

Table S1. Analysis of the connectance.

Effects	DF	F-value	p-value
Interaction type	1,40	0.58	0.4523
Network size	1,40	47.87	<.0001
Inter. type × network size	1,40	3.24	0.0795

Table S2. Analysis of the percentage of interactions which are more asymmetric than predicted by the null model 3.

Effects	DF	Insects		Plants	
		F-value	p-value	F-value	p-value
Interaction type	1,13	2.62	0.1294	3.89	0.0699
Network size	1,13	3.25	0.0947	3.83	0.0326
Residual connectance	1,13	0.85	0.3724	0.24	0.6265
Inter. type × network size	1,13	3.50	0.0839	5.10	0.0417
Inter. type × res. connectance	1,13	0.27	0.6093	0.10	0.7529

Appendix S1. List of the data sets analyzed.

Network type	No. of plants	No. of insects	Reference
Pollination	87	98	Arroyo et al. 1982
Pollination	43	62	Arroyo et al. 1982
Pollination	41	28	Arroyo et al. 1982
Pollination	12	102	Barrett and Helenurm 1987
Pollination	96	275	Clements and Long 1923
Pollination	11	38	Dupont et al. 2003
Pollination	23	118	Elberling and Olesen 1999
Pollination	26	181	Herrera 1988
Pollination	29	86	Hocking 1968
Pollination	41	91	Inouye and Pyke 1988
Pollination	93	679	Kato et al. 1990
Pollination	32	115	Kevan 1970
Pollination	104	54	McMullen 1993
Pollination	21	45	Medan et al. 2002
Pollination	23	72	Medan et al. 2002
Pollination	25	79	Memmott 1999
Pollination	11	18	Mosquin and Martin 1967
Pollination	13	44	Motten 1986
Pollination	14	13	Olesen et al. 2002
Pollination	10	12	Olesen et al. 2002
Pollination	28	53	Ramirez and Brito 1992
Pollination	479	1649	Robertson 1928
Pollination	13	34	Small 1976
Pollination	14	90	Vazquez and Simberloff 2002
Trophic	10	32	Basset and Samuelson 1996
Trophic	10	17	Dawah et al. 1995
Trophic	293	443	Dyer and Gentry 2002
Trophic	53	23	Henneman and Memmott 2001
Trophic	49	25	Henneman and Memmott 2001
Trophic	98	110	Janzen 1980
Trophic	1371	641	Janzen and Hallwachs 2005
Trophic	53	22	Joern 1979
Trophic	53	21	Joern 1979
Trophic	42	35	Loye 1992
Trophic	50	87	Memmott et al. 1994
Trophic	26	25	Muller et al. 1999
Trophic	21	29	Nakagawa et al. 2003
Trophic	15	36	Nakagawa et al. 2003
Trophic	53	29	Novotny et al. 2005
Trophic	81	34	Prado and Lewinsohn 2004
Trophic	300	352	Tavakilian et al. 1997
Trophic	10	16	Tscharntke et al. 2001
Trophic	204	93	Lewis et al. 2002
Trophic	42	14	Ueckert and Hansen 1971

All the pollination networks, except Robertson (1929) and Herrera (1988), and the trophic networks of Joern (1979) were provided by the Interaction Web Database (<http://www.nceas.ucsb.edu/interactionweb/index.html>).

References

- Arroyo, M. T. K. et al. 1982. Community studies in pollination ecology in the high temperate Andes of Central Chile. I. Pollination mechanisms and altitudinal variation. – *Am. J. Bot.* 69: 82–97.
- Barrett, S. C. H. and Hellenurum, K. 1987. The reproductive biology of boreal forest herbs. 1. Breeding systems and pollination. – *Can. J. Bot.* 65: 2036–2046.
- Basset, Y. and Samuelson, G. A. 1996. Ecological characteristics of an arboreal community of Chrysomelidae in Papua New Guinea. – In: Jolivet, P. H. A. and Cox, M. L. (eds), *Chrysomelidae biology*. Vol. 2: Ecological studies, SPB Academic Publishing, pp. 243–262.
- Clements, R. E. and Long, F. L. 1923. Experimental pollination. An outline of the ecology of flowers and insects. – Carnegie Inst. of Washington.
- Dawah, H. A. et al. 1995. Structure of the parasitoid communities of grass-feeding chalcid wasps. – *J. Anim. Ecol.* 64: 708–720.
- Dupont, Y. L. et al. 2003. Structure of a plant-flower-visitor network in the high-altitude sub-alpine desert of Tenerife, Canary Islands. – *Ecography* 26: 301–310.
- Dyer, L. A. and Gentry, G. L. 2002. Caterpillars and parasitoids of a tropical lowland wet forest. – <<http://www.caterpillars.org>>. Accessed: 02-2006
- Elberling, H. and Olesen, J. M. 1999. The structure of a high latitude plant-flower visitor system: the dominance of flies. – *Ecography* 22: 314–323.
- Henneman, M. L. and Memmott, J. 2001. Infiltration of a Hawaiian community by introduced biological control agents. – *Science* 293: 1314–1316.
- Herrera, J. 1988. Pollination relationships in southern Spanish Mediterranean shrublands. – *J. Ecol.* 76: 274–287.
- Hocking, B. 1968. Insect-flower associations in the high Arctic with special reference to nectar. – *Oikos* 19: 359–388.
- Inouye, D. W. and Pyke, G. H. 1988. Pollination biology in the Snowy Mountains of Australia: comparisons with montane Colorado, USA. – *Aust. J. Ecol.* 13: 191–210.
- Janzen, D. H. 1980. Specificity of seed-attacking beetles in a Costa Rican deciduous forest. – *J. Ecol.* 68: 929–952.
- Janzen, D. H. and Hallwachs, W. 2005. Dynamic database for an inventory of the macrocaterpillar fauna, and its food plants and parasitoids, of the Área de Conservación Guanacaste (ACG), northwestern Costa Rica. – <http://janzen.sas.upenn.edu>
- Joern, A. 1979. Feeding patterns in grasshoppers (Orthoptera, Acrididae) – factors influencing diet specialization. – *Oecologia* 38: 325–347.
- Kato, M. et al. 1990. Insect-flower relationship in the primary beech forest of Ashu, Kyoto: an overview of the flowering phenology and seasonal pattern of insect visits. – *Contr. Biol. Lab. Kyoto Univ.* 27: 309–375.
- Kevan, P. G. 1970. High arctic insect-flower visitor relations: the interrelationships of arthropods and flowers at Lake Hazen, Ellesmere Island, Northwest Territories, Canada. – Univ. of Alberta, Canada
- Lewis, O. T. et al. 2002. Structure of a diverse tropical forest insect-parasitoid community. – *J. Anim. Ecol.* 71: 855–873.
- Loye, J. E. 1992. Ecological diversity and host plant relationships of treehoppers in a lowland tropical rainforest (Homoptera: Membracidae and Nicomiidae). – In: Quintero, D. and Aiello, A. (eds), *Insects of Panama and MesoAmerica* – Oxford Univ. Press, pp. 280–289.
- McMullen, C. K. 1993. Flower-visiting insects of the Galapagos Islands. – *Pan-Pac. Entomol.* 69: 95–106.
- Medan, D. et al. 2002. Plant-pollinator relationships at two altitudes in the Andes of Mendoza, Argentina. – *Arct. Antarct. Alpine Res.* 34: 233–241.
- Memmott, J. 1999. The structure of a plant-pollinator food web. – *Ecol. Lett.* 2: 276–280.
- Memmott, J. et al. 1994. The structure of a tropical host parasitoid community. – *J. Anim. Ecol.* 63: 521–540.
- Mosquin, T. and Martin, J. E. H. 1967. Observations on the pollination biology of plants of Melville Island, N.W.T., Canada. – *Can. Field Nat.* 81: 201–205.
- Motten, A. F. 1986. Pollination ecology of the spring wildflower community of a temperate deciduous forest. – *Ecol. Monogr.* 56: 21–42.
- Muller, C. B. et al. 1999. The structure of an aphid-parasitoid community. – *J. Anim. Ecol.* 68: 346–370.
- Nakagawa, M. et al. 2003. Resource use of insect seed predators during general flowering and seeding events in a Bornean dipterocarp rain forest. – *Bull. Entomol. Res.* 93: 455–466.
- Novotny, V. et al. 2005. Host specialization and species richness of fruit flies (Diptera: Tephritidae) in a New Guinea rain forest. – *J. Tropical Ecol.* 21: 67–77.
- Olesen, J. M. et al. 2002. Invasion of pollination networks on oceanic islands: importance of invader complexes and endemic super generalists. – *Div. Distr.* 8: 181–192.
- Prado, P. I. and Lewinsohn, T. M. 2004. Compartments in insect-plant associations and their consequences for community structure. – *J. Anim. Ecol.* 73: 1168–1178.
- Ramirez, N. and Brito, Y. 1992. Pollination biology in a palm swamp community in the Venezuelan central plains. – *Bot. J. Linn. Soc.* 110: 277–302.
- Robertson, C. 1928. Flowers and insects. – The Science Press.
- Small, E. 1976. Insect pollinators of the Mer Bleue peat bog of Ottawa. – *Can. Field Nat.* 90: 22–28.
- Tavakilian, G. et al. 1997. Neotropical tree species and their faunas of xylophagous longicorns (Coleoptera: Cerambycidae) in French Guiana. – *Bot. Rev.* 63: 303–355.
- Tscharntke, T. et al. 2001. Parasitoids of grass-feeding chalcid wasps: a comparison of German and British communities. – *Oecologia* 129: 445–451.
- Ueckert, D. N. and Hansen, R. M. 1971. Dietary overlap in grasshoppers on sandhill rangeland in northeastern Colorado. – *Oecologia* 8: 276–295.
- Vazquez, D. P. and Simberloff, D. 2002. Ecological specialization and susceptibility to disturbance: conjectures and refutations. – *Am. Nat.* 159: 606–623.