

ELECTRONIC SUPPLEMENTARY MATERIAL

Table S1. Flowchart for the publication selection process based on PRISMA (Preferred Reporting Items for Meta-Analyses) guidelines. Diagram showing the selection process followed to include publications in the meta-analysis. Chart format is based on [1]. Search terms for Web of Science search shown.

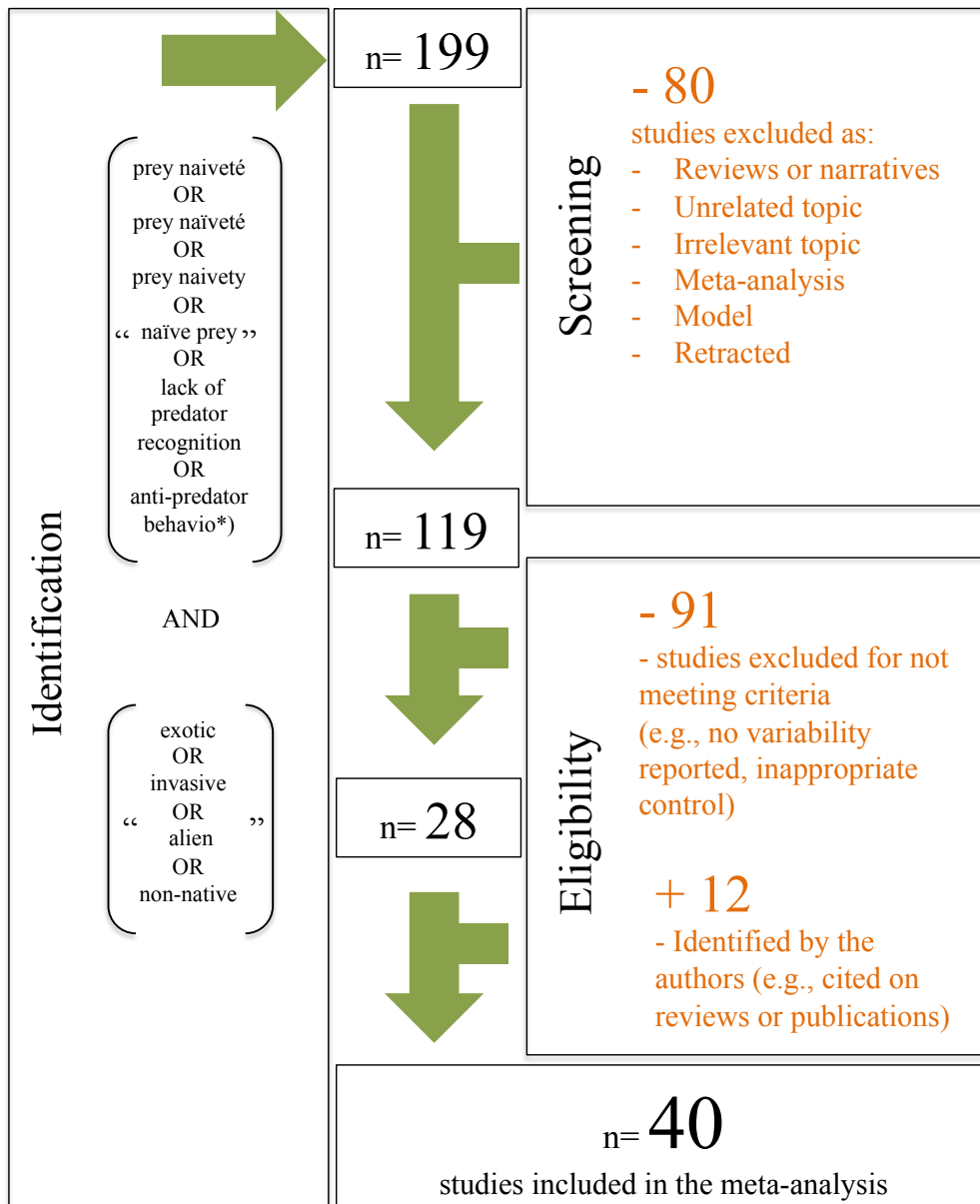


Table S2. Information of the 40 studies included in the meta-analysis to investigate determinants of prey naiveté. In parentheses, number of experiments (first) and number of observations (second) from the study that were included in the meta-analysis

Citation	Exotic predator	Native predator	Native prey	System type	Location
Alvarez <i>et al.</i> 2014 (1,4)	<i>Psetta maxima</i> , <i>Lithobates iberica</i>	<i>Salmo trutta</i> , <i>Cyprinus carpio</i>	<i>Baetis rhodani</i>	Freshwater	Spain
Anson & Dickman 2013 (2,2)	<i>Vulpes vulpes</i>	<i>Varanus varius</i>	<i>Pseudocheirus peregrinus</i>	Terrestrial	Australia
Anton 2013 (2,5)	<i>Pterois volitans</i>	<i>Epinephelus striatus</i> , <i>Ocyurus chrysurus</i> , <i>Lutjanus apodus</i> , <i>Epinephelus guttatus</i>	<i>Haemulon plumieri</i>	Marine	Bahamas
Barrio <i>et al.</i> 2010 (1,6)*	<i>Dasyurus maculatus</i>	<i>Felis catus</i> , <i>Mustela furo</i> , <i>Vulpes vulpes</i>	<i>Oryctolagus cuniculus</i>	Terrestrial	Australia
Black <i>et al.</i> 2014 (2,3)	<i>Pterois volitans</i>	<i>Synodus intermedius</i>	<i>Stegastes leucostictus</i>	Marine	Jamaica
Blake & Gabor 2016 (1,2)	<i>Fundulus grandis</i>	<i>Lepomis cyanellus</i>	<i>Gambusia affinis</i>	Freshwater	USA
Blake <i>et al.</i> 2015 (1,2)	<i>Fundulus grandis</i>	<i>Lepomis cyanellus</i>	<i>Gambusia geiseri</i>	Freshwater	USA
Bourdeau <i>et al.</i> 2013 (1,7)	<i>Bythotrephes longimanu</i> , <i>Cercopagis pengois</i>	<i>Mysis diluviana</i> , <i>Leptodora kindtii</i> , <i>Polyphemus pediculus</i> , <i>Perca flavescens</i>	<i>Daphnia mendotae</i>	Freshwater	USA
Brown <i>et al.</i> 2013 (1,3)	<i>Oreochromis niloticus</i>	<i>Crenicichla macrophthalmia</i>	<i>Poecilia reticulata</i>	Freshwater	Trinidad y Tobago
Burraco & Gomez-Mestre 2016 (1,2)	<i>Procambarus clarkii</i>	<i>Dytiscus circumflexus</i>	<i>Pelobates cultripes</i>	Freshwater	Spain
Carthey & Banks 2016 (2,5)	<i>Canis lupus familiaris</i> , <i>Felis catus</i> , <i>Vulpes Vulpes</i>	<i>Dasyurus maculatus</i>	<i>Rattus fuscipes</i>	Terrestrial	Australia
Carthey & Banks 2018 (1,2)	<i>Dasyurus maculatus</i>	<i>Vulpes vulpes</i> , <i>Felis catus</i>	<i>Rattus rattus</i>	Terrestrial	Australia
Coverdale <i>et al.</i> 2013 (1,2)	<i>Carcinus maenas</i>	<i>Cancer irroratus</i> , <i>Callinectes sapidus</i>	<i>Sesarma reticulatum</i>	Marine	USA
Davis 2018 (1,3)	<i>Pterois volitans</i>	<i>Cephalopholis cruentata</i>	<i>Stegastes partitus</i>	Marine	Bahamas
Davis <i>et al.</i> 2012 (1,3)	<i>Lepomis auritus</i> , <i>Lepomis gibbosus</i> , <i>Herichthys cyanoguttatus</i>	<i>Lepomis cyanellus</i>	<i>Eurycea nana</i>	Freshwater	USA
Dunlop & Rehage 2011 (3,12)	<i>Hemichromis letourneuxi</i>	<i>Lepomis gulosus</i>	<i>Gambusia holbrooki</i> , <i>Jordanella floridae</i> , <i>Palaemonetes paludosus</i>	Freshwater	USA
Fan & Lin 2017 (2,12)	<i>Gambusia affinis</i>	<i>Pantala flavescens</i>	<i>Bufo gararizans</i> , <i>Duttaphrynus melanostictus</i> , <i>Rana zhenhaiensis</i> , <i>Fejervaya multistriata</i> , <i>Microhyala ornate</i> , <i>Hoplobatrachus chinensis</i>	Freshwater	China
Fey <i>et al.</i> 2010 (2,2)	<i>Mustela vison</i>	<i>Mustela nivalis</i>	<i>Microtus agrestis</i>	Terrestrial	Finland
Freeman <i>et al.</i> 2013 (3,3)	<i>Carcinus maenas</i>	<i>Paragrapsus gaimardii</i>	<i>Haustrum vinosum</i>	Marine	Australia
Garvey <i>et al.</i> 2016 (1,8)*	<i>Lycaon pictus</i>	<i>Mustela furo</i> , <i>Felis catus</i>	<i>Mustela erminea</i>	Terrestrial	New Zealand
Geray <i>et al.</i> 2015 (2,5)	<i>Oncorhynchus mykiss</i>	<i>Hatcheria macraei</i>	<i>Meridialis chiloensis</i> , <i>Antarctoperla michaelsoni</i> , <i>Smicridea annulicornis</i>	Freshwater	Argentina
Gherardi <i>et al.</i> 2011 (2,4)*	<i>Cyprinus carpio</i> , <i>Tilapia zillii</i> , <i>Squalius cephalus</i> ,	<i>Micropterus salmoides</i>	<i>Procambarus clarkii</i>	Freshwater	Italy/Kenya
Gomez-Mestre & Diaz-Paniagua 2011 (1,1)	<i>Procambarus clarkii</i>	<i>Anax imperator</i>	<i>Pelophylax perezi</i>	Freshwater	Spain
Haddaway <i>et al.</i> 2014 (3,6)	<i>Pacifastacus leniusculus</i>	<i>Gasterosteus aculeatus</i> , <i>Austroptamobius pallipes</i>	<i>Gammarus pulex</i> , <i>Potamopyrgus jenkinsi</i> ,	Freshwater	United Kingdom
Hutson <i>et al.</i> 2005 (3,3)	<i>Asterias amurensis</i>	<i>Coscinasterias muricata</i>	<i>Chlamys asperrima</i> , <i>Pecten fumatus</i>	Marine	Australia
Jedrzejewski <i>et al.</i> 1993 (1,18)	<i>Nyctereutes procyonoides</i>	<i>Mustela nivalis</i> , <i>Mustela erminea</i> , <i>Mustela putorius</i> , <i>Martes foina</i> , <i>Vulpes vulpes</i> , <i>Strix aluco</i>	<i>Clethrionomys glareolus</i>	Terrestrial	Poland
Jermacz <i>et al.</i> 2017 (1,2)	<i>Pygocentrus nattereri</i>	<i>Babka gymnotrachelus</i>	<i>Pontogammarus robustoides</i> , <i>Dikerogammarus villosus</i>	Freshwater	Poland
Jones <i>et al.</i> 2004 (2,8)	<i>Vulpes vulpes</i> , <i>Felis catus</i>	<i>Tytonovaeahollandiae castanops</i> , <i>Sarcophilus laniarius</i>	<i>Dasyurus viverrinus</i>	Terrestrial	Tasmania
Kovalenco <i>et al.</i> 2010 (1,2)	<i>Cichla kelberi</i>	<i>Hoplias malabaricus</i>	<i>Hemigrammus marginatus</i>	Freshwater	USA
Kuehne & Olden 2012 (1,4)	<i>Micropterus dolomieu</i>	<i>Ptychocheilus oregonensis</i>	<i>Oncorhynchus tshawytscha</i>	Freshwater	Brazil

Marsh-Hunkin <i>et al.</i> 2013 (2,6)	<i>Pterois volitans</i>	<i>Epinephelus striatus</i>	<i>Coryphopterus glaucofraenum</i> , <i>Gnatholepis thompsoni</i>	Marine	Bahamas
Mella <i>et al.</i> 2015 (1,4)*	<i>Dasyurus maculatus</i> , <i>Aspidites malanocephalus</i>	<i>Vulpes vulpes</i> , <i>Felis catus</i>	<i>Oryctolagus cuniculus</i>	Terrestrial	Australia
Murray <i>et al.</i> 2004 (1,4)	<i>Rana catesbeiana</i>	<i>Thamnophis elegans</i>	<i>Rana luteiventris</i> , <i>Ambystoma macrodactylum</i> , <i>Hyla regilla</i> , <i>Tarichia granulosa</i>	Freshwater	USA
Nunes <i>et al.</i> 2013 (1,18)	<i>Procambarus clarkii</i>	<i>Aeshna</i> sp.	<i>Alytes cisternasii</i> , <i>Bufo bufo</i> , <i>Discoglossus galganoi</i> , <i>Hyla meridionalis</i> , <i>Hyla arborea</i> , <i>Pelobates cultripes</i> , <i>Pelophylax perezii</i> , <i>Pelodytes ibericus</i> , <i>Bufo calamita</i>	Freshwater	Portugal
Polo-Cavia <i>et al.</i> 2010 (4,16)	<i>Trachemys script</i> , <i>Graptemys pseudogeographica</i>	<i>Emys orbiculari</i> , <i>Mauremys leprosas</i>	<i>Pelophylax perezii</i> , <i>Pelobates cultripes</i> , <i>Bufo calamita</i> , <i>Hyla arborea</i>	Freshwater	Spain
Pujol-Buxo <i>et al.</i> 2013 (1,2)	<i>Procambarus clarkii</i>	<i>Anax</i> sp.	<i>Pelodytes punctatus</i>	Freshwater	Spain
Segev <i>et al.</i> 2017 (1,2)	<i>Gambusia affinis</i>	<i>Barbus paludinosus</i> , <i>Pseudocrenilabrus philander</i>	<i>Culex</i> spp	Freshwater	South Africa
Superkar & Gramapurohit 2018 (1,5)	<i>Oreochromis mossambicus</i>	<i>Bradinopyga geminata</i> , <i>Clarias batrachus</i> , <i>Hoplobatrachus tigerinus</i> , <i>Hoplobatrachus crassus</i> , <i>Xenochrophis piscator</i>	<i>Euphylectis cyanophlyctis</i>	Freshwater	India
Thawley & Langkilde 2017 (1,4)	<i>Solenopsis invicta</i>	<i>Dorymyrmex</i> , <i>Pheidole</i>	<i>Sceloporus undulatus</i>	Terrestrial	USA
Webster <i>et al.</i> 2018 (2,12)	<i>Vulpes vulpes</i> , <i>Felis catus</i>	<i>Canis lupus dingo</i> , <i>Dasyurus maculatus</i> , <i>Pseudonaja textilis</i>	<i>Christinus marmoratus</i> , <i>Morethia boulengeri</i>	Terrestrial	Australia

* Indicates studies where prey naiveté was tested on exotic prey and native and exotic predators for those species of prey.

Table S3. Table with the biogeographic realms used in this meta-analysis

Biogeographic realm	System type	Reference
Nearctic	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Panamanian	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Neotropical	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Palaearctic	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Saharo-Arabian	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Afrotropical	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Sino-Japanese	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Oriental	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Madagascan	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Australian	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Oceanian	Terrestrial/Freshwater	Holt <i>et al.</i> 2013
Arctic	Marine	Spalding <i>et al.</i> 2007
Temperate Northern Pacific	Marine	Spalding <i>et al.</i> 2007
Temperate Northern Atlantic	Marine	Spalding <i>et al.</i> 2007
Eastern Northern Pacific	Marine	Spalding <i>et al.</i> 2007
Tropical Eastern Pacific	Marine	Spalding <i>et al.</i> 2007
Tropical Atlantic	Marine	Spalding <i>et al.</i> 2007
Western Indo-Pacific	Marine	Spalding <i>et al.</i> 2007
Central Indo-Pacific	Marine	Spalding <i>et al.</i> 2007
Temperate South America	Marine	Spalding <i>et al.</i> 2007
Temperate Southern Africa	Marine	Spalding <i>et al.</i> 2007
Temperate Australasia	Marine	Spalding <i>et al.</i> 2007
Southern Ocean	Marine	Spalding <i>et al.</i> 2007

Table S4. Regression tests for sensitivity analyses associated to Figure 1. Treatments with ≤ 10 replicates were not included in the analyses and are indicated with NA.

Effect size metric	Random-effects model (before)		Potential publication bias test		Outliers	Random-effects model (after)		
	n	$g \pm 95\%CI$	z-value	p-value		n	$g \pm 95\%CI$	Change
System type (Fig. 1a)								
Terrestrial	72	-0.11±0.1	-0.01	0.995	0	72	-0.11±0.1	No
Freshwater	117	-0.26±0.24	-0.21	0.249	3	114	-0.26±0.18	No
Marine	25	-0.83±0.59	0.64	0.175	2	23	-0.55±0.37	No
Insularity (Fig. 1b)								
Mainland	54	-0.03±0.11	0.09	0.552	0	54	-0.03±0.11	No
Island	18	-0.32±0.19	-0.28	0.433	0	18	-0.32±0.19	No
Biogeographic realm (Fig. 1c)								
Yes	175	-0.39±0.21	0.09	0.524	4	171	-0.35±0.16	No
No	39	-0.12±0.14	-0.47	0.049	0	39	-0.12±0.14	No
Taxonomic distinctiveness (Fig. 1d)								
Yes	24	-0.17±0.16	0.038	0.85	0	24	-0.17±0.16	No
No	190	-0.37±0.21	-0.21	0.833	5	185	-0.30±0.15	No
Exotic predator (Fig. 1e)								
Mammal	66	-0.13±0.11	-0.37	0.146	0	66	-0.13±0.11	No
Herpetofauna	24	-0.46±0.4	0.93	0.111	0	24	-0.46±0.4	No
Fish	78	-0.56±0.32	0.36	0.148	2	76	-0.51±0.29	No
Crustacean	39	0.03±0.21	-0.13	0.576	1	38	-0.01±0.19	No
Echinoderm	3	NA	NA	NA	NA	NA	NA	NA
Insect	4	NA	NA	NA	NA	NA	NA	NA
Native prey (Fig. 1f)								
Mammal	56	-0.18±0.12	-0.33	0.194	0	56	-0.18±0.12	No
Herpetofauna	78	-0.32±0.26	-0.2	0.37	0	78	-0.32±0.26	No
Fish	38	-0.59±0.38	0.71	0.03	1	37	-0.51±0.30	No
Crustacean	16	-0.43±0.92	0.39	0.55	0	16	-0.43±0.92	No
Mollusc	15	-0.19±1.08	-0.81	0.395	2	13	-0.06±0.26	No
Insect	11	-0.16±0.37	0.41	0.398	1	10	-0.12±0.37	No

Figure S1. Global map of the location of the study sites (n = 47) included in the database and used in the meta-analysis. The histogram of the latitudinal distribution of these study sites is shown in the right plot.

