

Ecography

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Supplementary material

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Appendix 1. Trophic groups

Table A1: Allocation of ant genera to the trophic groups: predator, specialist predator (feeding on only a few taxa), predator + generalist, generalist forager, sugar feeder, sugar feeder + generalist, seed harvester and seed harvester + generalist.

Subfamily	Genus	Diet	Source
Amblyoponinae	<i>Amblyopone</i>	Specialist predator	Shattuck (1999)
Dolichoderinae	<i>Dolichoderus</i>	Sugar feeder + generalist	Shattuck (1999)
	<i>Iridomyrmex</i>	Sugar feeder + generalist	Shattuck (1999)
	<i>Ochetellus</i>	Generalist forager	Shattuck (1999)
	<i>Tapinoma</i>	Generalist forager	Shattuck (1999)
Dorylinae	<i>Dorylus</i>	Specialist predator	Schöning et al. (2005)
Ectatomminae	<i>Ectatomma</i>	Predator + generalist	Lachaud (1990)
	<i>Gnamptogenys</i>	Predator + generalist ¹	Delabie et al. (2000)
	<i>Rhytidoponera</i>	Predator + generalist	Shattuck (1999)
Formicinae	<i>Acropyga</i>	Sugar feeder	Johnson et al. (2001)
	<i>Brachymyrmex</i>	Sugar feeder + generalist	MacGown et al. (2007)
	<i>Camponotus</i>	Sugar feeder + generalist	Gibb (2012)
	<i>Echinopla</i>	Sugar feeder + generalist	Based on related genera
	<i>Formica</i>	Sugar feeder + generalist ²	Gibb & Johansson (2010)
	<i>Lasius</i>	Sugar feeder + generalist ²	Offenberg (2001)
	<i>Lepisiota</i>	Generalist forager	Brown (2000)
	<i>Melophorus</i>	Seed harvester + generalist	Shattuck (1999)
	<i>Notoncus</i>	Generalist forager	Brown (2000)
	<i>Paraparatrechina</i>	Generalist forager	Shattuck (1999)
	<i>Nylanderia</i>	Generalist forager	La Polla et al. (2011)
	<i>Plagiolepis</i>	Sugar feeder + generalist ²	Shattuck (1999)
	<i>Polyrhachis</i>	Sugar feeder + generalist	Gibb (2012)
	<i>Pseudolasius</i>	Sugar feeder + generalist	Pfeiffer et al. (2013)
Myrmeciinae	<i>Myrmecia</i>	Predator + generalist	Shattuck (1999)
Myrmicinae	<i>Aphaenogaster</i>	Seed harvester + generalist	Brown (2000)
	<i>Cardiocondyla</i>	Seed harvester + generalist	Shattuck (1999)
	<i>Carebara</i>	Specialist predator	Shattuck (1999)
	<i>Cephalotes</i>	Sugar feeder + generalist	Hu et al. (2013)
	<i>Crematogaster</i>	Sugar feeder + generalist	Shattuck (1999)
	<i>Leptothorax</i>	Generalist forager	Brown (2000)

Subfamily	Genus	Diet	Source
	<i>Lophomyrmex</i>	Generalist forager	Rigato (1994)
	<i>Mayriella</i>	Seed harvester	Andersen (1991)
	<i>Meranoplus</i>	Seed harvester	Shattuck (1999)
	<i>Messor</i>	Seed harvester	Cerda & Retana (1994)
	<i>Monomorium</i>	Generalist forager	Brown (2000)
	<i>Myrmica</i>	Predator + generalist	Brown (2000)
	<i>Myrmicaria</i>	Predator + generalist	Wriedt et al. (2008)
	<i>Ocymyrmex</i>	Generalist forager	Marsh (1985)
	<i>Oxyopomyrmex</i>	Seed harvester	Hölldobler & Wilson (1990)
	<i>Pheidole</i>	Seed harvester + generalist	Shattuck (1999)
	<i>Solenopsis</i>	Generalist forager	Shattuck (1999)
	<i>Strumigenys</i>	Specialist predator	Hölldobler & Wilson (1990)
	<i>Temnothorax</i>	Sugar feeder + generalist	Fiedler et al. (2007)
	<i>Tetramorium</i>	Seed harvester + generalist	Shattuck (1999)
Paraponerinae	<i>Paraponera</i>	Sugar feeder + generalist	Young & Hermann (1980)
Ponerinae	<i>Anochetus</i>	Predator	Shattuck (1999)
	<i>Cryptopone</i>	Predator	Brown (2000)
	<i>Hypoponera</i>	Generalist forager	Shattuck (1999)
	<i>Leptogenys</i>	Specialist predator	Steghaus-Kovac & Maschwitz (1993)
	<i>Odontomachus</i>	Predator	Shattuck (1999)
	<i>Odontoponera</i>	Predator	Brown (2000)
	<i>Pachycondyla</i>	Predator	Brown (2000)
	<i>Plectroctena</i>	Predator	Hölldobler & Wilson (1990)
	<i>Ponera</i>	Predator	Brown (2000)
	<i>Streblognathus</i>	Specialist predator	Brown (2000)
Proceratiinae	<i>Discothyrea</i>	Specialist predator	Brown (1957)

¹Also includes some specialist predators; ²Also includes social parasites

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Appendix 2. Variance model

Table A2: Degrees of freedom, F-statistic and p-values for the linear mixed model testing how head length variance is affected by climate (MAT and AP) and disturbance and their interactions and the covariates trap type, hemisphere, species richness, with data source as a random factor. R^2 marginal = 0.25; R^2 conditional (including random effects) = 0.53.

	df	F-value	p-value
(Intercept)	1,308	281.6	<0.001
Disturbance	1,308	17.4	<0.001
Mean annual temperature (MAT)	1,308	0.3	0.562
Annual precipitation (AP)	1,308	9.3	0.002
Trap type	4,308	1.2	0.318
Hemisphere	1,18	2.9	0.104
Species richness	1,308	2.2	0.141
MAT*AP	1,308	1.2	0.267
Disturbance*MAT	1,308	0.0	0.962
Disturbance*AP	1,308	0.6	0.425
Disturbance*MAT*AP	1,308	0.5	0.471