ROTHAMSTED RESEARCH

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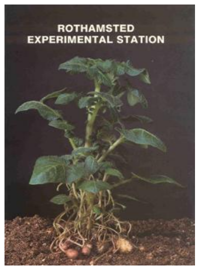

Synoptic Monitoring for Migrant Insect Pests in Great Britain and Western Europe. V. Analytical Tables for the Spatial and Temporal Population Parameters of Aphids and Moths

I. P. Woiwod and L. R. Taylor

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Synoptic monitoring for migrant insect pests in Great Britain and Western Europe. V. Analytical tables for the spatial and temporal population parameters of aphids and moths

I. P. WOIWOD and L. R. TAYLOR

Abstract

Functional regression intercepts, coefficients, and sample statistics in logarithms are tabulated for 97 aphid and 263 moth species from the power-law relationship between mean and variance of synoptic aerial survey samples in Great Britain between 1964 and 1982. The species-specific regression coefficients can be used to obtain population thresholds for damage, treatment and conservation.

Introduction

The Rothamsted Insect Survey was devised to produce current crop protection warnings by anticipating levels of crop infestation by aphids and infection by viruses, before damaging populations are reached. It was also intended to develop a longer-term forecasting technique for population distribution and density based on a system of comparative dynamics of insect populations (Taylor, 1973)[4]. It was therefore designed to find, and then measure, those species-specific population parameters that could be used to develop such a system of comparative spatial dynamics to be based on quantitative sample data collected systematically through the season. The agricultural objective was to make the handling of pest data for analysis, and its subsequent use for crop protection, a reliable practical procedure, repeatable each season for the same insect species even when found on different crops, and so capable of progressive improvement with successive use (Taylor, 1977a)[6].

The standard practice for all crop protection programmes depends upon establishing relationships between sample mean and variance, in order to define limits that may be used subsequently as thresholds for risk, and so to predict treatment dates from known population growth and migration parameters and environmental cues. The prediction procedure is well established for treatment thresholds and applies equally well to crop infestation thresholds.

A recent review of the literature relating to the procedure for analysing pest populations sampled in the field, and the subsequent synthesis for projection of treatment thresholds (Taylor, 1984)[8] demonstrated that established procedures for analysis of field pest data using the Negative Binomial, Iwao's Mean Crowding Equation and Morisita's I_δ are often inaccurate and the subsequent prediction of treatment thresholds are not then valid. These methods rely upon extrapolation from sample data that are not necessarily valid on subsequent occasions because the equations are not species-specific but only occasion-specific. The only equation that has been found to be species-specific and hence valid for different years and crops, and that can be constantly improved with each additional year's sampling data, is the power law regression $\log S^2 = \log a + b \log m$. The regression coefficient b is a species-specific; only the intercept a varies with crops and sites, making data accumulation and improvement easy and testable.

The main reason for tabulating these results is, therefore, to make available the migration statistics so far obtained, so that they can be used in population modelling and pest forecasting at Rothamsted and elsewhere. At the same time, their validity and species specificity, a very important property, may be projected for future verification. It is claimed that these relationships between sample mean and variance, once

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established, remain constant (Taylor, 1961[3]; Taylor & Taylor, 1977[12]; Taylor, Taylor, Woiwod & Perry, 1983[13]). Future samples should therefore conform to present predictions, and thereby validate the claim and the use of the parameters in crop protection analysis, modelling and forecasting.

The data

The data used for analysis are collected systematically at Rothamsted Insect Survey sampling stations listed in Table 1 for 12·2 m suction traps, and in Table 2 for 1·2 m light traps, in Taylor *et al.* (1981)[10].

The aphid samples for use in the spatial analysis are from a minimum of 10 sites per year and a maximum of 24 betwen 1969–82. The corresponding moth samples are from a minimum of 32 sites per year and a maximum of 126, between 1967–82.

For the temporal analysis sites are included if they have a minimum run of six years, not necessarily continuous, between 1968–82 for the aphids and 1964–82 for the moths. This gives a maximum of 20 sites per species for the aphids and 98 for the moths. Points were excluded from the regressions if the variance was less than or equal to the mean and the mean was less than 0·8. This was done to minimize the effect of small integer sample artifacts discussed in Taylor and Woiwod (1982)[15].

The species analysed here are the ones listed in Appendix A, aphids, and Appendix B, moths, in Taylor, Woiwod and Perry (1980)[17] and the Appendix in Taylor and Woiwod (1980)[14]. The 97 aphid species listed in Table 1 are numbered and named according to Table 3, and the 263 moth species listed here in Table 2 are named according to Table 4, in Taylor *et al.* (1981)[10].

Table 1 gives the functional spatial (s) and temporal (t) regression coefficients, G.M.a and G.M.b, the number of samples, N_s and N_t, the minimum, mean and maximum $\log_{10}$ mean and $\log_{10}$ variance, r^2, and relevant references to other tabulated, mapped, or analysed Survey data for each species. All species have previously been tabulated or analysed in Taylor, Woiwod and Perry (1980)[17], Taylor and Woiwod (1980)[14] and Taylor and Woiwod (1982)[15].

Monthly totals of weekly Aphid Bulletin species have been published since 1970 and yearly totals for 31 species of migrant or potential pest species of moths have been published since 1969 (e.g. Taylor *et al.*, 1984)[16]. First flight dates for 30 aphid species, mean annual density for 30 aphid and 20 moth species, the 10-year mean seasonal cycle of migration for 30 aphid and 20 moth species and the 10-year daily mean for total aphids and total moths are given in Taylor *et al.* (1981)[10].

Annual totals for 236 aphid species at 18 sampling stations, for the years 1975–80, are tabulated and the annual mean distributions for the seasonal cycles for the same years are mapped and described for 27 species in Taylor *et al.* (1982)[18].

Host plants in Britain and their distributions are given for 30 aphid species in Tatchell, Parker and Woiwod (1983)[2].

All species listed here are identified using a visual key for rapid identification of alate aphids (Taylor *et al.*, 1981)[11].

Dependent spatial regression coefficients ($\log_{10} a_s$; b_s) for an earlier sample period are given with SE's for the same 97 aphid and 263 moth species, with the range of sample means, in Taylor, Woiwod and Perry (1980)[17].

Similarly the dependent temporal regressions for the same species and the effectiveness of the log transformation are in Taylor and Woiwod (1980)[14].

Earlier functional spatial and temporal regression coefficients are presented as scatter diagrams in Taylor and Woiwod (1982)[15]. That paper was the first part of a comparative analysis of functional parameters. The data presented here will be used in

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subsequent analysis. Parameters from those remaining species for which the data are adequate will be presented in Part VI of this series.

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TABLE 1(a)

Variance and mean statistics for aphid samples in the 12·2 m suction traps of the Rothamsted Insect Survey from 1969–82. Spatial data (s); number of sample years from 1969–82, N_s: Max=14. Temporal data (t); number of sample traps with 6+ years record, N_t: Max=20. Species numbered as in Taylor et al. *(1981), Table 3. Number of species of aphid=97*

Sp. No.	Species name		Functional regression G.M.b	G.M.a	N_s N_t	$Log_{10}m$ min	mean	max	$Log_{10}s^2$ min	mean	max	r^2	Refs
1.	*Eulachnus agilis*	*s*	1·62	0·86	11	−0·64	0·25	1·26	−0·12	1·26	2·82	0·92	
		t	1·85	0·66	18	−0·74	0·19	0·93	−0·44	1·10	2·72	0·96	
2.	*Eulachnus bluncki*	*s*	1·38	0·80	9	−0·68	0·51	1·19	−0·16	1·51	2·58	0·96	
		t	1·76	0·65	18	−0·43	0·47	1·21	−0·26	1·48	2·88	0·96	
3.	*Eulachnus brevipilosus*	*s*	2·04	0·51	12	−0·74	0·35	1·72	−0·14	1·23	4·24	0·86	
		t	2·09	0·48	18	−0·45	0·33	1·40	0·07	1·17	3·62	0·91	
4.	*Shizolachnus pineti*	*s*	2·08	0·30	12	−0·15	0·68	1·49	0·08	1·71	3·32	0·97	
		t	1·91	0·41	17	−0·18	0·63	1·52	0·17	1·62	3·49	0·90	
38.	*Periphyllus hirticornis*	*s*	1·49	0·60	13	−0·72	−0·06	0·77	−0·44	0·47	1·68	0·95	17
		t	1·51	0·56	11	−0·70	0·11	1·01	−0·50	0·73	2·56	0·95	
41.	*Periphyllus testudinatus*	*s*	2·22	0·03	14	0·54	1·52	2·04	1·57	3·41	4·74	0·93	
		t	1·84	0·28	20	−0·38	1·20	1·98	0·00	2·49	5·00	0·98	
45.	*Chaitophorus populeti*	*s*	2·08	0·56	13	−0·28	0·64	1·66	0·33	1·89	4·01	0·96	
		t	1·83	0·58	19	−0·67	0·36	1·79	−0·47	1·24	4·10	0·97	
46.	*Chaitophorus populialbe*	*s*	2·13	0·39	13	−0·21	0·56	1·36	−0·29	1·58	3·16	0·96	
		t	1·80	0·56	17	−0·70	0·36	1·25	−0·50	1·21	3·07	0·97	
51.	*Sipha glyceriae*	*s*	1·96	0·61	14	−0·09	0·75	1·71	−0·35	2·08	4·55	0·96	
		t	2·11	0·26	20	0·11	0·83	2·15	0·50	2·01	4·92	0·89	

63.	*Myzocallis castanicola*	*s*	2·19	0·24	14	0·32	1·44	2·46	0·81	3·40	5·49	0·96	
		t	2·02	0·65	19	−0·30	1·13	2·49	0·03	2·52	5·30	0·98	
64.	*Myzocallis coryli*	*s*	2·11	0·23	14	0·12	1·25	2·47	0·46	2·87	5·19	0·98	17
		t	2·03	0·42	20	−0·38	1·02	2·35	0·23	2·49	5·22	0·97	
68.	*Tuberculoides annulatus*	*s*	2·12	−0·08	14	1·65	2·54	3·11	3·55	5·31	6·67	0·97	
		t	1·97	0·21	19	1·12	2·43	3·20	2·09	4·99	6·56	0·98	
70.	*Eucallipterus tiliae*	*s*	2·25	0·32	14	0·62	1·15	2·02	1·87	2·90	5·06	0·98	17
		t	1·92	0·48	20	−0·78	0·69	2·41	−0·48	1·81	5·39	0·98	
75.	*Pterocallis alni*	*s*	2·02	0·63	14	0·85	1·51	2·63	2·28	3·69	5·73	0·92	
		t	2·08	0·41	19	0·10	1·35	2·61	0·40	3·22	5·50	0·95	
78.	*Phyllaphis fagi*	*s*	2·46	−0·44	14	0·79	1·57	2·55	1·34	3·42	5·42	0·96	2, 14, 18
		t	2·22	−0·03	20	0·37	1·50	2·34	0·93	3·29	5·41	0·93	
82.	*Kallistaphis basalis*	*s*	2·18	0·21	14	0·53	0·93	1·58	1·23	2·23	3·65	0·95	
		t	2·19	0·02	18	0·18	0·93	1·74	0·49	2·05	3·82	0·92	
84.	*Betulaphis quadrituberculatas*	*s*	1·91	0·55	14	0·91	1·22	2·07	1·44	2·88	4·65	0·97	
		t	1·99	0·54	20	−0·07	1·20	1·90	0·75	2·92	4·74	0·91	
88.	*Euceraphis punctipennis*	*s*	2·29	−0·43	14	1·33	2·00	2·63	2·84	4·15	5·51	0·97	
		t	1·97	0·03	20	1·16	1·88	2·81	2·50	3·74	5·61	0·80	
91.	*Drepanosiphum platanoidis*	*s*	2·24	−0·49	14	2·25	2·86	3·25	4·98	5·93	7·22	0·75	2, 18
		t	1·96	0·17	20	1·99	2·76	3·32	4·31	5·57	6·81	0·80	
110.	*Hypalopterus pruni*	*s*	2·25	−0·42	14	2·14	2·65	3·32	4·26	5·55	6·91	0·85	2, 18
		t	2·15	−0·34	20	0·93	2·43	3·24	2·63	4·88	6·97	0·95	
111.	*Rhopalosiphum insertum*	*s*	2·25	−0·95	14	2·54	3·23	3·79	6·33	4·60	7·25	0·77	2, 5, 6, 18
		t	1·60	1·31	20	2·18	3·24	3·84	6·49	5·34	7·56	0·76	
112.	*Rhopalosiphum maidis*	*s*	2·21	−0·38	14	0·66	1·19	2·29	2·25	1·21	4·77	0·98	2, 18
		t	2·16	0·22	20	0·00	1·37	1·99	3·17	0·85	4·79	0·89	

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TABLE 1(b)

Sp. No.	Species name		Functional regression G.M.b	Functional regression G.M.a	N_s / N_t	$Log_{10}m$ min	$Log_{10}m$ mean	$Log_{10}m$ max	$Log_{10}s^2$ min	$Log_{10}s^2$ mean	$Log_{10}s^2$ max	r^2	Refs
113.	*Rhopalosiphum nymphaeae*	*s*	2·00	0·36	14	−0·53	0·57	1·07	−0·46	1·50	2·82	0·94	
		t	1·87	0·27	18	−0·45	0·44	1·28	−0·40	1·09	2·90	0·96	
114.	*Rhopalosiphum padi*	*s*	1·79	0·53	14	3·27	3·76	4·11	6·46	7·27	8·02	0·78	2, 4, 5, 18
		t	2·27	1·28	20	3·23	3·72	4·15	6·24	7·18	8·03	0·70	
125.	*Aphis sambuci*	*s*	3·56	−1·69	14	0·89	1·30	1·89	1·62	2·94	4·72	0·91	17, 20
		t	1·82	0·32	20	−0·07	1·01	2·14	0·73	2·16	4·75	0·86	
132.	*Aphis fabae*	*s*	2·26	−0·59	14	1·88	2·52	3·17	3·67	5·10	6·50	0·90	2, 6, 18, 21
		t	2·10	−0·20	20	1·02	2·48	3·18	2·94	5·01	6·70	0·90	
142.	*Aphis corniella*	*s*	2·33	0·05	14	0·28	1·02	1·56	0·78	2·43	3·69	0·95	5
		t	1·88	0·30	20	−0·38	0·78	1·91	−0·15	1·76	3·99	0·88	
152.	*Aphis nasturtii*	*s*	1·72	0·65	13	−0·90	0·13	1·35	−0·60	0·87	3·09	0·98	
		t	1·79	0·78	14	−0·70	0·37	1·49	−0·22	1·44	3·56	0·97	
153.	*Aphis pomi*	*s*	1·96	0·24	14	−0·35	1·18	1·61	0·25	2·56	3·91	0·81	
		t	2·21	0·38	18	0·64	1·12	1·73	1·24	2·10	4·04	0·86	
211.	*Ceruraphis eriophori*	*s*	2·38	−0·83	14	0·75	1·50	2·14	2·10	3·33	4·89	0·90	
		t	2·12	−0·16	19	0·38	1·35	2·46	0·60	2·70	5·04	0·96	
234.	*Dysaphis plantaginea*	*s*	1·85	0·41	14	0·62	1·19	1·84	1·61	2·62	3·95	0·95	2, 18
		t	1·83	0·27	18	−0·03	1·05	1·88	0·35	2·19	3·85	0·95	
235.	*Dysaphis pyri*	*s*	2·15	0·34	14	0·04	0·59	1·19	0·30	1·61	3·03	0·96	
		t	1·72	0·44	17	−0·40	0·36	1·37	−0·24	1·06	2·93	0·96	
241.	*Brachycaudus cardui*	*s*	1·91	0·05	14	−0·05	0·60	0·91	0·56	1·20	1·84	0·64	
		t	1·27	0·39	20	−0·30	0·47	1·01	0·32	0·99	1·73	0·83	

243.	*Brachycaudus helichrysi*	*s*	2·25	−0·85	14	2·33	2·75	3·07	4·43	5·34	6·04	0·90	2, 18
		t	1·86	0·12	20	1·68	2·63	3·11	3·44	5·00	5·85	0·83	
249.	*Brachycaudus persicae*	*s*	1·86	0·65	13	−0·57	0·25	0·94	−0·45	1·12	2·48	0·97	
		t	1·64	0·45	12	−0·70	0·13	0·98	−0·50	0·66	2·41	0·90	
253.	*Thuleaphis rumexicolens*	*s*	2·26	0·20	14	0·24	1·14	2·12	0·81	2·78	4·69	0·94	
		t	2·04	0·36	19	0·23	0·96	2·06	0·93	2·31	4·84	0·93	
261.	*Hayhurstia atriplicis*	*s*	2·24	0·13	14	0·61	1·08	2·02	0·76	2·55	4·85	0·93	
		t	2·15	0·30	20	−0·12	1·02	2·03	0·22	2·49	4·78	0·94	
264.	*Brevicoryne brassicae*	*s*	2·19	0·07	14	1·27	1·84	2·57	2·79	4·10	5·95	0·85	2, 18
		t	1·97	0·47	20	0·34	1·71	2·62	0·91	3·85	5·82	0·96	
267.	*Lipaphis erysimi*	*s*	2·05	0·46	14	−0·36	0·39	1·21	−0·28	1·26	2·94	0·85	
		t	2·02	0·44	18	−0·60	0·33	1·25	−0·45	1·11	3·18	0·95	
271.	*Hyadaphis foeniculi*	*s*	2·05	0·08	14	0·94	1·55	2·05	2·11	3·26	4·53	0·74	
		t	1·69	0·41	19	0·18	1·44	2·03	0·36	2·85	4·03	0·97	
286.	*Myzaphis rosarum*	*s*	1·91	0·57	13	−0·78	0·18	1·18	−0·50	0·91	3·10	0·97	
		t	1·76	0·45	16	−0·70	0·22	0·97	−0·26	0·84	2·12	0·94	
287.	*Pentatrichopus fragaefolii*	*s*	1·85	0·59	13	−0·90	−0·13	1·00	−0·70	0·35	3·11	0·88	2
		t	1·96	0·56	14	−0·78	−0·05	1·06	−0·48	0·46	3·19	0·88	
290.	*Elatobium abietinum*	*s*	2·20	0·00	14	1·59	2·17	2·96	3·02	4·77	6·86	0·82	2, 6, 18
		t	2·18	−0·17	20	1·19	1·98	2·95	2·38	4·14	5·95	0·91	
292.	*Cavariella aegopodii*	*s*	2·26	−0·61	14	1·76	2·38	2·90	3·46	4·77	6·02	0·97	2, 18
		t	1·97	0·01	20	0·97	2·25	3·02	2·11	4·44	6·04	0·91	
293.	*Cavariella archangelicae*	*s*	1·81	0·53	14	−0·08	1·04	1·80	0·83	2·41	3·90	0·86	
		t	1·78	0·49	20	−0·40	0·95	1·65	0·10	2·18	3·98	0·88	
295.	*Cavariella konoi*	*s*	1·95	0·39	14	−0·56	0·54	1·29	−0·35	1·44	3·24	0·96	
		t	2·10	0·37	20	0·13	0·68	1·45	0·50	1·80	3·47	0·89	

TABLE 1(c)

Sp. No.	Species name		Functional regression G.M.b	Functional regression G.M.a	N_s / N_t	$Log_{10}m$ min	$Log_{10}m$ mean	$Log_{10}m$ max	$Log_{10}s^2$ min	$Log_{10}s^2$ mean	$Log_{10}s^2$ max	r^2	Refs
296.	*Cavariella pastinaceae*	*s*	2·09	−0·22	14	1·00	2·06	2·74	1·99	4·09	5·69	0·98	13
		t	2·12	−0·16	20	1·11	2·06	2·76	2·43	4·20	5·73	0·86	
298.	*Cavariella theobaldi*	*s*	2·09	−0·20	14	0·92	1·72	2·45	1·74	3·40	5·01	0·97	
		t	2·15	−0·16	20	0·59	1·70	2·30	1·75	3·49	5·10	0·82	
301.	*Ovatus crataegarius*	*s*	2·14	0·09	14	0·62	1·00	1·50	1·53	2·23	3·50	0·95	
		t	1·74	0·29	19	−0·37	0·79	1·73	−0·07	1·66	3·44	0·94	
308.	*Phorodon humuli*	*s*	1·91	0·72	14	3·29	2·47	3·29	4·49	5·43	7·06	0·95	2, 5, 14, 18, 19
		t	2·16	−0·18	19	3·35	1·92	3·35	0·10	3·97	7·36	0·98	
309.	*Rhopalomyzus poae*	*s*	1·61	0·53	14	0·80	0·09	0·80	−0·48	0·67	1·96	0·94	
		t	1·56	0·47	17	0·91	0·12	0·91	−0·42	0·66	2·02	0·89	
312.	*Myzus cerasi*	*s*	2·46	−0·92	14	1·49	1·90	2·52	2·73	3·76	5·37	0·96	
		t	1·90	0·11	20	−0·12	1·74	2·33	0·62	3·41	4·67	0·90	
314.	*Myzus lythri*	*s*	1·55	0·43	14	−0·43	0·42	0·87	0·07	1·08	1·88	0·90	
		t	1·54	0·31	16	−0·54	0·36	0·97	−0·43	0·87	1·89	0·96	
315.	*Myzus ornatus*	*s*	1·91	0·19	14	0·96	0·79	1·36	0·87	1·70	2·79	0·97	2, 18
		t	1·73	0·28	19	−0·04	0·74	1·50	0·55	1·56	2·87	0·91	
318.	*Myzus ascalonicus*	*s*	2·03	−0·23	14	0·95	1·59	2·13	1·64	3·00	4·28	0·95	2, 18
		t	1·83	0·16	20	0·75	1·58	2·15	1·74	3·06	4·06	0·82	
319.	*Myzus certus*	*s*	2·06	0·03	14	−0·48	0·88	1·68	−0·37	1·85	3·44	0·94	2, 18
		t	1·90	0·33	20	−0·38	0·90	1·64	0·00	2·04	3·72	0·89	

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320.	*Myzus ligustri*	*s*	1·52	0·52	14	−1·02	0·25	1·40	−1·04	0·90	2·85	0·99	17
		t	1·69	0·52	19	−0·84	0·54	1·25	−0·54	1·43	2·77	0·97	
322.	*Myzus persicae*	*s*	2·34	−0·70	14	1·81	2·14	2·74	3·73	4·31	5·93	0·87	2, 5, 6,
		t	2·01	−0·06	20	1·05	2·04	2·79	2·23	4·04	6·11	0·88	7, 18, 22
325.	*Tubaphis ranunculina*	*s*	1·79	0·34	14	−0·12	0·55	1·30	0·31	1·33	2·80	0·86	
		t	2·07	0·11	19	−0·10	0·60	1·30	0·12	1·35	2·83	0·90	
335.	*Cryptomyzus ballotae*	*s*	1·90	0·80	13	−1·06	−0·03	0·86	−1·08	0·74	2·56	0·96	
		t	1·52	0·64	10	−0·78	0·03	0·91	−0·48	0·69	2·06	0·95	
336.	*Cryptomyzus galeopsidis*	*s*	2·77	−1·21	14	1·10	1·50	1·76	1·85	2·95	3·86	0·84	5
		t	2·74	−1·22	20	0·94	1·38	1·89	1·42	2·56	3·94	0·71	
342.	*Capitophorus elaeagni*	*s*	2·31	0·20	14	−0·09	0·53	0·99	0·43	1·42	2·43	0·85	
		t	2·15	0·05	18	−0·06	0·45	1·02	0·15	1·02	2·46	0·88	
343.	*Capitophorus hippophaes*	*s*	2·36	−0·83	14	1·52	2·12	2·61	2·75	4·19	5·60	0·96	
		t	2·25	−0·54	20	1·70	2·13	2·82	2·88	4·25	5·80	0·82	
344.	*Capitophorus horni*	*s*	2·12	0·54	14	−0·82	0·03	0·46	−0·62	0·60	2·11	0·64	
		t	1·64	0·41	17	−0·84	−0·07	1·11	−0·54	0·30	2·69	0·88	
346.	*Capitophorus similis*	*s*	2·60	−0·81	14	1·17	1·47	1·82	2·14	3·01	3·85	0·86	
		t	1·74	0·12	20	0·15	1·24	2·04	0·28	2·27	3·82	0·88	
355.	*Nasonovia ribisnigri*	*s*	2·63	−0·98	14	0·92	1·18	1·46	1·47	2·12	2·77	0·96	2, 18
		t	1·81	−0·07	20	0·33	1·07	1·48	0·47	1·86	2·82	0·71	
358.	*Hyperomyzus lactucae*	*s*	2·66	−1·28	14	1·28	1·58	2·02	2·23	2·93	4·14	0·90	18
		t	1·85	0·00	20	0·03	1·47	1·92	0·73	2·71	3·86	0·83	
360.	*Hyperomyzus pallidus*	*s*	1·82	0·38	14	−0·48	0·35	1·20	−0·23	1·02	2·87	0·96	
		t	1·88	0·32	16	−0·54	0·48	0·94	−0·28	1·22	2·73	0·87	
362.	*Neonasonovia picridis*	*s*	2·34	0·86	13	−0·54	0·09	0·61	−0·43	1·07	2·41	0·95	
		t	1·26	0·40	9	−0·88	−0·11	0·80	−0·57	0·26	1·40	0·91	
368.	*Rhopalosiphoninus staphyleae*	*s*	1·78	0·16	14	0·07	0·61	0·93	0·49	1·24	2·29	0·67	2
		t	1·52	0·24	20	−0·48	0·54	1·02	0·12	1·06	2·51	0·72	

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TABLE 1(d)

Sp. No.	Species name		Functional regression G.M.b	Functional regression G.M.a	N_s N_t	$Log_{10}m$ min	$Log_{10}m$ mean	$Log_{10}m$ max	$Log_{10}s^2$ min	$Log_{10}s^2$ mean	$Log_{10}s^2$ max	r^2	Refs
372.	*Microlophium evansi*	*s*	1·86	0·44	14	0·54	1·90	2·80	1·56	3·97	5·72	0·98	
		t	1·83	0·69	20	1·09	2·04	2·65	2·47	4·42	5·68	0·92	
378.	*Neomyzus circumflexum*	*s*	1·47	0·56	13	−1·08	−0·08	0·63	−0·78	0·44	1·76	0·93	
		t	1·32	0·48	14	−0·54	0·09	0·79	−0·15	0·60	1·83	0·85	
381.	*Acyrthosiphon loti*	*s*	2·21	0·54	13	−0·65	−0·03	0·94	−0·48	0·47	2·91	0·94	
		t	2·13	0·54	15	−0·57	0·07	0·91	−0·43	0·69	2·87	0·88	
389.	*Acyrthosiphon pisum*	*s*	2·44	−0·72	14	1·37	1·92	2·52	2·46	3·96	5·43	0·97	2, 17, 18
		t	2·21	1·53	20	0·99	1·80	2·70	1·55	3·63	5·58	0·90	
395.	*Metopolophium albidum*	*s*	1·77	0·49	14	−0·65	0·65	1·41	−0·35	1·64	3·11	0·97	
		t	2·11	0·29	19	0·36	0·83	1·34	0·90	2·04	2·98	0·89	
396.	*Metopolophium dirhodum*	*s*	2·30	−0·60	14	2·19	3·01	4·24	4·27	6·33	9·18	0·98	1, 2, 6
		t	2·38	−0·64	20	2·09	3·09	3·96	4·60	6·70	8·84	0·96	19
397.	*Metopolophium festucae*	*s*	1·70	0·58	14	0·55	1·79	2·43	2·15	3·61	5·32	0·86	2, 18
		t	2·08	−0·03	20	1·18	1·90	2·50	3·00	3·92	5·55	0·81	
398.	*Metopolophium frisicum*	*s*	1·91	0·61	13	−0·88	0·08	1·16	−0·68	0·76	2·99	0·95	
		t	2·32	0·49	17	−0·30	0·27	1.29	−0·07	1·12	3·21	0·93	
402.	*Linosiphon galiophagus*	*s*	1·88	0·55	13	−0·13	0·63	1·33	0·19	1·73	3·02	0·94	
		t	2·01	0·33	18	0·13	0·70	1·44	0·43	1·74	3·38	0·96	
410.	*Macrosiphum euphorbiae*	*s*	2·30	−0·67	14	1·56	1·95	2·22	2·85	3·81	4·50	0·64	2, 4, 18
		t	1·75	0·27	20	0·97	1·85	2·34	2·75	3·50	4·58	0·45	
413.	*Macrosiphum gei*	*s*	1·37	0·38	14	−0·30	0·21	0·72	0·08	0·67	1·64	0·88	
		t	1·27	0·39	18	−0·10	0·25	0·73	0·08	0·71	1·26	0·69	
416.	*Macrosiphum rosae*	*s*	2·72	−0·88	14	0·76	1·05	1·28	1·27	1·97	2·80	0·82	
		t	1·50	0·39	20	0.03	0·94	1·41	1·08	1·80	2·95	0·62	

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420.	*Sitobion avenae*	*s*	2·00	−0·15	14	2·63	3·10	3·75	5·01	6·05	7·19	0·95	2, 6, 18
		t	1·58	1·52	20	2·49	3·18	3·65	5·66	6·54	7·28	0·68	
421.	*Sitobion fragariae*	*s*	2·58	−1·44	14	1·73	2·07	2·58	2·96	3·91	5·35	0·93	2, 18
		t	1·93	0·14	20	0·55	2·00	2·44	2·03	3·99	5·48	0·83	
470.	*Megoura viciae*	*s*	1·71	0·47	14	−1·04	0·40	1·17	−1·06	1·15	2·73	0·93	2
		t	2·19	0·13	20	−0·10	0·55	1·24	0·01	1·33	2·78	0·91	
477.	*Wahlgreniella arbuti*	*s*	2·03	0·52	13	−0·74	0·99	1·98	−0·79	2·52	4·34	0·99	
		t	1·81	0·58	17	−0·19	0·73	2·05	−0·03	1·90	4·01	0·96	
480.	*Anoecia corni*	*s*	2·14	−0·11	14	1·65	1·87	2·10	3·41	3·88	4·42	0·94	14
		t	1·48	0·19	19	−0·60	1·40	2·42	−0·41	2·27	3·75	0·98	
490.	*Thelaxes dryophila*	*s*	2·50	−0·41	14	1·19	1·66	2·19	2·42	3·73	4·71	0·94	13
		t	1·77	0·32	19	0·20	1·33	2·41	0·69	2·68	4·82	0·95	
499.	*Eriosoma patchae*	*s*	2·42	−0·30	14	−0·26	1·13	1·80	−0·28	2·43	2·95	0·93	
		t	1·95	0·10	19	0·52	1·00	1·52	0·89	2·05	3·11	0·90	
500.	*Eriosoma ulmi*	*s*	2·10	−0·08	14	1·03	1·69	2·26	1·95	3·46	4·66	0·98	2, 18
		t	2·00	0·01	20	0·26	1·56	2·29	0·97	3·12	4·57	0·93	
502.	*Kaltenbachiella pallida*	*s*	1·70	0·68	14	−1·02	−0·30	0·63	−1·04	0·17	1·85	0·94	
		t	2·04	0·67	17	−0·57	−0·06	0·61	−0·45	0·55	1·82	0·88	
503.	*Tetraneura ulmi*	*s*	3·10	−0·69	14	0·47	0·88	1·38	1·11	2·04	3·77	0·90	
		t	1·88	0·03	19	−0·22	0·61	1·45	−0·08	1·18	3·95	0·82	
508.	*Prociphilus pini*	*s*	1·99	0·63	14	−0·22	0·41	1·09	0·15	1·45	2·77	0·93	
		t	1·83	0·37	15	−0·30	0·43	1·44	−0·14	1·16	2·97	0·90	
510.	*Mimeuria ulmiphila*	*s*	1·79	0·54	14	−0·12	0·34	1·00	0·05	1·15	2·30	0·93	
		t	1·54	0·49	13	−0·60	0·41	1·02	−0·30	1·12	2·39	0·96	
512.	*Thecabius affinis*	*s*	2·29	−0·49	14	1·03	1·39	1·80	1·91	2·70	3·68	0·88	
		t	1.78	0·30	20	0·05	1·28	1·86	0·71	2·58	3·45	0·84	
530.	*Aploneura lentisci*	*s*	1·93	0·55	12	−0·48	0·47	2·89	−0·24	1·46	6·23	0·98	
		t	2·21	0·64	19	−0·30	1·22	2·57	0·13	3·34	6·27	0·98	13
751.	*Utamphorophora humboldti*	*s*	1·66	0·62	9	−0·20	0·79	1·76	0·38	1·93	3·44	0·96	
		t	1·71	0·93	18	−0·60	0·76	1·49	−0·12	2·23	3·39	0·95	

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TABLE 1(e)

Variance and mean statistics for moth samples in 1·2 m light traps of the Rothamsted Insect Survey from 1964–82. Spatial data (s); number of sample years from 1967–82, N_s: Max=16. Temporal data (t); number of sample traps with 6+ years' record, N_t: Max=98. Species numbered as in Taylor et al. *(1981), Table 3. Number of species of moths=263*

Sp. No.	Species name		Functional regression G.M.*b*	G.M.*a*	N_s N_t	$Log_{10}m$ min	mean	max	$Log_{10}s^2$ min	mean	max	r^2	Refs
80.	*Laothoe populi*	*s*	2·98	−0·04	16	0·27	0·43	0·58	0·75	1·24	1·80	0·84	
		t	1·50	0·05	79	−0·48	0·30	1·24	−0·43	0·50	2·03	0·74	
108.	*Pheosia tremula*	*s*	2·29	1·16	16	−0·74	−0·34	0·09	−0·49	0·38	1·33	0·83	
		t	1·46	0·37	24	−0·75	−0·12	1·09	−0·55	0·19	2·08	0·84	
109.	*Pheosia gnoma*	*s*	2·85	0·53	16	0·29	0·54	0·73	1·13	2·07	2·50	0·78	
		t	1·48	0·24	50	−0·56	0·44	1·96	−0·35	0·89	2·99	0·93	
110.	*Notodonta ziczac*	*s*	3·30	1·01	16	−0·21	−0·03	0·30	0·21	0·91	1·71	0·77	
		t	1·28	0·27	37	−0·70	0·04	1·62	−0·50	0·32	2·61	0·87	
111.	*Notodonta dromedarius*	*s*	1·96	0·84	16	−0·86	−0·47	−0·26	−0·83	−0·08	0·33	0·83	
		t	1·24	0·22	23	−0·54	−0·11	0·71	−0·43	0·08	1·21	0·87	
117.	*Lophopteryx capucina*	*s*	2·15	0·48	16	0·47	0·65	0·82	1·49	1·88	2·33	0·72	
		t	1·58	0·07	75	−0·53	0·53	1·71	−0·46	0·91	2·99	0·87	
120.	*Pterostoma palpina*	*s*	2·22	0·58	16	−0·14	0·33	0·96	0·63	1·31	2·54	0·88	
		t	1·53	0·27	61	−0·53	0·30	1·25	−0·46	0·73	2·44	0·81	
121.	*Phalera bucephala*	*s*	1·89	0·75	16	−0·24	0·30	0·70	0·30	1·32	2·15	0·86	
		t	1·59	0·27	60	−0·60	0·26	1·51	−0·34	0·68	3·02	0·90	
125.	*Habrosyne pyritoides*	*s*	1·77	0·80	16	0·01	0·43	0·74	0·87	1·56	2·28	0·51	
		t	1·61	0·22	62	−0·52	0·43	1·50	−0·34	0·91	2·97	0·91	

126.	*Thyatira batis*	*s*	2·05	0·70	16	−0·13	0·21	0·55	0·44	1·13	1·72	0·94	
		t	1·47	0·24	53	−0·75	0·17	1·27	−0·55	0·49	2·58	0·89	
129.	*Tethea duplaris*	*s*	1·92	1·26	16	−0·79	0·05	0·66	−0·16	1·36	2·71	0·92	
		t	1·52	0·49	31	−0·95	0·02	1·50	−0·65	0·52	3·40	0·90	
132.	*Achlya flavicornis*	*s*	1·87	1·21	16	0·40	0·66	1·08	1·90	2·44	3·09	0·92	
		t	1·49	0·35	40	−0·52	0·52	2·02	−0·26	1·12	3·36	0·96	
137.	*Dasychira pudibunda*	*s*	2·32	0·94	16	−0·44	0·19	0·82	0·03	1·38	2·90	0·92	
		t	1·65	0·29	38	−0·54	0·30	2·04	−0·43	0·78	3·77	0·90	
139.	*Euproctis similis*	*s*	1·83	0·75	16	0·73	1·02	1·52	2·01	2·62	3·45	0·97	
		t	1·57	0·27	66	−0·37	0·84	2·01	−0·21	1·59	3·61	0·93	
145.	*Malacosoma neustria*	*s*	2·09	0·95	16	0·12	0·78	1·40	1·06	2·58	3·83	0·96	12
		t	1·74	0·25	43	−0·68	0·56	2·21	−0·54	1·22	4·14	0·95	
147.	*Trichiura crataegi*	*s*	2·24	1·04	16	−0·25	0·19	0·56	0·19	1·46	2·20	0·92	
		t	1·61	0·16	30	−0·65	0·42	1·76	−0·35	0·84	3·19	0·90	
148.	*Poecilocampa populi*	*s*	1·91	0·68	16	0·86	1·28	1·60	2·30	3·12	3·60	0·84	
		t	1·59	0·27	79	−0·90	0·93	2·40	−0·60	1·75	4·13	0·95	
154.	*Philudoria potatoria*	*s*	1·83	0·81	16	0·38	0·72	0·99	1·68	2·12	2·67	0·81	
		t	1·55	0·23	58	−0·30	0·59	1·57	−0·07	1·14	2·71	0·91	
161.	*Drepana binaria*	*s*	1·77	0·88	16	−0·76	−0·07	0·33	−0·37	0·76	1·76	0·92	
		t	1·51	0·34	37	−0·70	0·28	1·30	−0·40	0·76	2·18	0·89	
163.	*Drepana falcataria*	*s*	2·93	0·86	16	−0·43	0·20	0·38	−0·25	1·45	2·13	0·79	
		t	1·28	0·22	40	−0·90	0·20	1·73	−0·60	0·48	2·88	0·86	
164.	*Drepana lacertinaria*	*s*	3·17	1·01	16	−0·14	0·27	0·67	0·77	1·86	3·04	0·86	
		t	1·34	0·26	34	−0·54	0·30	2·11	−0·46	0·66	3·68	0·92	
165.	*Cilix glaucata*	*s*	2·56	0·10	16	0·41	0·75	1·07	1·32	2·02	2·82	0·90	
		t	1·66	0·08	67	−0·52	0·67	1·72	−0·34	1·19	3·66	0·88	

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TABLE 1(f)

Sp. No.	Species name		Functional regression G.M.b	Functional regression G.M.a	N_s / N_t	$Log_{10}m$ min	$Log_{10}m$ mean	$Log_{10}m$ max	$Log_{10}s^2$ min	$Log_{10}s^2$ mean	$Log_{10}s^2$ max	r^2	Refs
166.	*Nola cucullatella*	*s*	1·92	0·84	16	−0·07	0·51	0·74	0·77	1·82	2·28	0·85	
		t	1·57	0·20	49	−0·60	0·69	1·85	−0·30	1·28	2·95	0·82	
174.	*Miltochrista miniata*	*s*	1·54	1·29	16	−0·22	0·10	0·42	1·06	1·44	2.04	0·60	
		t	1·56	0·32	23	−0·38	0·42	1·57	−0·18	0·98	2·82	0·93	
176.	*Cybosia mesomella*	*s*	2·44	1·10	16	0·23	0·64	1·06	1·64	2·66	3·67	0·95	
		t	1·57	0·32	31	−0·65	0·61	2·52	−0·35	1·28	4·53	0·96	
179.	*Lithosia griseola*	*s*	1·81	1·38	16	−0·56	0·32	0·97	0·28	1·96	3·15	0·95	
		t	1·63	0·51	27	−0·65	0·49	2·00	−0·52	1·31	3·97	0·93	
180.	*Lithosia lurideola*	*s*	1·94	0·81	16	1·38	1·75	2·04	3·39	4·20	4·73	0·82	
		t	1·71	0·28	67	−0·54	1·35	2·65	−0·44	2·59	5·45	0·94	
181.	*Lithosia complana*	*s*	2·40	1·30	16	−0·36	0·15	0·69	0·39	1·66	3·08	0·98	
		t	1·54	0·50	27	−0·84	0·21	1·84	−0·54	0·82	3·13	0·92	
191.	*Callimorpha jacobaeae*	*s*	2·36	0·72	16	0·53	1·04	1·41	2·07	3·18	4·09	0·93	20
		t	1·71	0·31	47	−0·95	0·57	2·43	−0·65	1·28	4·91	0·94	
192.	*Spilosoma lubricipeda*	*s*	2·37	−0·41	16	1·54	1·73	1·99	3·24	3·69	4·22	0·88	
		t	1·77	0·03	92	−0·24	1·43	2·50	−0·21	2·56	4·70	0·93	
194.	*Spilosoma lutea*	*s*	1·77	0·65	16	1·29	1·54	1·74	3·00	3·37	3·76	0·84	20, 22
		t	1·68	0·10	79	−0·70	1·26	2·10	−0·50	2·22	3·76	0·94	
195.	*Cycnia mendica*	*s*	1·97	0·60	16	−0·04	0·53	0·88	0·43	1·64	2·24	0·90	
		t	1·59	0·23	62	−0·56	0·51	1·49	−0·38	1·04	2·55	0·88	
197.	*Phragmatobia fuliginosa*	*s*	2·05	0·85	16	−0·42	0·01	0·44	−0·09	0·87	1·76	0·96	
		t	1·57	0·30	46	−0·60	0·20	1·05	−0·31	0·61	2·06	0·85	

200.	*Arctia caja*	*s*	3·30	−0·20	16	0·53	0·71	0·89	1·66	2·15	3·16	0·78	
		t	1·50	0·21	68	−0·75	0·40	1·96	−0·55	0·81	3·44	0·92	
266.	*Hepialus humuli*	*s*	2·46	0·62	16	−0·34	−0·06	0·25	−0·11	0·47	1·27	0·82	
		t	1·62	0·26	52	−0·65	0·05	0·54	−0·35	0·34	1·22	0·60	
267.	*Hepialus sylvina*	*s*	2·08	0·71	16	0·04	0·45	0·69	0·85	1·65	2·08	0·86	
		t	1·40	0·40	57	−0·70	0·33	1·70	−0·50	0·86	2·88	0·86	
268.	*Hepialus fusconebulosa*	*s*	2·04	0·95	16	0·18	0·55	0·74	1·45	2·07	2·66	0·77	
		t	1·49	0·44	43	−0·75	0·40	1·62	−0·55	1·04	2·92	0·93	
269.	*Hepialus lupulina*	*s*	2·06	0·59	16	0·56	0·93	1·45	1·85	2·51	3·81	0·93	10
		t	1·66	0·28	74	−0·70	0·70	2·05	−0·40	1·44	3·92	0·92	
273.	*Euxoa nigricans*	*s*	2·29	1·05	16	−0·81	−0·04	0·52	−0·70	0·96	2·35	0·92	10, 20,
		t	1·67	0·47	50	−0·70	0·11	1·73	−0·50	0·65	3·55	0·90	22
277.	*Agrotis segetum*	*s*	2·27	0·74	16	−0·46	0·23	0·79	−0·16	1·26	2·58	0·92	
		t	1·85	0·33	54	−0·48	0·33	1·67	−0·34	0·94	3·63	0·94	
280.	*Agrotis clavis*	*s*	2·44	1·24	16	−0·24	0·00	0·20	0·71	1·24	1·87	0·83	
		t	1·26	0·44	21	−0·64	0·30	1·65	−0·44	0·82	2·52	0·92	
282.	*Agrotis puta*	*s*	1·98	0·78	16	−0·09	0·56	1·32	0·61	1·89	3·24	0·95	
		t	1·76	0·41	58	−0·70	0·63	1·76	−0·40	1·52	3·67	0·92	
285.	*Agrotis exclamationis*	*s*	2·62	−0·72	16	1·11	1·80	2·49	2·73	3·99	6·16	0·96	10
		t	2·02	0·07	93	−0·60	1·57	2·73	−0·41	3·24	6·09	0·92	
286.	*Agrotis ipsilon*	*s*	1·63	0·73	16	−1·24	−0·51	0·13	−1·11	−1·10	1·07	0·96	
		t	1·51	0·48	33	−0·70	−0·06	0·96	−0·45	0·39	1·98	0·83	
289.	*Lycophotia varia*	*s*	3·38	−0·44	16	0·84	1·35	1·79	2·44	4·13	5·29	0·93	12, 13,
		t	1·71	0·31	53	−0·90	0·71	3·35	−0·60	1·52	6·01	0·94	17
297.	*Graphiphora augur*	*s*	1·92	0·91	16	−0·03	0·37	0·83	1·02	1·62	2·58	0·94	
		t	1·53	0·33	48	−0·65	0·33	1·66	−0·44	0·83	2·95	0·95	

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TABLE 1(g)

Sp. No.	Species name		Functional regression G.M.b	G.M.a	N_s N_t	$Log_{10}m$ min	mean	max	$Log_{10}s^2$ min	mean	max	r^2	Refs
298.	*Diarsia brunnea*	*s*	2·36	0·54	16	0·64	0·94	1·26	2·08	2·76	3·38	0·78	
		t	1·64	0·42	59	−0·54	0·66	2·18	−0·34	1·50	3·79	0·94	
299.	*Diarsia mendica*	*s*	1·62	1·14	16	1·27	1·50	1·69	3·18	3·57	3·94	0·81	
		t	1·68	0·13	88	−0·70	1·10	2·53	−0·40	1·98	4·29	0·95	
301.	*Diarsia dahlii*	*s*	1·62	1·68	16	0·16	0·52	0·95	2·01	2·52	3·34	0·81	
		t	1·52	0·68	26	−0·81	0·51	2·10	−0·51	1·46	3·64	0·95	
302.	*Diarsia rubi*	*s*	2·36	−0·19	16	1·42	1·85	2·14	3·25	4·17	5·17	0·87	
		t	1·85	0·19	96	−0·48	1·49	2·84	−0·18	2·95	6·29	0·92	
304.	*Ochropleura plecta*	*s*	2·23	0·29	16	0·79	1·23	1·55	2·30	3·03	3·86	0·73	
		t	1·70	0·22	94	−0·48	0·92	2·09	−0·19	1·78	4·32	0·89	
309.	*Paradiasia glareosa*	*s*	2·12	0·97	16	0·08	0·43	0·88	1·23	1·88	2·94	0·82	
		t	1·55	0·32	43	−0·65	0·44	1·73	−0·35	1·00	3·05	0·92	
311.	*Amathes baja*	*s*	2·18	0·73	16	0·72	0·19	1·16	2·31	2·71	3·37	0·74	
		t	1·56	0·28	56	−0·84	0·64	2·22	−0·54	1·28	3·85	0·95	
313.	*Amathes c-nigrum*	*s*	1·95	0·69	16	0·73	1·21	1·89	1·95	3·05	4·50	0·96	14
		t	1·88	0·26	87	−0·63	0·95	1·93	−0·30	2·05	4·31	0·94	
314.	*Amathes ditrapezium*	*s*	1·98	1·44	16	−0·39	0·13	0·49	−0·01	1·70	2·54	0·77	
		t	1·69	0·59	21	−0·73	0·13	1·72	−0·53	0·81	3·55	0·82	
315.	*Amathes triangulum*	*s*	2·15	0·48	16	0·54	0·79	0·97	1·67	2·18	2·68	0·88	
		t	1·50	0·28	78	−0·48	0·48	1·84	−0·28	1·00	3·16	0·92	
317.	*Amathes sextrigata*	*s*	1·94	0·80	16	0·49	0·76	1·11	1·90	2·28	2·77	0·40	
		t	1·66	0·24	69	−0·56	0·50	1·87	−0·48	1·07	3·45	0·89	

318.	*Amathes xanthographa*	*s*	2·04	0·29	16	1·30	1·50	1·77	2·87	3·36	3·77	0·76	12
		t	1·77	0·04	96	−0·48	1·24	2·21	−0·18	2·23	4·18	0·89	
319.	*Axylia putris*	*s*	2·00	0·65	16	0·34	0·82	1·20	1·34	2·29	3·15	0·90	
		t	1·56	0·32	71	−0·52	0·58	1·85	−0·34	1·22	3·33	0·86	
320.	*Anaplectoides prasina*	*s*	2·59	1·40	16	−0·81	−0·02	0·74	−0·70	1·35	3·17	0·92	
		t	1·58	0·43	21	−0·73	0·17	2·13	−0·53	0·70	3·98	0·96	
323.	*Cerastis rubricosa*	*s*	2·72	0·20	16	0·67	0·91	1·21	1·89	2·67	3·42	0·92	
		t	1·71	0·74	69	−0·54	0·63	2·41	−0·28	1·19	4·25	0·91	
324.	*Naenia typica*	*s*	2·41	1·20	16	−0·83	−0·25	0·05	−0·65	0·60	1·47	0·85	
		t	1·35	0·42	25	−0·84	−0·04	0·95	−0·54	0·37	1·87	0·83	
327.	*Euschesis comes*	*s*	1·76	0·65	16	0·05	0·57	0·96	0·73	1·65	2·50	0·88	
		t	1·60	0·24	81	−0·56	0·49	1·68	−0·24	1·02	3·28	0·87	
329.	*Euschesis janthina*	*s*	2·00	0·49	16	0·27	0·70	0·92	1·33	1·89	2·41	0·69	
		t	1·53	0·22	88	−0·78	0·52	1·84	−0·48	1·02	3·26	0·86	
331.	*Noctua pronuba*	*s*	2·63	−0·46	16	1·05	1·28	1·51	2·24	2·91	3·37	0·72	10
		t	1·85	−0·13	97	−0·05	1·06	2·15	0·30	1·83	3·62	0·85	
345.	*Mamestra brassicae*	*s*	2·90	0·22	16	0·13	0·43	0·66	0·96	1·47	2·53	0·57	10
		t	1·46	0·27	64	−0·54	0·32	1·10	−0·34	0·74	2·30	0·89	
346.	*Melanchra persicariae*	*s*	1·99	0·79	16	−0·31	0·13	0·87	0·39	1·05	2·38	0·87	4, 10
		t	1·78	0·34	46	−0·54	0·20	1·30	−0·37	0·70	2·34	0·87	
349.	*Polia nebulosa*	*s*	2.54	1.35	15	−0·78	−0·39	−0·15	−0·52	0·36	1·08	0·82	10
		t	1·45	0·45	24	−0·78	−0·22	0·74	−0·63	0·13	1·73	0·84	
351.	*Diataraxia oleracea*	*s*	2·00	0·43	16	0·48	0·82	1·03	1·35	2·07	2·46	0·84	
		t	1·61	0·15	89	−0·48	0·60	1·65	−0·30	1·12	2·86	0·86	
353.	*Ceramica pisi*	*s*	2·43	0·57	16	0·37	0·71	1·05	1·45	2·30	3·32	0·79	
		t	1·46	0·31	69	−0·78	0·35	1·75	−0·58	0·82	3·27	0·87	

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TABLE 1(h)

Sp. No.	Species name		Functional regression G.M.b	Functional regression G.M.a	N_s / N_t	$Log_{10}m$ min	$Log_{10}m$ mean	$Log_{10}m$ max	$Log_{10}s^2$ min	$Log_{10}s^2$ mean	$Log_{10}s^2$ max	r^2	Refs
354.	*Hada nana*	*s*	2·17	1·08	16	−0·13	0·28	0·57	0·82	1·69	2·35	0·90	
		t	1·58	0·35	41	−0·68	0·06	1·50	−0·54	0·44	3·39	0·91	
355.	*Discestra trifolii*	*s*	1·85	1·28	16	−1·03	0·13	1·00	−0·82	1·52	3·04	0·96	
		t	1·71	0·65	36	−0·90	0·25	1·69	−0·60	1·08	3·56	0·96	
359.	*Hadena thalassina*	*s*	2·18	0·73	16	−0·21	0·34	0·65	0·46	1·47	2·35	0·91	
		t	1·47	0·31	60	−0·58	0·21	1·67	−0·37	0·62	3·18	0·89	
363.	*Hadena bicolorata*	*s*	2·31	1·04	16	−0·58	−0·35	−0·02	−0·32	0·23	1·01	0·69	14
		t	1·11	0·21	28	−0·60	0·01	1·02	−0·48	0·22	1·03	0·80	
368.	*Hadena bicruris*	*s*	2·15	0·94	16	−0·66	−0·14	0·14	−0·62	0·64	1·19	0·86	
		t	1·28	0·33	33	−0·63	−0·02	1·04	−0·34	0·30	1·34	0·82	
370.	*Hadena rivularis*	*s*	2·16	1·25	16	−0·97	−0·55	0·03	−0·83	0·06	1·42	0·85	
		t	1·48	0·36	19	−0·78	−0·14	0·93	−0·48	0·15	2·62	0·71	
376.	*Tholera popularis*	*s*	1·84	0·98	16	0·25	0·58	1·12	1·37	2·05	3·14	0·91	
		t	1·48	0·36	52	−0·88	0·32	1·66	−0·58	0·83	3·00	0·91	
377.	*Tholera cespitis*	*s*	1·89	1·06	16	−0·47	0·05	0·44	0·04	1·15	1·94	0·90	
		t	1·40	0·41	34	−0·63	0·07	1·28	−0·30	0·51	2·57	0·86	
378.	*Cerapteryx graminis*	*s*	2·05	0·73	16	0·82	1·34	1·82	2·40	3·48	4·58	0·97	4, 5, 10
		t	1·75	0·28	67	−0·60	0·85	2·52	−0·42	1·77	5·01	0·94	20
382.	*Orthosia gothica*	*s*	1·97	0·30	16	1·73	1·91	2·17	3·74	4·06	4·59	0·85	
		t	1·83	−0·22	95	0·43	1·62	2·67	0·66	2·74	4·81	0·89	

384.	*Orthosia cruda*	*s*	2·03	1·01	16	0·68	1·37	2·01	2·23	3·79	5·10	0·98
		t	1·70	0·41	58	−0·78	0·84	2·96	−0·48	1·84	5·87	0·96
385.	*Orthosia stabilis*	*s*	2·18	0·51	16	0·70	1·13	1·57	2·02	2·97	3·84	0·89
		t	1·76	0·10	82	−0·60	0·79	2·50	−0·30	1·49	4·37	0·93
387.	*Orthosia incerta*	*s*	2·19	0·41	16	0·63	0·88	1·21	1·66	2·34	3·06	0·83
		t	1·59	0·17	78	−0·53	0·66	2·00	−0·24	1·22	3·24	0·90
388.	*Orthosia munda*	*s*	2·09	1·02	16	−0·46	0·35	0·94	0·25	1·75	2·86	0·97
		t	1·55	0·23	37	−0·78	0·39	2·06	−0·48	0·83	3·49	0·90
390.	*Orthosia gracilis*	*s*	2·69	0·78	16	−0·24	0·19	0·52	0·30	1·29	2·32	0·85
		t	1·53	0·33	51	−0·73	0·21	1·29	−0·53	0·65	2·30	0·80
393.	*Leucania pallens*	*s*	1·99	0·53	16	1·07	1·45	1·98	2·54	3·42	4·36	0·95
		t	1·83	0·33	88	−0·75	1·17	2·30	−0·55	2·47	4·87	0·92
395.	*Leucania impura*	*s*	2·30	−0·07	16	1·23	1·46	1·80	2·65	3·29	3·97	0·83
		t	1·80	0·08	96	−0·52	1·21	2·31	−0·05	2·26	4·88	0·91
400.	*Leucania comma*	*s*	2·69	0·85	16	−0·37	0·11	0·49	0·01	1·15	2·11	0·90
		t	1·52	0·30	47	−0·65	0·10	1·00	−0·46	0·45	2·67	0·85
407.	*Leucania lythargyria*	*s*	2·57	0·05	16	0·45	0·78	1·00	1·30	2·05	2·64	0·86
		t	1·55	0·15	81	−0·93	0·58	1·60	−0·63	1·05	3·15	0·82
408.	*Leucania conigera*	*s*	3·32	0·58	16	0·01	0·27	0·58	0·77	1·48	2·44	0·81
		t	1·52	0·30	45	−0·60	0·20	1·44	−0·48	0·60	3·27	0·90
410.	*Stilbia anomala*	*s*	2·05	1·16	16	−0·43	0·10	0·57	0·21	1·36	2·18	0·94
		t	1·37	0·31	21	−0·88	0·51	1·60	−0·57	1·01	2·59	0·93
411.	*Rhizedra lutosa*	*s*	1·98	1·31	16	−0·81	−0·07	0·21	−0·48	1·17	1·66	0·94
		t	1·30	0·33	17	−0·74	0·13	1·36	−0·47	0·50	2·38	0·91
413.	*Arenostola pygmina*	*s*	2·16	0·65	16	0·61	0·95	1·37	1·86	2·70	3·57	0·94
		t	1·75	0·21	61	−0·54	0·71	2·20	−0·43	1·45	4·25	0·94
429.	*Meristis trigrammica*	*s*	2·37	1·11	16	−0·52	0·12	0·63	0·21	1·39	2·51	0·94
		t	1·42	0·42	36	−0·88	0·17	1·19	−0·57	0·66	2·25	0·88

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TABLE 1(i)

Sp. No.	Species name		Functional regression G.M.b	G.M.a	N_s / N_t	$Log_{10}m$ min	mean	max	$Log_{10}s^2$ min	mean	max	r^2	Refs
430.	*Caradrina morpheus*	*s*	1·92	0·65	16	0·94	1·28	1·53	2·47	3·11	3·60	0·87	
		t	1·60	0·34	80	−0·73	0·94	2·47	−0·53	1·84	4·30	0·93	
431.	*Caradrina alsines*	*s*	2·38	0·31	16	0·83	1·08	1·26	2·07	2·88	3·40	0·83	
		t	1·60	0·36	72	−0·70	0·88	2·27	−0·48	1·77	4·20	0·93	
432.	*Caradrina blanda*	*s*	2·30	0·43	16	0·48	0·94	1·35	1·75	2·59	3·71	0·90	
		t	1·77	0·36	75	−0·93	0·68	1·93	−0·63	1·56	4·41	0·90	
435.	*Caradrina clavipalpis*	*s*	2·45	1·25	14	−0·87	−0·45	0·21	−0·73	0·15	1·79	0·93	
		t	1·20	0·36	27	−0·84	−0·29	0·40	−0·58	0·01	0·80	0·74	
441.	*Apamea lithoxylaea*	*s*	2·17	0·51	16	−0·26	0·05	0·24	0·03	0·62	1·17	0·93	
		t	1·36	0·23	60	−0·70	0·08	0·97	−0·50	0·34	1·50	0·80	
444.	*Apamea monoglypha*	*s*	2·18	0·01	16	0·94	1·35	2·02	2·04	2·95	4·42	0·93	
		t	2·25	−0·44	97	0·27	1·22	2·32	0·14	2·31	4·63	0·88	
447.	*Apamea crenata*	*s*	2·78	0·72	16	−0·40	0·22	0·54	−0·14	1·33	2·47	0·82	
		t	1·56	0·32	50	−0·81	0·18	1·30	−0·51	0·60	2·17	0·88	
448.	*Apamea sordens*	*s*	1·79	0·60	16	−0·04	0·13	0·33	0·53	0·83	1·28	0·81	
		t	1·32	0·27	61	−0·84	0·11	1·01	−0·54	0·42	1·95	0·84	
454.	*Apamea remissa*	*s*	3·10	0·70	16	−0·10	0·17	0·36	0·42	1·23	1·78	0·75	17
		t	1·64	0·41	66	−0·73	0·05	1·06	−0·53	0·49	2·46	0·85	
456.	*Apamea secalis*	*s*	2·92	−1·05	16	1·26	1·46	1·66	2·67	3·21	4·01	0·56	10
		t	2·08	−0·35	95	−0·12	1·32	2·09	0·11	2·40	4·22	0·88	
461.	*Eremobia ochroleuca*	*s*	1·83	0·90	15	−1·23	−0·31	0·42	−1·02	0·33	1·85	0·94	
		t	1·61	0·36	30	−0·60	0·13	1·14	−0·34	0·57	2·83	0·86	

469.	*Luperina testacea*	*s*	2·00	0·62	16	1·57	1·87	2·27	3·54	4·36	5·02	0·72	10
		t	1·82	0·17	87	−0·60	1·55	2·93	−0·41	2·99	5·64	0·92	
472.	*Euplexia lucipara*	*s*	2·44	0·59	16	−0·12	0·25	0·62	0·39	1·20	2·63	0·82	
		t	1·45	0·26	58	−0·75	0·16	1·34	−0·55	0·49	2·64	0·89	
473.	*Phlogophora meticulosa*	*s*	2·39	0·21	16	−0·12	0·53	0·96	0·70	1·48	2·88	0·78	
		t	1·63	0·19	83	−0·63	0·41	1·67	−0·29	0·86	4·06	0·83	
476.	*Thalpophila matura*	*s*	1·76	1·02	16	0·47	0·70	0·92	1·80	2·25	2·53	0·56	
		t	1·48	0·29	45	−0·54	0·79	1·88	−0·24	1·46	2·99	0·93	
478.	*Petilampa minima*	*s*	2·76	0·23	16	0·86	1·10	1·27	2·62	3·27	3·66	0·79	
		t	1·55	0·18	76	−0·84	0·63	2·63	−0·54	1·16	4·35	0·92	
484.	*Hydraecia oculea*	*s*	2·40	1·43	16	−0·34	0·18	1·04	0·35	1·86	4·06	0·92	
		t	1·82	0·47	36	−0·84	0·15	2·33	−0·55	0·74	5·29	0·91	
488.	*Gortyna micacea*	*s*	2·23	0·01	16	1·17	1·42	1·76	2·53	3·18	3·85	0·91	10
		t	1·69	0·06	91	−0·33	1·13	2·36	−0·18	1·97	4·49	0·89	
490.	*Gortyna flavago*	*s*	2·20	0·67	16	−0·04	0·22	0·60	0·66	1·15	1·96	0·73	
		t	1·39	0·24	56	−0·60	0·14	1·14	−0·48	0·43	2·02	0·86	
496.	*Cosmia trapezina*	*s*	2·27	0·67	16	0·33	1·00	1·35	1·43	2·94	4·28	0·87	
		t	1·60	0·34	66	−0·63	0·56	2·49	−0·50	1·24	4·44	0·95	
503.	*Amphipyra tragopoginis*	*s*	2·11	0·59	16	0·34	0·57	0·92	1·29	1·79	2·43	0·83	
		t	1·57	0·24	77	−0·54	0·48	1·65	−0·24	0·99	2·95	0·91	
504.	*Rusina ferruginea*	*s*	2·12	0·38	16	1·14	1·31	1·47	2·75	3·16	3·51	0·69	
		t	1·63	0·13	78	−0·53	1·02	2·37	−0·46	1·79	3·79	0·93	
506.	*Cryphia perla*	*s*	2·03	0·78	16	−0·51	0·00	0·29	−0·03	0·78	1·36	0·89	
		t	1·31	0·30	42	−0·54	0·06	1·28	−0·44	0·32	2·00	0·84	
523.	*Apatele rumicis*	*s*	2·20	1·00	16	−0·36	−0·06	0·34	0·44	0·87	1·66	0·58	
		t	1·33	0·30	44	−0·70	−0·06	1·39	−0·45	0·22	2·35	0·92	

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TABLE 1(j)

Sp. No.	Species name		Functional regression G.M.b	G.M.a	N_s N_t	$Log_{10}m$ min	mean	max	$Log_{10}s^2$ min	mean	max	r^2	Refs
546.	*Xylocampa areola*	*s*	1·99	0·77	16	−0·60	0·19	0·47	−0·41	1·15	1·72	0·90	
		t	1·29	0·26	50	−0·70	0·07	1·44	−0·50	0·35	2·07	0·94	
550.	*Brachionycha sphinx*	*s*	2·64	0·95	16	−0·18	0·58	1·08	0·48	2·48	3·88	0·95	
		t	1·58	0·52	29	−0·81	0·62	2·53	−0·51	1·15	4·82	0·90	
552.	*Bombycia viminalis*	*s*	2·26	0·96	16	0·28	0·71	1·26	1·48	2·56	3·80	0·95	
		t	1·66	0·36	39	−0·64	0·63	2·43	−0·21	1·41	4·69	0·90	
553.	*Aporophyla lutulenta*	*s*	2·53	1·25	16	−0·55	−0·08	0·59	−0·06	1·05	2·59	0·95	
		t	1·94	0·58	34	−0·88	0·06	1·15	−0·57	0·70	3·05	0·92	
555.	*Aporophyla nigra*	*s*	2·08	0·86	16	−0·41	−0·02	0·41	0·06	0·82	1·61	0·98	
		t	1·56	0·37	43	−0·57	0·15	1·02	−0·45	0·60	2·11	0·85	
557.	*Allophyes oxyacanthae*	*s*	2·85	0·22	16	0·71	0·94	1·32	1·87	2·46	3·66	0·82	
		t	1·56	0·16	80	−0·84	0·76	2·31	−0·54	1·35	4·58	0·90	
562.	*Eumichtis adusta*	*s*	2·52	1·35	16	−0·52	−0·06	0·51	−0·05	1·20	2·10	0·88	
		t	1·52	0·64	29	−0·93	−0·04	1·34	−0·63	0·58	3·51	0·87	
563.	*Eumichtis lichenea*	*s*	2·24	0·97	16	0·27	0·65	0·95	1·67	2·43	3·00	0·89	
		t	1·45	0·45	23	−0·65	0·92	1·92	−0·35	1·78	3·74	0·91	
569.	*Antitype chi*	*s*	2·15	1·01	16	−0·82	−0·48	−0·04	−0·73	−0·02	0·62	0·88	
		t	1·30	0·20	23	−0·60	−0·04	0·83	−0·30	0·15	1·38	0·68	
571.	*Eupsilia transversa*	*s*	2·02	0·89	16	−0·28	0·25	0·72	0·36	1·39	2·48	0·96	
		t	1·58	0·30	44	−0·57	0·37	1·64	−0·45	0·88	3·24	0·93	
574.	*Omphaloscelis lunosa*	*s*	2·08	0·42	16	1·04	1·39	1·89	2·62	3·31	4·30	0·92	
		t	1·94	0·04	76	−0·08	1·27	2·28	0·12	2·50	4·59	0·90	

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575.	*Agrochola lota*	*s*	2·23	0·56	16	−0·07	0·42	0·69	0·43	1·50	2·10	0·93	
		t	1·66	0·25	65	−0·70	0·33	1·57	−0·40	0·80	2·74	0·86	
576.	*Agrochola macilenta*	*s*	2·20	0·65	16	0·42	0·90	1·14	1·58	2·63	3·17	0·89	
		t	1·58	0·34	64	−0·54	0·64	2·05	−0·30	1·35	3·91	0·96	
577.	*Agrochola circellaris*	*s*	2·22	0·85	16	−0·08	0·47	0·79	0·67	1·89	2·44	0·79	
		t	1·50	0·46	59	−0·93	0·26	1·67	−0·63	0·85	3·15	0·94	
578.	*Agrochola lynchnidis*	*s*	1·95	0·81	16	1·02	1·45	2·08	2·80	3·64	4·93	0·98	5, 12
		t	1·74	0·32	69	−0·70	1·09	2·69	−0·22	2·22	5·30	0·94	
579.	*Anchoscelis helvola*	*s*	2·05	1·31	16	−0·10	0·09	0·49	1·02	1·49	2·21	0·59	
		t	1·56	0·41	28	−0·64	0·16	1·42	−0·44	0·66	3·03	0·92	
580.	*Anchoscelis litura*	*s*	2·61	0·24	16	0·44	0·80	1·03	1·44	2·33	3·14	0·76	
		t	1·58	0·29	68	−0·64	0·65	1·89	−0·44	1·32	3·71	0·89	
581.	*Atethmia xerampelina*	*s*	2·67	1·23	15	−0·46	0·05	0·45	0·22	1·36	2·51	0·86	
		t	1·49	0·35	39	−0·65	0·06	1·89	−0·41	0·44	3·52	0·86	
584.	*Citria lutea*	*s*	2·39	0·79	16	0·11	0·62	0·97	0·92	2·27	3·05	0·94	
		t	1·53	0·31	53	−0·75	0·45	2·31	−0·28	1·00	4·04	0·94	
585.	*Cirrhia icteritia*	*s*	2·16	0·52	16	0·31	0·61	1·04	1·11	1·84	2·69	0·87	
		t	1·56	0·31	78	−0·70	0·45	1·72	−0·40	1·01	3·26	0·91	
590.	*Conistra vaccinii*	*s*	2·37	0·34	16	0·82	1·20	1·57	2·25	3·18	3·97	0·89	
		t	1·62	0·23	70	−0·67	0·79	2·52	−0·47	1·51	4·41	0·94	
591.	*Conistra ligula*	*s*	2·05	0·84	16	−0·31	0·12	0·72	0·19	1·09	2·27	0·93	
		t	1·49	0·39	43	−0·70	0·20	1·26	−0·50	0·69	2·69	0·84	
617.	*Colocasia coryli*	*s*	2·08	0·73	16	−0·23	0·31	0·65	0·09	1·37	1·92	0·90	
		t	1·45	0·18	41	−0·70	0·46	1·46	−0·52	0·85	2·52	0·91	
619.	*Episema caeruleocephala*	*s*	2·01	0·99	16	−0·23	0·55	1·00	0·59	2·10	3·09	0·98	
		t	1·56	0·22	35	−0·58	0·54	2·05	−0·50	1·06	3·83	0·96	

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TABLE 1(k)

Sp. No.	Species name		Functional regression G.M.b	Functional regression G.M.a	N_s / N_t	$\text{Log}_{10}m$ min	$\text{Log}_{10}m$ mean	$\text{Log}_{10}m$ max	$\text{Log}_{10}s^2$ min	$\text{Log}_{10}s^2$ mean	$\text{Log}_{10}s^2$ max	r^2	Refs
623.	*Plusia chrysitis*	*s*	2·05	0·34	16	0·37	0·72	0·96	1·03	1·82	2·41	0·91	
		t	1·55	0·14	77	−0·64	0·53	1·46	−0·44	0·96	2·59	0·83	
626.	*Plusia bractea*	*s*	1·80	1·10	16	−0·60	−0·26	0·10	0·00	0·63	1·23	0·89	
		t	1·24	0·21	22	−0·75	0·17	1·21	−0·55	0·42	1·92	0·91	
630.	*Plusia jota*	*s*	2·01	0·84	15	−0·45	0·05	0·36	0·16	0·94	1·64	0·86	
		t	1·38	0·29	49	−0·88	0·02	1·25	−0·57	0·32	2·21	0·85	
631.	*Plusia pulchrina*	*s*	1·89	0·77	16	0·05	0·53	0·75	0·84	1·77	2·29	0·96	
		t	1·43	0·25	60	−0·81	0·37	1·70	−0·51	0·78	3·01	0·94	
635.	*Plusia gamma*	*s*	1·91	0·30	16	0·53	1·24	1·72	1·33	2·67	3·61	0·98	5, 10, 13
		t	1·81	0·15	97	−0·37	1·07	2·02	−0·21	2·09	4·22	0·94	17
638.	*Unca trigemina*	*s*	1·81	1·02	16	−1·19	−0·48	0·32	−0·98	0·15	1·34	0·82	
		t	1·49	0·60	34	−0·93	−0·19	1·12	−0·63	0·32	2·23	0·84	
639.	*Unca triplasia*	*s*	2·21	0·44	16	0·09	0·31	0·60	0·60	1·13	1·63	0·70	
		t	1·36	0·21	66	−0·54	0·20	1·11	−0·44	0·48	2·11	0·88	
648.	*Rivula sericealis*	*s*	1·94	1·08	16	−0·05	0·67	1·33	1·13	2·38	3·69	0·97	
		t	1·70	0·49	56	−0·88	0·39	2·07	−0·57	1·15	4·07	0·93	
653.	*Hypena proboscidalis*	*s*	1·50	1·11	16	0·97	1·40	1·79	2·65	3·21	3·88	0·82	
		t	1·76	0·11	90	−0·18	1·13	2·27	0·03	2·10	4·19	0·93	
661.	*Zanclognatha tarsipennalis*	*s*	2·00	0·67	16	0·31	0·69	1·02	1·38	2·05	2·73	0·95	
		t	1·59	0·33	63	−0·54	0·56	1·72	−0·24	1·22	3·13	0·91	
662.	*Zanclognatha nemoralis*	*s*	2·05	0·95	16	0·49	0·77	1·07	1·95	2·53	3·26	0·93	
		t	1·54	0·35	57	−0·88	0·53	2·08	−0·57	1·17	3·80	0·94	

666. *Laspeyria flexula*	*s*	2·13	1·11	16	−0·69	−0·25	0·28	−0·31	0·58	1·67	0·89	
	t	1·40	0·14	24	−0·64	0·24	1·29	−0·44	0·48	2·39	0·83	
669. *Alsophila aescularia*	*s*	2·45	0·17	16	0·59	0·95	1·10	1·56	2·50	3·06	0·75	10
	t	1·47	0·15	74	−0·81	0·70	2·14	−0·51	1·18	3·86	0·92	
671. *Pseudoterpna pruinata*	*s*	1·62	1·13	16	−0·44	−0·17	0·17	0·32	0·85	1·49	0·72	
	t	1·34	0·32	33	−0·70	−0·10	1·25	−0·48	0·19	2·07	0·87	
672. *Geometra papilionaria*	*s*	2·52	0·87	16	−0·22	0·21	0·71	0·30	1·40	2·60	0·95	
	t	1·36	0·33	38	−0·78	0·27	1·46	−0·48	0·70	2·49	0·90	
674. *Hemithea aestivaria*	*s*	2·00	0·83	16	0·45	0·84	1·16	1·91	2·51	3·13	0·71	
	t	1·58	0·30	62	−0·88	0·64	2·22	−0·57	1·31	3·85	0·94	
680. *Jodis lactearia*	*s*	2·45	1·01	16	−0·11	0·32	0·73	0·87	1·80	2·66	0·81	
	t	1·53	0·34	32	−0·75	0·22	1·66	−0·55	0·68	3·07	0·95	
681. *Calothysanis amata*	*s*	2·05	0·59	16	0·69	0·91	1·38	1·89	2·46	3·39	0·95	
	t	1·76	0·13	56	−0·67	0·87	1·98	−0·47	1·66	3·62	0·86	
692. *Scopula conjugata*	*s*	1·92	1·18	16	−0·63	−0·15	0·43	−0·04	0·89	2·00	0·97	
	t	1·47	0·49	20	−0·95	0·27	1·20	−0·65	0·89	2·28	0·94	
694. *Scopula imitaria*	*s*	1·93	0·70	16	0·34	0·67	1·37	1·34	1·99	3·30	0·96	
	t	1·81	0·30	52	−0·88	0·72	1·83	−0·57	1·60	3·57	0·92	
699. *Scopula lactata*	*s*	2·32	1·31	16	−0·51	0·45	0·91	−0·10	2·35	3·28	0·94	
	t	1·50	0·62	32	−0·70	0·27	2·18	−0·40	1·02	4·06	0·96	
702. *Sterrha interjectaria*	*s*	1·92	1·02	16	−0·43	0·21	0·77	0·37	1·42	2·56	0·94	
	t	1·52	0·47	42	−0·70	0·41	1·58	−0·40	1·09	3·57	0·88	
707. *Sterrha dimidiata*	*s*	2·12	0·31	16	0·98	1·14	1·33	2·27	2·73	3·03	0·55	
	t	1·48	0·39	74	−0·93	0·95	1·96	−0·63	1·80	3·89	0·89	
710. *Sterrha seriata*	*s*	2·09	0·75	16	0·16	0·57	1·21	1·25	1·94	3·12	0·89	
	t	1·80	0·37	51	−0·65	0·64	1·68	−0·35	1·52	3·68	0·94	
711. *Sterrha subsericeata*	*s*	1·94	1·11	16	−0·51	0·21	0·70	0·15	1·52	2·58	0·97	
	t	1·53	0·52	30	−0·90	0·43	1·57	−0·60	1·18	2·81	0·96	
717. *Sterrha aversata*	*s*	2·56	−0·62	16	1·40	1·60	1·92	2·92	3·48	4·26	0·93	
	t	1·78	−0·06	91	−0·48	1·40	2·65	−0·18	2·43	4·62	0·93	

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TABLE 1(l)

Sp. No.	Species name		Functional regression G.M.b	G.M.a	N_s N_t	$Log_{10}m$ min	mean	max	$Log_{10}s^2$ min	mean	max	r^2	Refs
719.	*Sterrha biselata*	*s*	2·44	0·26	16	1·32	1·59	1·81	3·40	4·14	4·65	0·83	
		t	1·66	0·29	74	−0·53	1·04	3·11	−0·28	2·02	5·04	0·94	
720.	*Sterrha emarginata*	*s*	2·14	1·02	16	0·11	0·34	0·57	1·02	1·75	2·21	0·89	
		t	1·39	0·20	32	−0·48	0·57	1·77	−0·18	0·99	2·81	0·89	
725.	*Xanthorhoe ferrugata*	*s*	2·14	0·21	16	1·13	1·56	2·07	2·73	3·55	4·67	0·97	12
		t	1·68	0·32	85	−0·75	1·22	2·51	−0·37	2·37	4·87	0·93	
726.	*Xanthorhoe spadicearia*	*s*	2·61	−0·07	16	0·96	1·29	1·52	2·56	3·30	4·10	0·76	
		t	1·63	0·37	72	−0·70	0·93	2·45	−0·50	1·89	4·59	0·95	
728.	*Xanthorhoe designata*	*s*	2·19	0·66	16	0·48	0·88	1·30	1·68	2·59	3·51	0·81	
		t	1·55	0·34	52	−0·70	0·72	2·26	−0·50	1·46	4·12	0·94	
729.	*Xanthorhoe montanata*	*s*	1·67	0·87	16	1·47	1·71	1·98	3·33	3·73	4·14	0·87	
		t	1·77	0·02	87	−0·37	1·38	2·41	−0·21	2·46	4·49	0·94	
730.	*Xanthorhoe fluctuata*	*s*	2·41	−0·48	16	1·27	1·52	1·69	2·55	3·18	3·56	0·81	12, 20
		t	1·88	−0·23	97	−0·30	1·32	2·38	−0·15	2·25	4·23	0·87	
733.	*Colostygia pectinataria*	*s*	1·90	0·91	16	0·68	0·98	1·16	2·41	2·77	3·17	0·72	
		t	1·47	0·26	59	−0·65	0·63	2·19	−0·35	1·19	3·76	0·92	
735.	*Colostygia multistrigaria*	*s*	2·50	0·60	16	0·46	1·08	1·29	1·74	3·30	3·91	0·84	14
		t	1·59	0·45	45	−0·88	0·67	2·51	−0·57	1·52	4·62	0·96	

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736.	*Colostygia didymata*	*s*	1·86	1·05	16	0·31	0·73	1·13	1·38	2·41	3·28	0·86
		t	1·58	0·49	59	−0·81	0·46	2·00	−0·51	1·22	3·92	0·92
738.	*Earophila badiata*	*s*	2·37	0·53	16	0·25	0·59	0·90	1·03	1·93	2·59	0·84
		t	1·45	0·26	62	−0·81	0·46	2·01	−0·51	0·93	3·47	0·85
739.	*Anticlea derivata*	*s*	2·61	0·56	16	0·03	0·49	0·93	0·72	1·84	2·93	0·89
		t	1·54	0·31	57	−0·78	0·39	2·07	−0·48	0·91	3·99	0·91
746.	*Perizoma affinitata*	*s*	2·05	1·00	16	0·26	0·61	0·83	1·52	2·24	2·89	0·80
		t	1·52	0·39	46	−0·74	0·30	2·16	−0·44	0·85	3·50	0·93
747.	*Perizoma alchemillata*	*s*	2·27	0·32	16	0·51	1·07	1·33	1·37	2·75	3·34	0·83
		t	1·77	0·24	85	−0·70	0·85	2·00	−0·40	1·74	4·05	0·94
748.	*Perizoma flavofasciata*	*s*	2·03	0·83	16	0·31	0·57	0·85	1·31	1·99	2·39	0·63
		t	1·57	0·29	61	−0·63	0·34	1·77	−0·50	0·82	2·99	0·88
749.	*Perizoma albulata*	*s*	2·52	1·37	16	−0·64	−0·13	0·28	−0·13	1·04	2·11	0·88
		t	1·67	0·48	26	−0·57	0·11	1·47	−0·45	0·66	3·03	0·93
752.	*Euphyia unangulata*	*s*	1·61	1·21	16	−0·56	0·07	0·70	0·30	1·32	2·29	0·95
		t	1·57	0·33	29	−0·64	0·39	1·68	−0·17	0·94	2·71	0·85
758.	*Euphyia bilineata*	*s*	1·79	0·57	16	−0·65	−0·06	0·36	−0·59	0·46	1·40	0·96
		t	1·33	0·28	49	−0·88	0·14	0·79	−0·57	0·47	1·53	0·76
759.	*Melanthia procellata*	*s*	2·05	1·34	16	−0·99	−0·37	0·35	−0·60	0·58	0·95	0·96
		t	1·46	0·42	17	−0·68	0·02	1·12	−0·54	0·45	2·09	0·96
761.	*Lyncometra ocellata*	*s*	2·93	−0·08	16	0·67	0·90	1·19	1·91	2·56	3·59	0·87
		t	1·55	0·16	71	−0·75	0·55	2·09	−0·42	1·01	4·31	0·90
762.	*Lampropteryx suffumata*	*s*	2·01	0·99	16	0·48	0·72	1·20	1·82	2·44	3·28	0·80
		t	1·61	0·26	47	−0·60	0·54	1·97	−0·41	1·13	3·65	0·95
764.	*Electrophaes corylata*	*s*	2·01	0·99	16	−0·32	0·24	0·62	0·63	1·47	2·27	0·83
		t	1·64	0·28	51	−0·54	0·24	1·70	−0·35	0·67	3·14	0·88

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TABLE 1(m)

Sp. No.	Species name		Functional regression G.M.b	Functional regression G.M.a	N_s / N_t	$Log_{10}m$ min	$Log_{10}m$ mean	$Log_{10}m$ max	$Log_{10}s^2$ min	$Log_{10}s^2$ mean	$Log_{10}s^2$ max	r^2	Refs
765.	*Ecliptopera silaceata*	*s*	2·59	0·29	16	0·46	1·09	1·40	1·81	3·11	4·12	0·82	
		t	1·72	0·15	71	−0·81	0·80	2·72	−0·51	1·53	5·00	0·93	
767.	*Lygris prunata*	*s*	1·90	0·93	16	−0·71	−0·12	0·30	−0·38	0·70	1·50	0·91	
		t	1·67	0·37	30	−0·63	0·08	0·81	−0·50	0·50	2·25	0·76	
768.	*Lygris testata*	*s*	2·17	0·77	16	0·60	0·99	1·54	2·08	2·92	4·17	0·94	
		t	1·89	0·25	56	−0·54	0·72	2·19	−0·43	1·61	4·69	0·95	
769.	*Lygris populata*	*s*	2·35	0·93	16	1·10	1·40	1·78	3·48	4·22	5·22	0·90	
		t	1·66	0·41	42	−0·75	0·90	3·15	−0·55	1·90	5·84	0·98	
770.	*Lygris mellinata*	*s*	2·19	1·17	16	−0·61	−0·18	0·43	−0·33	0·78	2·14	0·87	
		t	1·65	0·64	36	−0·80	−0·10	0·95	−0·60	0·47	2·74	0·90	
771.	*Lygris pyraliata*	*s*	1·96	0·56	16	1·14	1·46	1·73	2·54	3·42	3·89	0·56	
		t	1·69	0·11	83	−0·70	1·09	2·48	−0·40	1·95	4·60	0·91	
772.	*Cidaria fulvata*	*s*	2·75	0·10	16	0·41	0·65	1·02	0·97	1·89	2·99	0·89	
		t	1·81	0·12	72	−0·54	0·49	1·74	−0·46	1·01	3·93	0·85	
774.	*Chloroclysta siterata*	*s*	2·16	1·20	16	−0·02	0·28	0·81	1·27	1·80	2·74	0·73	
		t	1·51	0·38	23	−0·60	0·64	1·71	−0·31	1·35	3·45	0·95	
775.	*Chloroclysta miata*	*s*	2·14	0·98	16	0·38	0·62	1·06	1·77	2·31	2·90	0·71	
		t	1·51	0·35	29	−0·81	0·74	1·87	−0·51	1·47	3·61	0·93	
776.	*Dysstroma truncata*	*s*	1·86	0·71	16	1·12	1·50	1·80	2·75	3·50	3·98	0·92	
		t	1·85	0·03	92	−0·26	1·28	2·46	0·01	2·40	4·57	0·92	
778.	*Dysstroma citrata*	*s*	2·31	0·60	16	1·04	1·30	1·62	2·94	3·60	4·29	0·87	
		t	1·63	0·47	62	−0·48	0·70	2·63	−0·31	1·61	5·04	0·96	

779.	*Thera obeliscata*	*s*	2·79	0·22	16	0·58	0·92	1·22	2·02	2·79	3·78	0·92	
		t	1·75	0·14	63	−0·48	0·63	2·54	−0·30	1·24	4·49	0·94	
782.	*Thera firmata*	*s*	2·34	1·19	16	−0·37	−0·07	0·43	0·40	1·03	1·72	0·78	
		t	1·51	0·47	26	−0·70	0·26	1·32	−0·40	0·86	2·47	0·96	
784.	*Hydriomena furcata*	*s*	2·51	0·04	16	1·14	1·62	1·94	2·82	4·11	5·10	0·73	
		t	1·82	0·02	89	−0·48	1·12	2·67	−0·18	2·06	5·03	0·95	
785.	*Hydriomena coerulata*	*s*	2·01	1·10	15	−0·56	−0·11	0·17	−0·14	0·88	1·58	0·78	
		t	1·64	0·49	31	−0·54	0·14	1·15	−0·30	0·72	2·53	0·87	
794.	*Epirrhoe rivata*	*s*	2·01	1·28	16	−0·86	−0·37	0·11	−0·51	0·54	1·74	0·84	
		t	1·47	0·42	21	−0·70	−0·09	1·18	−0·50	0·29	2·38	0·96	
795.	*Epirrhoe alternata*	*s*	1·42	1·28	16	0·82	1·19	1·46	2·43	2·97	3·39	0·60	12, 17
		t	1·68	0·22	89	−0·60	0·86	2·16	−0·41	1·66	4·14	0·92	
800.	*Chesias legatella*	*s*	2·45	0·82	16	0·20	0·70	1·27	1·33	2·53	3·99	0·92	
		t	1·62	0·29	43	−0·75	0·53	2·14	−0·55	1·15	4·04	0·95	
803.	*Anaitis plagiata*	*s*	2·08	0·89	16	−0·47	−0·21	−0·01	−0·06	0·45	1·00	0·84	
		t	1·25	0·21	40	−0·70	−0·05	0·95	−0·41	0·15	1·67	0·79	
812.	*Acasis viretata*	*s*	1·81	1·00	16	−0·75	−0·32	0·19	−0·23	0·38	1·24	0·79	
		t	1·43	0·34	35	−0·75	−0·06	1·03	−0·55	0·25	2·01	0·92	
814.	*Trichopteryx carpinata*	*s*	1·93	1·27	16	−0·02	0·43	1·02	1·20	2·10	3·12	0·94	
		t	1·59	0·47	35	−0·90	0·45	1·97	−0·60	1·19	3·96	0·95	
815.	*Orthonama lignata*	*s*	1·94	1·32	16	−0·12	0·13	0·41	0·84	1·57	2·40	0·60	
		t	1·34	0·43	22	−0·60	0·18	1·72	−0·33	0·67	3·20	0·94	
816.	*Ortholitha mucronata*	*s*	2·32	1·48	16	−0·31	−0·02	0·42	0·78	1·43	2·27	0·73	
		t	1·38	0·45	23	−0·81	−0·15	1·68	−0·58	0·24	2·73	0·95	
817.	*Ortholitha plumbaria*	*s*	2·23	1·27	16	−0·86	−0·23	0·17	−0·39	0·76	1·86	0·96	
		t	1·60	0·49	28	−0·95	−0·18	0·97	−0·65	0·20	2·08	0·85	

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TABLE 1(n)

Sp. No.	Species name		Functional regression G.M.b	Functional regression G.M.a	N_s / N_t	$Log_{10}m$ min	$Log_{10}m$ mean	$Log_{10}m$ max	$Log_{10}s^2$ min	$Log_{10}s^2$ mean	$Log_{10}s^2$ max	r^2	Refs
818.	*Ortholitha chenopodiata*	*s*	2·09	0·60	16	0·26	0·73	0·98	1·38	2·13	2·95	0·88	
		t	1·45	0·25	70	−0·73	0·48	1·66	−0·53	0·95	2·89	0·83	
822.	*Larentia clavaria*	*s*	2·46	1·01	16	−0·29	−0·07	0·18	0·24	0·84	1·39	0·75	
		t	1·18	0·17	33	−0·54	0·22	1·31	−0·37	0·43	2·04	0·83	
823.	*Pelurga comitata*	*s*	2·85	1·24	16	−0·56	0·12	0·86	−0·25	1·58	3·68	0·98	
		t	1·59	0·39	30	−0·65	0·10	1·60	−0·43	0·55	3·15	0·94	
824.	*Oporinia autumnata*	*s*	2·17	1·07	16	0·52	0·94	1·36	2·15	3·11	3·92	0·94	
		t	1·72	0·59	55	−0·52	0·61	2·40	−0·30	1·64	4·49	0·95	
826.	*Oporinia dilutata*	*s*	2·01	0·92	16	1·45	1·73	2·05	3·82	4·40	4·99	0·83	
		t	1·71	0·33	86	−0·54	1·14	3·02	−0·43	2·28	5·75	0·95	
828.	*Operophtera brumata*	*s*	2·54	0·01	16	1·02	1·39	1·76	2·73	3·54	4·49	0·96	10
		t	1·81	0·10	89	−0·54	1·01	2·46	−0·24	1·93	5·16	0·91	
829.	*Operophtera fagata*	*s*	2·34	0·98	16	0·23	0·71	1·05	1·79	2·64	3·53	0·85	10
		t	1·92	0·32	46	−0·65	0·63	2·54	−0·35	1·53	5·98	0·93	
889.	*Abraxas grossulariata*	*s*	1·97	0·63	16	0·89	1·11	1·40	2·39	2·82	3·40	0·91	5, 9, 10
		t	1·66	0·14	74	−0·48	0·75	2·09	−0·27	1·38	3·95	0·89	
891.	*Lomaspilis marginata*	*s*	2·05	0·61	16	1·06	1·32	1·54	2·73	3·32	3·75	0·87	
		t	1·57	0·06	71	−0·70	0·92	2·47	−0·45	1·50	3·96	0·92	
892.	*Ligdia adustata*	*s*	2·18	1·15	16	−0·79	−0·16	0·42	−0·30	0·80	2·08	0·93	
		t	1·54	0·39	26	−0·80	0·18	1·52	−0·60	0·67	2·99	0·85	
895.	*Bapta temerata*	*s*	2·17	0·74	16	0·16	0·44	0·81	0·98	1·69	2·43	0·90	
		t	1·65	0·22	49	−0·40	0·39	1·57	−0·22	0·86	3·05	0·91	

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896.	*Deilinia pusaria*	*s*	2·29	0·47	16	0·80	1·15	1·46	1·95	3·10	3·80	0·90	
		t	1·56	0·25	77	−0·65	0·68	2·36	−0·43	1·31	4·38	0·95	
897.	*Deilinia exanthemata*	*s*	2·20	0·59	16	0·89	1·14	1·36	2·44	3·10	3·55	0·85	
		t	1·68	0·19	77	−0·60	0·72	2·37	−0·50	1·36	3·97	0·93	
898.	*Ellopia fasciaria*	*s*	3·02	0·39	16	0·43	0·65	0·94	1·61	2·35	3·23	0·93	
		t	1·64	0·14	46	−0·50	0·57	2·09	−0·35	1·07	4·04	0·93	
899.	*Campaea margaritata*	*s*	2·13	0·65	16	0·85	1·18	1·44	2·65	3·16	3·79	0·77	
		t	1·54	0·10	80	−0·48	0·84	2·39	−0·30	1·39	4·39	0·92	
902.	*Semiothisa alternata*	*s*	1·86	1·32	16	−0·82	0·13	0·70	−0·10	1·56	2·57	0·96	
		t	1·48	0·39	17	−0·70	0·47	1·87	−0·50	1·09	3·57	0·92	
903.	*Semiothisa liturata*	*s*	2·48	0·99	16	−0·46	0·17	0·43	0·03	1·41	1·99	0·74	
		t	1·54	0·34	38	−0·64	0·33	1·67	−0·46	0·85	3·05	0·89	
904.	*Theria rupicapraria*	*s*	2·21	0·79	16	−0·29	0·17	0·58	0·25	1·17	2·05	0·93	
		t	1·68	0·29	50	−0·52	0·23	1·58	−0·37	0·68	2·87	0·89	
905.	*Erannis leucophaearia*	*s*	2·12	1·21	16	−0·46	0·19	0·97	0·33	1·61	3·20	0·96	
		t	1·82	0·49	33	−0·67	0·29	1·87	−0·47	1·02	4·10	0·93	
906.	*Erannis aurantiaria*	*s*	2·78	0·26	16	0·48	1·00	1·68	1·70	3·04	4·98	0·94	10
		t	1·80	0·25	67	−0·60	0·66	2·63	−0·48	1·44	5·82	0·94	
907.	*Erannis marginaria*	*s*	1·99	0·65	16	0·57	0·89	1·10	1·93	2·42	2·88	0·76	
		t	1·54	0·14	82	−0·60	0·65	2·12	−0·46	1·14	3·51	0·88	
908.	*Erannis defoliaria*	*s*	2·90	−0·09	16	0·84	1·45	2·08	2·28	4·12	5·95	0·96	10
		t	1·78	0·17	79	−0·63	0·77	3·27	−0·50	1·54	7·02	0·94	
909.	*Anagoga pulveraria*	*s*	2·03	1·16	16	−0·90	0·14	0·66	−0·51	1·44	2·61	0·98	
		t	1·48	0·40	20	−0·57	0·42	1·53	−0·18	1·02	2·80	0·94	
911.	*Ennomos quercinaria*	*s*	2·94	0·96	16	−0·22	0·17	0·42	0·42	1·46	2·03	0·75	
		t	1·41	0·43	41	−0·74	0·08	1·55	−0·50	0·54	3·10	0·90	

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TABLE 1(o)

Sp. No.	Species name		Functional regression G.M.b	G.M.a	N_s N_t	$Log_{10}m$ min	mean	max	$Log_{10}s^2$ min	mean	max	r^2	Refs
912.	*Deuteronomos alniara*	*s*	2·13	0·51	16	0·51	0·85	1·14	1·71	2·32	3·21	0·86	
		t	1·54	0·21	79	−0·63	0·53	1·89	−0·50	1·03	3·34	0·90	
913.	*Deuteronomos fuscantaria*	*s*	2·66	0·81	16	−0·13	0·30	0·83	0·65	1·61	3·16	0·91	
		t	1·58	0·36	53	−0·84	0·22	2·06	−0·55	0·17	4·20	0·92	
914.	*Deuteronomos erosaria*	*s*	2·63	0·76	16	−0·30	0·32	0·81	0·13	1·60	2·57	0·82	
		t	1·73	0·27	44	−0·60	0·40	1·84	−0·30	0·96	3·40	0·88	
915.	*Selenia bilunaria*	*s*	2·23	0·10	16	1·20	1·43	1·63	2·81	3·29	3·71	0·86	
		t	1·58	0·05	91	−0·65	1·12	2·52	−0·35	1·82	4·17	0·91	
916.	*Selenia lunaria*	*s*	1·98	1·05	16	−0·22	0·18	0·51	0·35	1·41	1·19	0·83	
		t	1·36	0·33	38	−0·67	0·13	1·60	−0·48	0·51	2·53	0·91	
917.	*Selenia tetralunaria*	*s*	1·74	1·17	16	0·12	0·50	0·82	1·47	2·04	2·68	0·90	
		t	1·66	0·32	51	−0·70	0·34	1·89	−0·50	0·88	3·09	0·90	
918.	*Aperia syringaria*	*s*	2·28	0·89	16	−0·23	0·20	0·42	0·47	1·35	2·00	0·92	
		t	1·37	0·28	35	−0·70	0·31	1.70	−0·40	0·70	2·86	0·92	
919.	*Gonodontis bidentata*	*s*	2·24	0·29	16	0·62	0·96	1·25	1·73	2·44	3·00	0·93	
		t	1·62	0·15	83	−0·48	0·68	2·01	−0·37	1·25	3·36	0·95	
920.	*Colotois pennaria*	*s*	2·34	0·22	16	0·59	1·10	1·38	1·43	2·79	3·42	0·95	
		t	1·61	0·10	84	−0·48	0·82	2·23	−0·18	1·42	4·21	0·93	
921.	*Crocallis elinguaria*	*s*	2·43	−0·23	16	0·82	1·13	1·26	1·82	2·52	2·87	0·85	
		t	1·58	0·00	92	−0·30	0·88	2·08	−0·24	1·39	3·35	0·88	
922.	*Plagodis dolabraria*	*s*	2·20	1·02	16	−0·46	0·21	0·64	0·20	1·48	2·57	0·87	
		t	1·58	0·28	40	−0·54	0·32	1·81	−0·24	0·79	3·48	0·93	

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923.	*Opisthograptis luteolata*	*s*	2·99	−0·92	16	1·18	1·43	1·71	2·73	3·36	4·11	0·73	
		t	1·74	−0·16	96	−0·30	1·11	2·70	−0·18	1·77	5·05	0·93	
924.	*Epione repandaria*	*s*	1·94	0·80	16	−0·23	0·19	0·47	0·59	1·17	1·83	0·90	
		t	1·52	0·15	42	−0·52	0·30	1·32	−0·37	0·61	2·27	0·85	
928.	*Ourapteryx sambucaria*	*s*	2·88	0·29	16	0·10	0·35	0·70	0·71	1·30	2·31	0·93	14
		t	1·45	0·21	58	−0·60	0·32	1·60	−0·29	0·67	3·00	0·84	
929.	*Phigalia pilosaria*	*s*	2·58	0·59	16	−0·10	0·68	1·37	0·92	2·34	4·48	0·91	
		t	1·88	0·15	63	−0·48	0·60	2·57	−0·37	1·28	5·51	0·93	
933.	*Lycia hirtaria*	*s*	2·35	0·54	16	0·44	0·70	0·88	1·43	2·18	2·76	0·81	
		t	1·51	0·26	53	−0·81	0·58	1·83	−0·51	1·14	3·21	0·90	
934.	*Biston strataria*	*s*	2·71	0·77	16	−0·20	0·33	0·52	0·53	1·66	2·44	0·84	
		t	1·49	0·25	37	−0·54	0·39	1·93	−0·30	0·83	3·15	0·88	
935.	*Biston betularia*	*s*	1·47	0·82	16	−0·17	0·15	0·40	0·51	1·04	1·48	0·23	
		t	1·33	0·30	60	−0·75	0·08	1·50	−0·55	0·41	2·05	0·85	
936.	*Menophra abruptaria*	*s*	1·69	0·68	15	−0·86	0·39	−0·09	−0·73	0·02	0·61	0·94	
		t	1·37	0·26	28	−0·70	0·02	0·84	−0·50	0·29	1·46	0·83	
938.	*Cleora rhomboidaria*	*s*	2·88	−0·08	16	0·55	0·86	1·18	1·63	2·40	3·41	0·91	
		t	1·49	0·23	78	−0·48	0·61	2·29	−0·31	1·14	4·25	0·83	
941.	*Alcis repandata*	*s*	2·31	0·29	16	0·76	1·10	1·43	1·90	2·83	3·62	0·87	
		t	1·56	0·29	81	−0·57	0·72	2·14	−0·45	1·41	3·97	0·92	
946.	*Ectropis biundulata*	*s*	2·76	0·15	16	0·57	1·02	1·40	1·76	2·97	3·79	0·83	
		t	1·64	0·34	70	−0·75	0·70	2·63	−0·55	1·49	4·52	0·94	
961.	*Itame wauaria*	*s*	2·09	0·92	16	−0·65	−0·09	0·36	−0·38	0·73	1·58	0·95	
		t	1·33	0·30	31	−0·93	0·06	1·25	−0·63	0·38	2·23	0·87	
963.	*Lithina chlorosata*	*s*	1·86	1·30	16	0·85	1·29	1·69	2·93	3·70	4·22	0·95	
		t	1·69	0·33	75	−0·70	0·58	2·74	−0·45	1·31	4·78	0·96	
964.	*Chiasmia clathrata*	*s*	2·30	0·77	16	−0·02	0·42	0·78	0·81	1·74	2·39	0·84	
		t	1·56	0·27	51	−0·48	0·37	1·80	−0·30	0·85	3·04	0·90	

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