

Table 5. Density–area relationships for moth species in the United Kingdom data set, estimated either from the total data set ($DAR_{\text{slope 1}}$) or from a reduced data set that excluded small patches with zero density ($DAR_{\text{slope 2}}$)

Family	Species	Main habitat*	Wing span*	$DAR_{\text{slope 1}}$ (SE) [†]	$DAR_{\text{slope 2}}$ (SE) [†]
Arctiidae	<i>Calliteara pudibunda</i>	Forest/Edge	35–45	0.87 (0.27)	0.67 (0.36)
Arctiidae	<i>Eilema lurideola</i>	Forest/Edge	32–36	−0.19 (0.17)	−0.19 (0.17)
Arctiidae	<i>Euproctis similis</i>	Forest/Edge	26–32	0.44 (0.26)	0.44 (0.26)
Arctiidae	<i>Phragmatobia fuliginosa</i>	Open	32–36	−0.07 (0.40)	−0.07 (0.40)
Arctiidae	<i>Spilosoma lubricipeda</i>	Forest/Edge	34–40	−0.20 (0.23)	−0.20 (0.23)
Arctiidae	<i>Spilosoma luteum</i>	Forest/Edge	34–40	0.42 (0.17)	0.42 (0.17)
Drepanidae	<i>Cilix glaucata</i>	Edge	18–23	0.06 (0.29)	0.06 (0.29)
Drepanidae	<i>Drepana falcataria</i>	Generalist	30–38	0.07 (0.37)	0.07 (0.37)
Geometridae	<i>Abraxas grossulariata</i>	Forest/Edge	38–44	0.72 (0.43)	0.65 (0.46)
Geometridae	<i>Alcis repandata</i>	Forest/Edge	38–42	0.33 (0.15)	0.33 (0.15)
Geometridae	<i>Biston betularia</i>	Forest/Edge	42–52	0.05 (0.42)	0.05 (0.42)
Geometridae	<i>Bupalus piniaria</i>	Forest/Edge	32–37	−0.09 (0.35)	−0.09 (0.35)
Geometridae	<i>Cabera pusaria</i>	Forest/Edge	25–28	0.26 (0.17)	0.26 (0.17)
Geometridae	<i>Campaea margaritata</i>	Forest/Edge	25–30	0.07 (0.22)	0.07 (0.22)
Geometridae	<i>Chloroclysta citrata</i>	Forest/Edge	35–48	0.24 (0.19)	0.24 (0.19)
Geometridae	<i>Chloroclysta truncata</i>	Forest/Edge	27–32	0.25 (0.15)	0.25 (0.15)
Geometridae	<i>Chloroclystis v-ata</i>	Generalist	27–32	0.39 (0.28)	0.05 (0.34)
Geometridae	<i>Colostygia pectinataria</i>	Forest	23–27	0.59 (0.27)	0.55 (0.28)
Geometridae	<i>Colotois pennaria</i>	Forest/Edge	40–46	0.60 (0.27)	0.13 (0.36)
Geometridae	<i>Crocallis elinguaris</i>	Forest	38–44	0.02 (0.21)	0.02 (0.21)
Geometridae	<i>Ecliptoptera silaceata</i>	Forest/Edge	23–26	0.26 (0.20)	0.26 (0.20)
Geometridae	<i>Ectropis bistortata</i>	Generalist	30–38	0.48 (0.45)	0.05 (0.60)
Geometridae	<i>Ennomos alniaria</i>	Forest	36–42	−0.01 (0.43)	−0.11 (0.46)
Geometridae	<i>Epirrhoe alternata</i>	Forest/Edge	22–35	−0.16 (0.25)	−0.16 (0.25)
Geometridae	<i>Epirrita dilutata</i>	Forest/Edge	32–37	0.08 (0.26)	−0.12 (0.27)
Geometridae	<i>Eulithis populata</i>	Edge/Open	27–32	0.27 (0.25)	0.20 (0.26)

Family	Species	Main habitat*	Wing span*	DAR_{slope 1} (SE)[†]	DAR_{slope 2} (SE)[†]
Geometridae	<i>Eulithis pyraliata</i>	Forest/Edge	28–31	−0.04 (0.16)	−0.04 (0.16)
Geometridae	<i>Eupithecia assimilata</i>	Forest/Edge	18–19	0.24 (0.37)	−0.48 (0.57)
Geometridae	<i>Eupithecia pulchellata</i>	Forest	18–22	0.48 (0.44)	0.37 (0.48)
Geometridae	<i>Eupithecia subfuscata</i>	Forest/Edge	17–19	0.09 (0.18)	0.09 (0.18)
Geometridae	<i>Eupithecia vulgata</i>	Forest/Edge	18–20	−0.07 (0.16)	−0.07 (0.16)
Geometridae	<i>Hydriomena furcata</i>	Forest/Edge	28–32	0.41 (0.18)	0.41 (0.18)
Geometridae	<i>Hylaea fasciaria</i>	Forest	32–39	0.36 (0.22)	0.36 (0.22)
Geometridae	<i>Idaea aversata</i>	Forest/Edge	26–29	0.27 (0.11)	0.27 (0.11)
Geometridae	<i>Idaea biselata</i>	Forest/Edge	18–21	0.34 (0.21)	0.28 (0.21)
Geometridae	<i>Idaea dimidiata</i>	Forest/Edge	15–18	0.13 (0.12)	0.13 (0.12)
Geometridae	<i>Lampropteryx suffumata</i>	Forest	26–28	0.43 (0.20)	0.32 (0.21)
Geometridae	<i>Lomaspilis marginata</i>	Forest/Edge	21–25	0.10 (0.30)	−0.52 (0.42)
Geometridae	<i>Lycia hirtaria</i>	Forest/Edge	40–46	−0.43 (0.29)	−0.43 (0.29)
Geometridae	<i>Odontopera bidentata</i>	Forest/Edge	40–46	0.62 (0.23)	0.62 (0.23)
Geometridae	<i>Opisthograptis luteolata</i>	Forest/Edge	31–37	0.21 (0.25)	0.13 (0.27)
Geometridae	<i>Peribatodes rhomboidaria</i>	Forest/Edge	37–40	0.93 (0.23)	0.93 (0.23)
Geometridae	<i>Perizoma didymata</i>	Generalist	20–22	0.36 (0.30)	0.13 (0.35)
Geometridae	<i>Petrophora chlorosata</i>	Edge/Open	27–31	0.74 (0.25)	0.74 (0.25)
Geometridae	<i>Scotopteryx chenopodiata</i>	Edge/Open	20–33	0.13 (0.17)	0.13 (0.17)
Geometridae	<i>Selenia dentaria</i>	Forest/Edge	31–42	0.32 (0.21)	0.32 (0.21)
Geometridae	<i>Semiothisa liturata</i>	Forest/Edge	26–30	0.44 (0.34)	0.44 (0.34)
Geometridae	<i>Thera obeliscata</i>	Forest	25–31	0.46 (0.18)	0.46 (0.18)
Geometridae	<i>Xanthorhoe ferrugata</i>	Forest/Edge	19–22	−0.22 (0.13)	−0.22 (0.13)
Geometridae	<i>Xanthorhoe fluctuata</i>	Forest/Edge	22–26	−0.03 (0.16)	−0.03 (0.16)
Geometridae	<i>Xanthorhoe montanata</i>	Forest/Edge	26–30	−0.35 (0.21)	−0.35 (0.21)
Hepialidae	<i>Hepialus fusconebulosa</i>	Forest	32–38	0.89 (0.55)	0.26 (0.31)
Hepialidae	<i>Hepialus lupulinus</i>	Edge/Open	25–27	0.84 (0.46)	0.84 (0.46)
Hepialidae	<i>Hepialus sylvina</i>	Open	28–36	0.30 (0.44)	0.24 (0.48)
Lasiocampidae	<i>Philudoria potatoaria</i>	Generalist	46–54	0.24 (0.41)	−0.46 (0.60)

Family	Species	Main habitat*	Wing span*	DAR_{slope 1} (SE)[†]	DAR_{slope 2} (SE)[†]
Lasiocampidae	<i>Trichiura crataegi</i>	Forest/Edge	30–34	0.22 (0.29)	–0.09 (0.35)
Noctuidae	<i>Abrostola triplasia</i>	Forest/Edge	28–32	–0.01 (0.31)	–0.01 (0.31)
Noctuidae	<i>Acronicta psi</i>	Forest	33–42	–0.37 (0.31)	–0.37 (0.31)
Noctuidae	<i>Acronicta rumicis</i>	Generalist	30–39	0.37 (0.40)	0.24 (0.44)
Noctuidae	<i>Agrochola circellaris</i>	Forest/Edge	34–40	0.22 (0.38)	0.15 (0.41)
Noctuidae	<i>Agrochola helvola</i>	Forest/Edge	36–42	0.46 (0.42)	0.27 (0.51)
Noctuidae	<i>Agrochola litura</i>	Forest/Edge	29–34	0.12 (0.31)	0.12 (0.31)
Noctuidae	<i>Agrochola lota</i>	Forest	31–36	0.79 (0.19)	0.55 (0.24)
Noctuidae	<i>Agrochola lychnidis</i>	Forest	30–40	0.12 (0.29)	–0.24 (0.35)
Noctuidae	<i>Agrochola macilenta</i>	Forest	31–35	0.03 (0.30)	–0.06 (0.31)
Noctuidae	<i>Agrotis exclamationis</i>	Edge/Open	30–40	–0.20 (0.21)	–0.20 (0.21)
Noctuidae	<i>Agrotis puta</i>	Open	30–32	–0.41 (0.32)	–0.41 (0.32)
Noctuidae	<i>Agrotis segetum</i>	Open	30–40	–0.73 (0.26)	–0.73 (0.26)
Noctuidae	<i>Allophyes oxyacanthae</i>	Forest/Edge	35–45	–0.08 (0.19)	–0.08 (0.19)
Noctuidae	<i>Amphipyra berbera</i>	Forest	40–52	0.02 (0.37)	0.02 (0.37)
Noctuidae	<i>Amphipyra tragopoginis</i>	Edge/Open	33–38	–0.05 (0.18)	–0.05 (0.18)
Noctuidae	<i>Apamea lithoxylaea</i>	Open	44–50	–0.03 (0.31)	–0.51 (0.39)
Noctuidae	<i>Apamea monoglypha</i>	Edge/Open	43–51	–0.08 (0.16)	–0.08 (0.16)
Noctuidae	<i>Apamea sordens</i>	Open	30–40	0.05 (0.35)	–0.04 (0.37)
Noctuidae	<i>Autographa gamma</i>	Generalist	35–40	–0.06 (0.14)	–0.06 (0.14)
Noctuidae	<i>Axyليا putris</i>	Edge/Open	27–32	–0.78 (0.33)	–0.78 (0.33)
Noctuidae	<i>Caradrina clavipalpis</i>	Edge/Open	28–34	0.13 (0.38)	–0.44 (0.51)
Noctuidae	<i>Ceramica pisi</i>	Generalist	33–39	–0.12 (0.38)	–0.12 (0.38)
Noctuidae	<i>Conistra vaccinii</i>	Forest/Edge	30–36	0.42 (0.23)	0.37 (0.25)
Noctuidae	<i>Cosmia trapezina</i>	Forest	28–33	0.23 (0.36)	–0.07 (0.45)
Noctuidae	<i>Diarsia brunnea</i>	Generalist	35–45	0.12 (0.35)	–0.08 (0.40)
Noctuidae	<i>Diarsia mendica</i>	Forest	28–35	0.27 (0.21)	0.27 (0.21)
Noctuidae	<i>Diarsia rubi</i>	Generalist	28–33	0.14 (0.18)	0.14 (0.18)
Noctuidae	<i>Eremobia ochroleuca</i>	Open	34–37	–0.61 (0.35)	–0.61 (0.35)
Noctuidae	<i>Euplexia lucipara</i>	Generalist	32–36	–0.21 (0.28)	–0.21 (0.28)
Noctuidae	<i>Eupsilia transversa</i>	Forest/Edge	32–42	0.18 (0.22)	0.14 (0.26)

Family	Species	Main habitat*	Wing span*	DAR_{slope 1} (SE)[†]	DAR_{slope 2} (SE)[†]
Noctuidae	<i>Gortyna flavago</i>	Edge/Open	35–40	–0.12 (0.26)	–0.12 (0.26)
Noctuidae	<i>Graphiphora augur</i>	Open	35–42	0.28 (0.25)	0.13 (0.27)
Noctuidae	<i>Herminia nemoralis</i>	Forest/Edge	24–28	0.19 (0.38)	–0.91 (0.58)
Noctuidae	<i>Hoplodrina alsines</i>	Edge/Open	28–34	–0.19 (0.15)	–0.19 (0.15)
Noctuidae	<i>Hoplodrina blanda</i>	Forest/Edge	28–33	–0.37 (0.45)	–0.52 (0.47)
Noctuidae	<i>Hydraecia micacea</i>	Open	28–40	–0.22 (0.24)	–0.22 (0.24)
Noctuidae	<i>Hypena proboscidalis</i>	Forest/Edge	27–38	–0.43 (0.22)	–0.43 (0.22)
Noctuidae	<i>Lacanobia oleracea</i>	Forest/Edge	34–40	–0.30 (0.18)	–0.30 (0.18)
Noctuidae	<i>Lacanobia thalassina</i>	Forest/Edge	23–38	0.19 (0.24)	0.19 (0.24)
Noctuidae	<i>Luperina testacea</i>	Open	30–40	–0.33 (0.17)	–0.33 (0.17)
Noctuidae	<i>Mesapamea secalis</i>	Edge/Open	29–33	–0.22 (0.15)	–0.22 (0.15)
Noctuidae	<i>Mesoligia literosa</i>	Open	25–30	–1.29 (0.51)	–1.29 (0.51)
Noctuidae	<i>Mythimna ferrago</i>	Open	35–42	–0.18 (0.22)	–0.18 (0.22)
Noctuidae	<i>Mythimna impura</i>	Open	30–34	0.04 (0.14)	0.04 (0.14)
Noctuidae	<i>Noctua comes</i>	Generalist	37–49	–0.12 (0.18)	–0.12 (0.18)
Noctuidae	<i>Noctua janthina</i>	Forest/Edge	44–52	–0.10 (0.24)	–0.10 (0.24)
Noctuidae	<i>Noctua pronuba</i>	Edge/Open	44–56	0.07 (0.19)	0.07 (0.19)
Noctuidae	<i>Ochropleura plecta</i>	Forest/Edge	25–30	–0.20 (0.38)	–0.32 (0.40)
Noctuidae	<i>Oligia fasciuncula</i>	Generalist	22–26	–1.03 (0.37)	–1.03 (0.37)
Noctuidae	<i>Oligia latruncula</i>	Generalist	22–27	–0.57 (0.36)	–0.57 (0.36)
Noctuidae	<i>Oligia versicolor</i>	Edge	23–28	–1.41 (0.32)	–1.41 (0.32)
Noctuidae	<i>Omphaloscelis lunosa</i>		32–38	0.24 (0.37)	0.24 (0.37)
Noctuidae	<i>Orthosia gothica</i>	Forest/Edge	30–38	0.05 (0.19)	0.05 (0.19)
Noctuidae	<i>Orthosia incerta</i>	Forest/Edge	35–42	–0.39 (0.36)	–0.39 (0.36)
Noctuidae	<i>Paradiarsia glareosa</i>	Open	32–38	0.52 (0.22)	0.52 (0.22)
Noctuidae	<i>Phlogophora meticulosa</i>	Edge/Open	47–53	0.09 (0.17)	0.09 (0.17)
Noctuidae	<i>Polia nebulosa</i>	Forest/Edge	43–52	0.39 (0.27)	0.39 (0.27)
Noctuidae	<i>Xanthia icteritia</i>	Forest/Edge	30–35	–0.07 (0.24)	–0.07 (0.24)
Noctuidae	<i>Xanthia togata</i>	Forest/Edge	30–35	0.79 (0.34)	0.46 (0.48)
Noctuidae	<i>Xestia baja</i>	Forest/Edge	35–40	0.30 (0.17)	0.30 (0.17)
Noctuidae	<i>Xestia c-nigrum</i>	Open	35–42	–0.48 (0.27)	–0.48 (0.27)

Family	Species	Main habitat*	Wing span*	DAR_{slope 1} (SE)[†]	DAR_{slope 2} (SE)[†]
Noctuidae	<i>Xestia sexstrigata</i>	Open	35–40	–0.25 (0.17)	–0.25 (0.17)
Noctuidae	<i>Xestia triangulum</i>	Generalist	36–46	–0.04 (0.18)	–0.04 (0.18)
Noctuidae	<i>Xestia xanthographa</i>	Edge/Open	30–38	–0.04 (0.09)	–0.04 (0.09)
Notodontidae	<i>Phalera bucephala</i>	Forest/Edge	50–68	0.32 (0.31)	0.32 (0.31)
Notodontidae	<i>Pterostoma palpina</i>	Forest	42–50	–0.24 (0.26)	–0.24 (0.26)
Notodontidae	<i>Ptilodon capucina</i>	Forest/Edge	40–45	0.09 (0.22)	0.09 (0.22)

*Data from <http://ukmoths.org.uk/>.

[†]Lepidopteran sampling was performed with a similar trap rotation as for the U.S. study (SI Table 4), but with a larger sampling effort. Trapping in the United Kingdom study was performed during a longer season (May–November) and with a higher intensity (three times within a trap week). However, truncated sampling periods that include only June and August normally trap most of the fauna (1). This is also reflected in the fact that sampling efficiency was quite similar among the two studies (88% and 81% of true species richness), as estimated with EstimateS (2).

References

1. Thomas AW, Thomas GM (1994) *J Lepid Soc* 48:85–105.
2. Colwell RK (2004) EstimateS 7.00. Statistical Estimation of Species Richness and Shared Species from Samples (University of Connecticut, Storrs, CT).