TABLES

PEDRO JORDANO

Table captions

Table 1. A taxonomy of link types for ecological interactions (Olesen et al. 2011). A, number of animal species; P, number of plant species; I, number of observed links; $C = 100I/(AP)$, connectance; FL, number of forbidden links; and ML, number of missing links. As natural scientists, our ultimate goal is to eliminate ML from the equation $FL = AP - I - ML$, which probably is not feasible given logistic sampling limitations. When we, during our study, estimate ML to be negligible, we cease observing and estimate I and FL.

Table 2. Frequencies of different type of forbidden links in natural plant-animal interaction assemblages. AP, maximum potential links, I_{max}; I, number of observed links; UL, number of unobserved links; FL, number of forbidden links; FL_P, phenology; FL_S, size restrictions; FL_A, accessibility; FL_O, other types of restrictions; ML, unknown causes (missing links). Relative frequencies (in parentheses) calculated over $I_{max} = AP$ for I, ML, and FL; for all forbidden links types, calculated over FL. References, from left to right: Olesen et al. 2008; Olesen & Myrthue unpubl.; Snow & Snow 1972 and Jordano et al. 2006; Vizentin-Bugoni et al. 2014; Jordano et al. 2009; Olesen et al. 2011.

Table 3. A vectorized interaction matrix.

Table 4. Sampling statistics for three plant-animal interaction networks (Olesen et al. 2011). Symbols as in Table 1; N, number of records; $Chao1$ and ACE are asymptotic estimators for the number of distinct pairwise interactions I (Hortal et al. 2006), and their standard errors; C, sample coverage for rare interactions (Chao & Jost 2012). Scaled asymptotic estimators and their confidence intervals (CI) were calculated by weighting $Chao1$ and ACE with the observed frequencies of forbidden links.

TABLE 1

Link type	Formulation	Definition
Potential links	$I_{max} = AP$	Size of network matrix, i.e. maximum number of potentially observable interactions; A and P, numbers of interacting animal and plant species, respectively.
Observed links	I	Total number of observed links in the network given a sufficient sampling effort. Number of ones in the adjacency matrix.
Unobserved links	$UL = I_{max} - I$	Number of zeroes in the adjacency matrix.
Forbidden links	FL	Number of links, which remain unobserved because of linkage constraints, irrespectively of sufficient sampling effort.
Missing links	$ML = AP - I - FL$	Number of links, which may exist in nature but need more sampling effort and/or additional sampling methods to be observed.

TABLE 2

Link type	Pollination			Seed dispersal		
	Zackenberg	Grundvad	Arima Valley	Sta. Virginia	Hato Ratón	Nava Correhuelas
I_{max}	1891	646	522	423	272	825
I	268 (0.1417)	212 (0.3282)	185 (0.3544)	86 (0.1042)	151 (0.4719)	181 (0.2194)
UL	1507 (0.7969)	434 (0.6718)	337 (0.6456)	337 (0.4085)	169 (0.5281)	644 (0.7806)
FL	530 (0.3517)	107 (0.2465)	218 (0.6469)	260 (0.7715)	118 (0.6982)	302 (0.4689)
FL_P	530 (1.0000)	94 (0.2166)	0 (0.0000)	120 (0.1624)	67 (0.3964)	195 (0.3028)
FL_S	$\cdots(\cdots)$	8 (0.0184)	30 (0.0890)	140 (0.1894)	31 (0.1834)	46 (0.0714)
FL_A	$\cdots(\cdots)$	5 (0.0115)	150 (0.445)[a]	$\cdots(\cdots)$	20 (0.1183)	61 (0.0947)
FL_O	$\cdots(\cdots)$	$\cdots(\cdots)$	38 (0.1128)[b]	$\cdots(\cdots)$	$\cdots(\cdots)$	363 (0.5637)
ML	977 (0.6483)	327 (0.7535)	119 (0.3531)	77 (0.1042)	51 (0.3018)	342 (0.5311)

[a], Lack of accessibility due to habitat uncoupling, i.e., canopy-foraging species vs. understory species.
[b], Colour restrictions, and reward per flower too small relative to the size of the bird.

TABLE 3

Interaction	Sample 1	Sample 2	Sample 3	...	Sample i
A1 - P2	12	2	0	...	6
A1 - P2	0	0	0	...	1
...	...	...	...	...	...
A5 - P3	5	0	1	...	18
A5 - P4	1	0	1	...	3
...	...	...	...	...	...
A_i - P_i	1	0	1	...	2

TABLE 4

	Hato Ratón	Nava Correhuelas	Zackenberg
A	17	33	65
P	16	25	31
I_{max}	272	825	1891
N	3340	8378	1245
I	151	181	268
C	0.917	0.886	0.707
$Chao1$	263.1 ± 70.9	231.4 ± 14.2	509.6 ± 54.7
ACE	240.3 ± 8.9	241.3 ± 7.9	566.1 ± 14.8
Scaled Chao	195.4	162.7	308.4
CI	[124.5–266.3]	[148.5–176.9]	[253.6–363.1]
Scaled ACE	178.5	169.7	342.6
CI	[169.5–187.4]	[161.8–177.6]	[327.8–357.4]
% *unobserved*[a]	8.33	15.38	47.8

[a], estimated with library Jade (R Core Development Team 2010,Chao et al. 2015)