220
- CARDINI A., 2020. Less tautology, more biology? A comment on “high-density” morphometrics *Zoomorphology*, 134: 149–163
- CARDINI A., 2020. Modern morphometrics and the study of population differences: good data behind clever analyses and cool pictures? *Anatomical Record*, 303: 2747-2765

- CARDINI A., Polly P.D., 2020. Cross-validated between group PCA scatterplots: a solution to spurious group separation? *Evolutionary Biology*, 47:85–95
- CARDINI A., O’Higgins P., Rohlf F.J., 2019. Seeing distinct groups where there are none: spurious patterns from between-group PCA. *Evolutionary Biology*, 46:303–316
- CARDINI A., 2019. Integration and modularity in Procrustes shape data: is there a risk of spurious results? *Evolutionary Biology*, 46:90–105
- CARDINI A., 2019. Craniofacial allometry is a rule in evolutionary radiations of placentals. *Evolutionary Biology*, 46:239–248
- CARDINI A., 2017. Left, right or both? Estimating and improving accuracy of one-side-only geometric morphometric analyses of cranial variation. *Journal of Zoological Systematics and Evolutionary Research*, 55: 1–10
- CARDINI A., Seetah K., Barker G., 2015. How many specimens do I need? Sampling error in geometric morphometrics: testing the sensitivity of means and variances in simple randomized selection experiments. *Zoomorphology*, 134: 149–163
- CARDINI A., 2014. Missing the third dimension in geometric morphometrics: how to assess if 2D images really are a good proxy for 3D structures? *Hystrix*, 25: 73–81
- CARDINI A., Polly P.D. 2013. Larger mammals have longer faces because of size-related constraints on skull form. *Nature Communications*, 4:2458
- CARDINI A. 2013. GEOMETRIC MORPHOMETRICS, in Biological Science Fundamental and Systematics, Eds. UNESCO-EOLSS Joint Committee, in Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO, Eolss Publishers, Paris <http://www.eolss.net>
- CARDINI A., Loy A. (Editors) 2013. Virtual Morphology and Evolutionary Morphometrics in the new millenium. *Hystrix*, Vol 24(1): http://www.italian-journal-of-mammalogy.it/public/journals/3/issue_241_complete_100.pdf
- Viscosi V., CARDINI A., 2011. Leaves, taxonomy and geometric morphometrics: a simplified protocol for beginners. *PLoS ONE* ,6(10): e25630
- Kovarovic K., Aiello L.C., CARDINI A., Lockwood C.A, 2011. Discriminant function analyses in archaeology: are classification rates too good to be true? *Journal of Archaeological Science*, 38: 3006-3018
- CARDINI A., Diniz Filho J. A. F., Polly P. D., Elton S., 2010 - Biogeographic analysis using geometric morphometrics: clines in skull size and shape in a widespread African arboreal monkey. A. M. T. Elewa (Ed.), *Morphometrics for Nonmorphometricians*, Lecture Notes in Earth Sciences 124, Springer-Verlag.
- NAGORSEN D., CARDINI A., 2009. Tempo and mode of evolutionary divergence in modern and Holocene Vancouver Island marmots (*Marmota vancouverensis*) (Mammalia, Rodentia). *Journal of Zoological Systematics and Evolutionary Research*, 47: 258–267
- Sanfilippo P., CARDINI A., Mackey D., Hewitt A., Crowston J. 2009. Optic disc morphology - rethinking shape. *Progress in Retinal and Eye Research*, 28: 227-248
- CARDINI A., Elton S., 2008. Does the skull carry a phylogenetic signal? Evolution and modularity and in the guenons. *Biological Journal of the Linnean Society*, 93: 813–834
- CARDINI A., Elton S., 2007. Sample size and sampling error in geometric morphometric studies of size and shape. *Zoomorphology*, 126: 121-134
- CARDINI A., Jansson A-U., Elton S., 2007. Ecomorphology of vervet monkeys: a geometric morphometric approach to the study of clinal variation. *Journal of Biogeography*, 34: 1663-1678
- CARDINI A., 2003. The geometry of marmot (Rodentia: Sciuridae) mandible: phylogeny and patterns of morphological evolution. *Systematic Biology*, 52: 186-205