


Data Papers

Ecology, 98(3), 2017, pp. 883–884
© 2016 by the Ecological Society of America

A global database of ant species abundances

HELOISE GIBB,^{1,61} ROB R. DUNN,^{2,3} NATHAN J. SANDERS,³ BLAIR F. GROSSMAN,¹ MANOLI PHOTAKIS,¹ SILVIA ABRIL,⁴
DONAT AGOSTI,⁵ ALAN N. ANDERSEN,⁶ ELENA ANGULO,⁷ INGE ARMBRECHT,⁸ XAVIER ARNAN,⁹
FABRICO B. BACCARO,¹⁰ TOM R. BISHOP,^{11,12} RAPHAËL BOULAY,¹³ CARSTEN BRÜHL,¹⁴ CRISTINA CASTRACANI,¹⁵
XIM CERDA,⁷ ISRAEL DEL TORO,³ THIBAUT DELSINNE,¹⁶ MIREIA DIAZ,⁴ DAVID A. DONOSO,¹⁷
AARON M. ELLISON ,^{18,19,20} MARTHA L. ENRIQUEZ,⁴ TOM M. FAYLE,^{21,22} DONALD H. FEENER JR.,²³
BRIAN L. FISHER,²⁴ ROBERT N. FISHER,²⁵ MATTHEW C. FITZPATRICK,²⁶ CRISANTO GÓMEZ,⁴ NICHOLAS J. GOTELLI,²⁷
AARON GOVE,^{28,29} DONATO A. GRASSO,¹⁵ SARAH GROG,³⁰ BENOIT GUENARD,³¹ NIHARA GUNAWARDENE,²⁹
BRIAN HETERICK,²⁹ BENJAMIN HOFFMANN,⁶ MILAN JANDA,^{21,32} CLINTON JENKINS,³³ MICHAEL KASPARI,³⁴
PETR KLIMES,^{21,35} LORI LACH,³⁶ THOMAS LAEGER,³⁷ JOHN LATTKE,³⁸ MAURICE LEPONCE,³⁹ JEAN-PHILIPPE LESSARD,⁴⁰
JOHN LONGINO,²³ ANDREA LUCKY,⁴¹ SARAH H. LUKE,^{42,43} JONATHAN MAJER,^{29,44} TERRENCE P. MCGLYNN,^{45,46}
SEAN MENKE,⁴⁷ DIRK MEZGER,⁴⁸ ALESSANDRA MORI,¹⁵ JIMMY MOSES,^{21,35} THINANDAVHA CASWELL MUNYAI,⁴⁹
RENATA PACHECO,³⁰ OMID PAKNIA,⁵⁰ JESSICA PEARCE-DUVET,²³ MARTIN PFEIFFER,⁵¹ STACY M. PHILPOTT,⁵²
JULIAN RESASCO,⁵³ JAVIER RETANA,⁵⁴ ROGERIO R. SILVA,⁵⁵ MAGDALENA D. SORGER,² JORGE SOUZA,⁵⁶
ANDREW SUAREZ,⁵⁷ MELANIE TISTA,⁵⁸ HERALDO L. VASCONCELOS,³⁰ MERAV VONSHAK,⁵⁹
MICHAEL D. WEISER,³⁴ MICHELLE YATES,⁶⁰ AND CATHERINE L. PARR¹¹

¹Department of Ecology, Environment and Evolution, La Trobe University, Melbourne, 3086, Victoria, Australia

²Department of Applied Ecology, North Carolina State University, Raleigh, North Carolina 27695 USA

³Center for Macroecology, Evolution, and Climate, Natural History Museum of Denmark,
University of Copenhagen, Universitetsparken 15, DK-2100, Copenhagen Ø, Denmark

⁴Department of Environmental Science, University of Girona, Montilivi Campus s/n, 17071, Girona, Spain

⁵Naturhistorisches Museum Bern, Bernastrasse 15, 3005, Bern, Switzerland

⁶CSIRO Ecosystem Sciences, Tropical Ecosystems Research Centre, PMB 44, Winnellie, Northern Territory 0822 Australia

⁷Departamento de Etología y Conservación de la Biodiversidad, Estación Biológica de Doñana,
Avenida Americo Vespucio s/n (Isla de la Cartuja), Sevilla, 41092 Spain

⁸Facultad de Ciencias Naturales y Exactas, Universidad del Valle, Cali, Colombia

⁹Departamento de Botânica, Universidade Federal Pernambuco, Avenida Prof Moraes Rego s/no,
Cidade Universitária, Pernambuco, Brazil

¹⁰Departamento de Biologia, Universidade Federal do Amazonas-UFAM, Manaus, Amazonas, Brazil

¹¹Department of Earth, Ocean and Ecological Sciences, University of Liverpool, Liverpool, L69 3GP United Kingdom

¹²Department of Zoology and Entomology, Centre for Invasion Biology, University of Pretoria, Pretoria 0002 South Africa

¹³Institut de Recherche sur la Biologie de l'Insecte et Département, d'Aménagement du Territoire Université,
François Rabelais de Tours, Tours 37200 France

¹⁴Institute for Environmental Sciences, University Koblenz-Landau, Fortstraße 7, 76829, Landau in der Pfalz, Germany

¹⁵Department of Life Sciences, University of Parma, Parco Area delle Scienze 11/A, Parma 43124 Italy

¹⁶Société d'Histoire Naturelle Alcide-d'Orbigny, 57 rue de Gergovie, 63170, Aubière, France

¹⁷Instituto de Ciencias Biológicas, Escuela Politécnica Nacional, Avenida Ladrón de Guevara, E11253, Quito, Ecuador

¹⁸Harvard Forest, Harvard University, 324 North Main Street, Petersham, Massachusetts 01366 USA

¹⁹Departments of Biology and Environmental Conservation, University of Massachusetts, Morrill Science Center and
Holdsworth Hall, 611 North Pleasant Street, Amherst, Massachusetts 01003 USA

²⁰Faculty of Arts, Business and Law, Tropical Forests and People Research Centre, University of the Sunshine Coast,
90 Sippy Downs Drive, Sippy Downs, Queensland 4556 Australia

²¹Institute of Entomology, Biology Centre of Academy of Sciences Czech Republic and Faculty of Science,
University of South Bohemia, Branišovská 31, České Budějovice, 370 05 Czech Republic

²²Forest Ecology and Conservation Group, Imperial College London, Silwood Park Campus, Buckhurst Road,
Ascot, SL5 7PY United Kingdom

²³Department of Biology, University of Utah, Salt Lake City, Utah 84112 USA

²⁴Entomology, California Academy of Sciences, San Francisco, California, USA

²⁵Western Ecological Research Center, U.S. Geological Survey, San Diego Field Station 4165 Spruance Road, Suite 200,
San Diego, California 92101 USA

²⁶Appalachian Laboratory, University of Maryland Centre for Environmental Science, Frostburg, Maryland 21532 USA

²⁷Department of Biology, University of Vermont, Burlington, Vermont 05405 USA

²⁸Astron Environmental Services, Perth, Western Australia, Australia

²⁹Department of Environment and Agriculture, Curtin University, G.P.O. Box U1987, Perth, Western Australia 6845 Australia

Manuscript received 5 September 2016; revised 22 November 2016; accepted 29 November 2016. Corresponding Editor: William K. Michener.

⁶¹E-mail: h.gibb@latrobe.edu.au

- ³⁰*Instituto de Biologia, Universidade Federal de Uberlândia (UFU) Rua Ceara, Uberlândia, Minas Gerais 38400-902 Brazil*
- ³¹*School of Biological Sciences, The University of Hong Kong, Pok Fu Lam Road, Hong Kong, China*
- ³²*Department of Biology, University of Guanajuato, Noria Alta sn., Guanajuato, Mexico*
- ³³*IPÊ-Instituto de Pesquisas Ecológicas, Nazaré Paulista, São Paulo 12960-000 Brazil*
- ³⁴*Department of Biology, University of Oklahoma, 730 Van Vleet Oval, Room 314, Norman, Oklahoma 73019 USA*
- ³⁵*New Guinea Binatang Research Center, P.O. Box 604, Madang, Papua New Guinea*
- ³⁶*Centre for Tropical Biology and Climate Change, School of Marine and Tropical Biology, James Cook University, P.O. Box 6811, Cairns, Queensland 4870 Australia*
- ³⁷*Saarland University, Saarbrücken, Germany*
- ³⁸*Departamento de Zoologia, Universidade Federal do Paraná, Caixa Postal 19020, 81531-980, Curitiba, Paraná, Brazil*
- ³⁹*Section of Biological Evaluation, Royal Belgian Institute of Natural Sciences, Rue Vautier, 29, Brussels 1000 Belgium*
- ⁴⁰*Department of Biology, Concordia University, Montreal, Quebec H4B1R6 Canada*
- ⁴¹*Entomology and Nematology Department, University of Florida, 970 Natural Area Drive, Gainesville, Florida 32611 USA*
- ⁴²*School of Biological Sciences, University of East Anglia, Norwich, NR4 7TJ United Kingdom*
- ⁴³*Department of Zoology, University of Cambridge, Downing Street, Cambridge, CB2 3EJ United Kingdom*
- ⁴⁴*School of Plant Biology, The University of Western Australia, 35 Stirling Highway, Crawley, Western Australia 6009 Australia*
- ⁴⁵*Department of Biology, California State University Dominguez Hills, 1000 East Victoria Street, Carson, California 90747 USA*
- ⁴⁶*Department of Entomology, Natural History Museum of Los Angeles County, Los Angeles, California, USA*
- ⁴⁷*Department of Biology, Lake Forest College, 555 North Sheridan Road, Lake Forest, Illinois 60045 USA*
- ⁴⁸*Division of Insects, Department of Zoology, Moreau Lab, Field Museum of Natural History, 1400 South Lake Shore Drive, Chicago, Illinois 60605 USA*
- ⁴⁹*School of Life Sciences, College of Agriculture Engineering and Science, University of KwaZulu-Natal, Pietermaritzburg, 3209 South Africa*
- ⁵⁰*Institute of Animal Ecology and Cell Biology, TiHo Hannover, Bünteweg 17d, Hannover 30559 Germany*
- ⁵¹*Department of Ecology, National University of Mongolia, Baga Toiruu 47, P.O. Box 377, Ulaanbaatar, 210646 Mongolia*
- ⁵²*Environmental Studies Department, University of California, 1156 High Street, Santa Cruz, California 95060 USA*
- ⁵³*The Department of Ecology and Evolutionary Biology, University of Colorado, UCB 334, Boulder, Colorado 80309 USA*
- ⁵⁴*Universitat Autònoma Barcelona, Cerdanyola del Vallès, 08193 Spain*
- ⁵⁵*Coordenação de Ciências da Terra e Ecologia, Museu Paraense Emílio Goeldi, Belém, Pará, Brazil*
- ⁵⁶*Coordenação de Biodiversidade, National Institute of Amazonian Research, Manaus, Amazonas, Brazil*
- ⁵⁷*Department of Entomology, University of Illinois, Urbana-Champaign, Urbana, Illinois 61801 USA*
- ⁵⁸*Department of Tropical Ecology and Animal Biodiversity, University of Vienna, Rennweg 14, Vienna 1030 Austria*
- ⁵⁹*Department of Biology, Stanford University, Stanford, California 94305 USA*
- ⁶⁰*Centre for Behavioural and Physiological Ecology, Zoology, University of New England, Armidale, New South Wales, Australia*

Abstract. What forces structure ecological assemblages? A key limitation to general insights about assemblage structure is the availability of data that are collected at a small spatial grain (local assemblages) and a large spatial extent (global coverage). Here, we present published and unpublished data from 51,388 ant abundance and occurrence records of more than 2,693 species and 7,953 morphospecies from local assemblages collected at 4,212 locations around the world. Ants were selected because they are diverse and abundant globally, comprise a large fraction of animal biomass in most terrestrial communities, and are key contributors to a range of ecosystem functions. Data were collected between 1949 and 2014, and include, for each geo-referenced sampling site, both the identity of the ants collected and details of sampling design, habitat type, and degree of disturbance. The aim of compiling this data set was to provide comprehensive species abundance data in order to test relationships between assemblage structure and environmental and biogeographic factors. Data were collected using a variety of standardized methods, such as pitfall and Winkler traps, and will be valuable for studies investigating large-scale forces structuring local assemblages. Understanding such relationships is particularly critical under current rates of global change. We encourage authors holding additional data on systematically collected ant assemblages, especially those in dry and cold, and remote areas, to contact us and contribute their data to this growing data set.

Key words: abundance; ants; database; disturbance; Formicidae; geo-referenced; habitat; local assemblage; occurrence; pitfall trap; Winkler trap.

The complete data sets corresponding to abstracts published in the Data Papers section of the journal are published electronically as Supporting Information in the online version of this article at <http://onlinelibrary.wiley.com/doi/10.1002/ecy.1682/supinfo>