### Table S3. Summary statistics and effect sizes for studies included in the meta-analysis. See text for the protocol used to obtain one effect size per niche breadth measure per study.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Study** | **Niche breadth measure** | ***n* (species)** | ***z*** | ***v(z)*** | **Scale** | **Group** | **Control for sampling effects** |
| *Animals* |  |  |  |  |  |  |  |
| Bean *et al.* (2002) | Habitat | 5 | 0.373 | 0.701 | Partial | Chordata: Fishes | Y |
| Beck and Kitching (2007) | Diet | 85 | 0.604 | 0.012 | Partial | Arthropoda: Moths | Y |
| Berkström *et al.* (2012) | Diet | 11 | -0.388 | 0.125 | Geographic | Chordata: Fishes | Y |
| Habitat | 11 | -0.077 | 0.122 | Comprehensive | Chordata: Fishes | N |
| Bonte *et al.* (2004) | Habitat | 29 | 0.856 | 0.039 | Partial | Arthropoda: Spiders | Y |
| Boyes and Perrin (2009) | Diet | 5 | 0.693 | 0.500 | Comprehensive | Chordata: Birds | N |
| Boyles and Storm (2007) | Diet | 16 | -0.189 | 0.077 | Comprehensive | Chordata: Bats | Y |
| Brändle and Brandl (2001) | Habitat | 51 | 0.060 | 0.021 | Comprehensive | Chordata: Birds | N |
| Brändle *et al.* (2002a) | Habitat | 122 | 0.523 | 0.008 | Comprehensive | Arthropoda: Butterflies | Y |
| Diet | 122 | 0.213 | 0.008 | Comprehensive | Arthropoda: Butterflies | Y |
| Tolerance | 112 | 0.299 | 0.009 | Comprehensive | Arthropoda: Butterflies | Y |
| Brändle *et al.* (2002b) | Diet | 139 | 0.040 | 0.007 | Comprehensive | Chordata: Birds | N |
| Habitat | 139 | 0.151 | 0.007 | Comprehensive | Chordata: Birds | N |
| Briers (2003) | Tolerance | 32 | 0.501 | 0.035 | Comprehensive | Mollusca: Gastropods | N |
| Calosi *et al.* (2008) | Tolerance | 4 | 1.705 | 1.000 | Comprehensive | Arthropoda: Beetles | Y |
| Calosi *et al.* (2010) | Tolerance | 14 | 0.929 | 0.091 | Comprehensive | Arthropoda: Beetles | Y |
| Carrascal *et al.* (2008) | Habitat | 48 | 0.613 | 0.041 | Partial | Chordata: Birds | Y |
| Cowley *et al.* (2001a) | Diet | 49 | 0.063 | 0.022 | Comprehensive | Arthropoda: Butterflies | Y |
| Cowley *et al.* (2001b) | Habitat | 26 | 0.296 | 0.044 | Partial | Arthropoda: Butterflies | Y |
| Cruz *et al.* (2005) | Tolerance | 34 | 0.019 | 0.032 | Comprehensive | Chordata: Lizards | Y |
| Dennis *et al.* (2005) | Diet | 60 | 0.626 | 0.018 | Comprehensive | Arthropoda: Butterflies | N |
| Eeley and Foley (1999) | Habitat | 102 | 1.260 | 0.010 | Comprehensive | Chordata: Primates | N |
| Diet | 102 | 0.757 | 0.010 | Comprehensive | Chordata: Primates | N |
| Eterovick and Barros (2003) | Habitat | 12 | 0.265 | 0.111 | Partial | Chordata: Frogs | Y |
| Fernandez and Vrba (2005) | Habitat | 244 | 0.733 | 0.004 | Comprehensive | Chordata: Mammals | N |
| Fonseca *et al*. (2010) | Habitat | 15 | 0.066 | 0.083 | Partial | Chordata: Frogs | N |
| Forister *et al*. (2011) | Diet | 50 | 0.203 | 0.035 | Comprehensive | Arthropoda: Butterflies | N |
| Frost *et al*. (2004) | Habitat | 39 | 0.119 | 0.028 | Partial | Arthropoda: Amphipods | N |
| Habitat | 17 | 0.200 | 0.071 | Partial | Mollusca: Bivalves | N |
| Garcia-Barros and Benito (2010) | Diet | 205 | 0.732 | 0.005 | Partial | Arthropoda: Butterflies | N |
| Goulson *et al*. (2008) | Diet | 23 | 0.378 | 0.207 | Partial | Arthropoda: Bees | N |
| Gregory and Gaston (2000) | Habitat | 85 | -0.131 | 0.016 | Partial | Chordata: Birds | Y |
| Harcourt *et al*. (2002) | Diet | 46\* | 0.563 | 0.023 | Comprehensive | Chordata: Primates | Y |
| Habitat | 46\* | 0.365 | 0.023 | Comprehensive | Chordata: Primates | Y |
| Harley *et al*. (2003) | Habitat | 460 | 0.321 | 0.003 | Comprehensive | Mollusca: Gastropods | Y |
| Hecnar (1999) | Habitat | 230 | 0.448 | 0.004 | Comprehensive | Chordata: Turtles | N |
| Heino (2005) | Habitat | 40 | 0.348 | 0.016 | Partial | Arthropoda: Insects | Y |
| Hughes (2000) | Diet | 11 | 0.942 | 0.125 | Comprehensive | Arthropoda: Butterflies | N |
| Hurlbert and White (2007) | Habitat | 298 | 0.493 | 0.004 | Partial | Chordata: Birds | Y |
| Jahner *et al*. (2011) | Diet | 70 | 0.060 | 0.015 | Comprehensive | Arthropoda: Lepidopterans | N |
| Kolasa *et al*. (1998) | Habitat | 40 | 1.182 | 0.027 | Partial | Animal†: Invertebrates | N |
| Kotze *et al*. (2003) | Habitat | 449 | 0.490 | 0.004 | Comprehensive | Arthropoda: Beetles | N |
| Krasnov *et al*. (2005) | Habitat | 341 | 0.500 | 0.005 | Comprehensive | Arthropoda: Fleas | N |
| Lappalainen and Soininen (2006) | Habitat | 70 | 0.267 | 0.015 | Partial | Chordata: Fishes | Y |
| Lehman (2004) | Habitat | 8 | 1.616 | 0.200 | Comprehensive | Chordata: Primates | N |
| Diet | 8 | -0.428 | 0.200 | Comprehensive | Chordata: Primates | N |
| Pyron (1999) | Habitat | 57 | 0.590 | 0.021 | Comprehensive | Chordata: Fishes | N |
| Reif *et al*. (2006) | Habitat | 49 | -0.151 | 0.022 | Comprehensive | Chordata: Birds | Y |
| Rickart *et al*. (2011) | Diet | 16 | 0.646 | 0.077 | Comprehensive | Chordata: Mammals | Y |
| Siqueira *et al*. (2009) | Habitat | 41\* | 0.693 | 0.026 | Comprehensive | Arthropoda: Flies | Y |
| Symonds and Johnson (2006) | Diet | 120 | 0.054 | 0.009 | Comprehensive | Chordata: Birds | Y |
| Habitat | 120 | 0.755 | 0.009 | Comprehensive | Chordata: Birds | Y |
| Williams (2005) | Diet | 17 | -0.121 | 0.071 | Partial | Arthropoda: Bees | Y |
| Williams *et al*. (2006) | Diet | 8 | -0.659 | 0.200 | Comprehensive | Chordata: Frogs | Y |
|  |  |  |  |  |  |  |  |
| *Plants* |  |  |  |  |  |  |  |
| Baltzer *et al*. (2007) | Habitat | 503 | -0.042 | 0.002 | Comprehensive | Spermatopsida | Y |
| Boulangeat *et al*. (2012) | Habitat | 1216 | 0.618 | 0.001 | Comprehensive | Spermatopsida | Y |
| Burgman (1989) | Habitat | 406 | 0.209 | 0.003 | Partial | Spermatopsida | Y |
| Callaghan and Ashton (2008) | Habitat | 318 | 0.488 | 0.003 | Comprehensive | Bryophyta: Mosses | Y |
| Habitat | 111 | 0.514 | 0.008 | Comprehensive | Bryophyta: Liverworts | Y |
| Essl *et al.* (2009) | Tolerance | 103 | 0.825 | 0.010 | Comprehensive | Spermatopsida | N |
| Habitat | 103 | 0.589 | 0.010 | Comprehensive | Spermatopsida | N |
| Heino and Soininen (2006) | Habitat | 107 | 0.284 | 0.010 | Partial | Chrysophyta | Y |
| Kessler (2002) | Tolerance | 356 | 0.151 | 0.003 | Comprehensive | Spermatopsida | N |
| Köckemann *et al.* (2009) | Habitat | 25 | 0.811 | 0.046 | Comprehensive | Spermatopsida | N |
| Kolb *et al*. (2006) | Habitat | 68 | 0.809 | 0.015 | Comprehensive | Spermatopsida | Y |
| Luna and Moreno (2010) | Tolerance | 53 | 0.061 | 0.020 | Comprehensive | Spermatopsida | Y |
| Luna *et al.* (2012) | Tolerance | 31 | 0.316 | 0.036 | Comprehensive | Spermatopsida | Y |
| Pither (2003) | Tolerance | 103 | 1.581 | 0.010 | Comprehensive | Spermatopsida | N |
| Spitale (2012) | Habitat | 67 | 0.223 | 0.016 | Partial | Bryophyta | N |
| Thompson *et al.* (1998) | Habitat | 792 | 0.681 | 0.001 | Partial | Spermatopsida | Y |
| Tsiftsis *et al.* (2008) | Habitat | 55 | 0.288 | 0.019 | Partial | Spermatopsida | Y |
| Williams *et al.* (2010) | Tolerance | 319 | 0.017 | 0.016 | Comprehensive | Spermatopsida | N |
| Youssef *et al.* (2011) | Habitat | 32 | 0.709 | 0.035 | Partial | Spermatopsida | N |
|  |  |  |  |  |  |  |  |
| *Other* |  |  |  |  |  |  |  |
| Harley *et al.* (2003) | Habitat | 1096 | 0.361 | 0.001 | Comprehensive | Algae | Y |
| Heim and Peters (2011) | Habitat | 17131\* | 0.233 | 0.000 | Partial | Fossil | N |

\* Number of genera

†Organisms are described only as “aquatic invertebrates”, so we were unable to define this group at the phylum level. However, since the study measured environmental tolerance and for this category we only examined taxonomic effects at the level of animal vs plant, this did not affect the analysis.

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