

SUPPLEMENTARY MATERIAL

The following is the supplementary material to the article “*Invertebrates in science communication: confronting scientists’ practices and the public’s expectations*” by R.B. Salvador, B.M. Tomotani, K.L. O’Donnell, D.C. Cavallari, J.V. Tomotani, R.A. Salmon., J. Kasper.

The raw results (anonymized) from Part 1 can be acquired from the corresponding author upon request. Raw results from Part 2 cannot be shared as per ethics protocol HEC27046.

A. Part 1: Surveying Scientists

The aim of the present questionnaire is to uncover the approaches biologists use in science communication when dealing with the ‘unpopular’ 99% of Earth’s biodiversity, that is, the invertebrates. This should take around 10 minutes of your time and will help us to understand the point of view of researchers when engaging in ‘sci comm’. A red asterisk (*) indicates a required field.

1.1. Name

1.2. Gender *

- Female
- Male
- Prefer not to say
- Other: _____

1.3. Age *

- 18–25
- 26–35
- 36–50
- 51–65
- 66 and over

1.4. Nationality *

1.5. Ethnicity

1.6. Institution *

1.7. Country *

1.8. Position / job title *

1.9. If you're a taxonomist/systematist, which taxon do you specialize in? (Check all that apply.)

- Annelida
- Arthropoda: Chelicerata
- Arthropoda: "Crustacea"
- Arthropoda: Hexapoda
- Arthropoda: others
- Brachiopoda
- Bryozoa
- Craniata / Vertebrata
- Cnidaria / Ctenophora
- Echinodermata
- Mollusca
- Nematoda
- Platyhelminthes
- Porifera
- Tunicata
- Other: _____

1.10. In the last 3 months, how often did you engage in science communication/outreach activities?

*

- 0
- 1
- 2
- 3
- 4–6
- 7 or more

1.11. When you engage in science communication/outreach activities, how often do you address the following overarching topics? *

	Never	Occasionally	Sometimes	Often	Always
Biodiversity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evolution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pathology (parasites and disease vectors)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economical applications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.12. In your experience, which group of organisms tend to fascinate the public more? You may choose up to 5 groups. *

- Annelida: Polychaete
- Annelida: Clitellata
- Arthropoda: Chelicerata
- Arthropoda: “Crustacea”
- Arthropoda: Insecta: Palaeoptera (dragon-, damsel-, mayflies)
- Arthropoda: Insecta: Phasmatodea (stick bugs)
- Arthropoda: Insecta: Mantodea (mantises)
- Arthropoda: Insecta: Blattodea (cockroaches, termites)
- Arthropoda: Insecta: Hemiptera (true bugs)
- Arthropoda: Insecta: Coleoptera (beetles)
- Arthropoda: Insecta: Hymenoptera (wasps, bees, ants)
- Arthropoda: Insecta: Diptera (true flies, mosquitoes)
- Arthropoda: Insecta: Lepidoptera (butterflies, moths)
- Arthropoda: Insecta: others
- Arthropoda: Trilobitomorpha
- Arthropoda: others (e.g., myriapods, dinocaridids)
- Brachiopoda
- Bryozoa
- Cnidaria
- Ctenophora
- Echinodermata: Asterozoa
- Echinodermata: Crinoidea
- Echinodermata: Echinozoa
- Mollusca: Bivalvia
- Mollusca: Cephalopoda
- Mollusca: Gastropoda: marine snails
- Mollusca: Gastropoda: sea slugs (e.g., nudibranchs, sea angels)
- Mollusca: Gastropoda: terrestrial snails and slugs
- Mollusca: Polyplacophora
- Mollusca: others
- Nematoda
- Platyhelminthes: Neodermata
- Platyhelminthes: “Turbellaria”
- Porifera
- Tunicata
- Other: _____

1.13. If in the preceding question you chose a group that counts with a remarkable fossil record (*e.g.*, Ammonoidea, Dinocaridida), do you think the public is more interested in living forms or fossil ones?

- Living
- Fossil
- Equally interested in both
- Not sure

1.14. From your experience, name up to 3 species that never fail to amaze the public (please provide their scientific names). *

_____ ;
 _____ ;

1.15. When you engage in science communication/outreach activities, how often do you use the following approaches to get the public's attention? *

	Never	Occasionally	Sometimes	Often	Always
Aesthetics (beautiful animals, like butterflies and seashells)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amazing feats (<i>e.g.</i> , monarch migration, octopus camouflage, tardigrade resilience)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
“Weird/disturbing” facts (<i>e.g.</i> , mantis/spider mating, velvet worm gluey spray)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beneficial species for humankind (<i>e.g.</i> , economical importance, medicinal use)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Harmful species for humankind (<i>e.g.</i> , parasites, disease vectors, crop pests, invasive species)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Archaeology / History (<i>e.g.</i> , artifacts, documents, paintings, sculptures)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Folklore / Myths (<i>e.g.</i> , tales in which the animal(s) in question have a major role)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pop culture (<i>e.g.</i> , movies/ cartoons, comics, video games, sci-fi/fantasy literature)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.16. When using the approaches from the preceding question, which is the typical age group of the audience? (Check all that apply.) *

	6–11	12–17	18–25	26–35	36–50	51–65	66 and over	N/A
Aesthetics (beautiful animals, like butterflies and seashells)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amazing feats (e.g. , monarch migration, octopus camouflage, tardigrade resilience)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
“Weird/disturbing” facts (e.g. , mantis/spider mating, velvet worm gluey spray)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beneficial species for humankind (e.g. , economical importance, medicinal use)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Harmful species for humankind (e.g. , parasites, disease vectors, crop pests, invasive species)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Archaeology / History (e.g. , artifacts, documents, paintings, sculptures)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Folklore / Myths (e.g. , tales in which the animal(s) in question have a major role)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pop culture (e.g. , movies/ cartoons, comics, video games, sci-fi/fantasy literature)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.17. When you engage in science communication/outreach activities, how often do you use the following hands-on activities? *

	Never	Occasionally	Sometimes	Often	Always
Live animals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preserved specimens (e.g. , from museum or private collections)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fossils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lab equipment (e.g. , microscopes, DNA extraction kits)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Field trips	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.18. Please tell us your successful (or unsuccessful) cases of science communication/outreach. You may write down as many cases as you want – we like to read. :)

1.19. If you'd like to hear from us again to know about our results, please provide your email address:

B. Part 1: Answers

Below are tables and figures compiling the relative proportion of the answers to some of the questions, as well as additional figures that complement the results discussed in the main text.

Table S1. Proportion of answers to Q1.4, regarding the respondents' nationalities.

Nationality	Proportion	Nationality	Proportion
United States of America	34.4%	Finland	1.0%
Australia	9.2%	Greece	1.0%
United Kingdom	7.2%	Hungary	1.0%
Canada	6.8%	Austria	0.5%
Mexico	4.8%	Belgium	0.5%
Brazil	3.9%	Chile	0.5%
Netherlands	3.4%	France	0.5%
Germany	3.4%	Kenya	0.5%
Italia	3.4%	Malta	0.5%
New Zealand	3.4%	Norway	0.5%
Portugal	2.4%	Russia	0.5%
Spain	2.4%	Serbia	0.5%
Switzerland	1.9%	Singapore	0.5%
Argentina	1.4%	South Africa	0.5%
Colombia	1.4%	Sweedden	0.5%
India	1.4%	Uruguay	0.5%

Table S2. Proportion of answers to Q1.7, regarding the country where the respondents work.

Country	Proportion	Country	Proportion
United States of America	40.0%	Hungary	1.0%
Australia	11.4%	India	1.0%
United Kingdom	6.2%	Norway	1.0%
Canada	4.8%	Austria	0.5%
Mexico	4.3%	Chile	0.5%
Brazil	3.8%	Colombia	0.5%
Germany	2.9%	Greece	0.5%
Netherlands	2.4%	Japan	0.5%
New Zealand	2.4%	Malta	0.5%
Switzerland	2.4%	Russia	0.5%
Italy	1.9%	Serbia	0.5%
Argentina	1.4%	Singapore	0.5%
Finland	1.4%	South Africa	0.5%
France	1.4%	Sweden	0.5%
Portugal	1.4%	Thailand	0.5%
Spain	1.4%	Trinidad & Tobago	0.5%
Belgium	1.4%	Uruguay	0.5%

Table S3. Proportion of answers to Q1.9, regarding the taxon in which the researcher specializes.

Specialty taxon	Proportion	Specialty taxon	Proportion
Mollusca	33.2%	Brachiopoda	2.2%
Arthropoda: Hexapoda	19.2%	Bryozoa	2.2%
Arthropoda: "Crustacea"	7.4%	Platyhelminthes	1.7%
Arthropoda: Chelicerata	7.0%	Protista	1.7%
Arthropoda: others	5.2%	Ichnofossils	1.3%
Annelida	3.9%	Graptolithina	0.4%
Echinodermata	3.9%	Nematoda	0.4%
Craniata / Vertebrata	3.5%	Porifera	0.4%
Cnidaria / Ctenophora	3.1%	Tunicata	0.4%
Plantae	2.6%		

Table S4. Proportion of answers to Q1.12, regarding the groups of invertebrates that usually fascinate the public.

Taxon	Proportion	Taxon	Proportion
Mollusca: Cephalopoda	12.5%	Mollusca: Gastropoda: terrestrial snails and slugs	1.7%
Arthropoda: Insecta: Lepidoptera	12.3%	Arthropoda: Insecta: Diptera	1.6%
Arthropoda: "Crustacea"	6.5%	Arthropoda: Insecta: Blattodea	1.5%
Arthropoda: Insecta: Hymenoptera	6.1%	Annelida: Polychaete	1.0%
Arthropoda: Trilobitomorpha	6.0%	Porifera	1.0%
Cnidaria	5.9%	Arthropoda: Insecta: others	0.9%
Mollusca: Gastropoda: sea slugs	5.4%	Arthropoda: others	0.9%
Arthropoda: Chelicerata	5.1%	Echinodermata: Crinoidea	0.9%
Arthropoda: Insecta: Mantodea	5.1%	Mollusca: others	0.7%
Arthropoda: Insecta: Coleoptera	5.0%	Ctenophora	0.5%
Arthropoda: Insecta: Palaeoptera	4.7%	Brachiopoda	0.3%
Mollusca: Gastropoda: marine snails	4.5%	Platyhelminthes	0.3%
Echinodermata: Asterozoa	2.7%	Tardigrada	0.2%
Arthropoda: Insecta: Phasmatodea	2.4%	Tunicata	0.2%
Mollusca: Bivalvia	1.8%	Bryozoa	0.1%
Echinodermata: Echinozoa	1.7%	Nematoda	0.1%

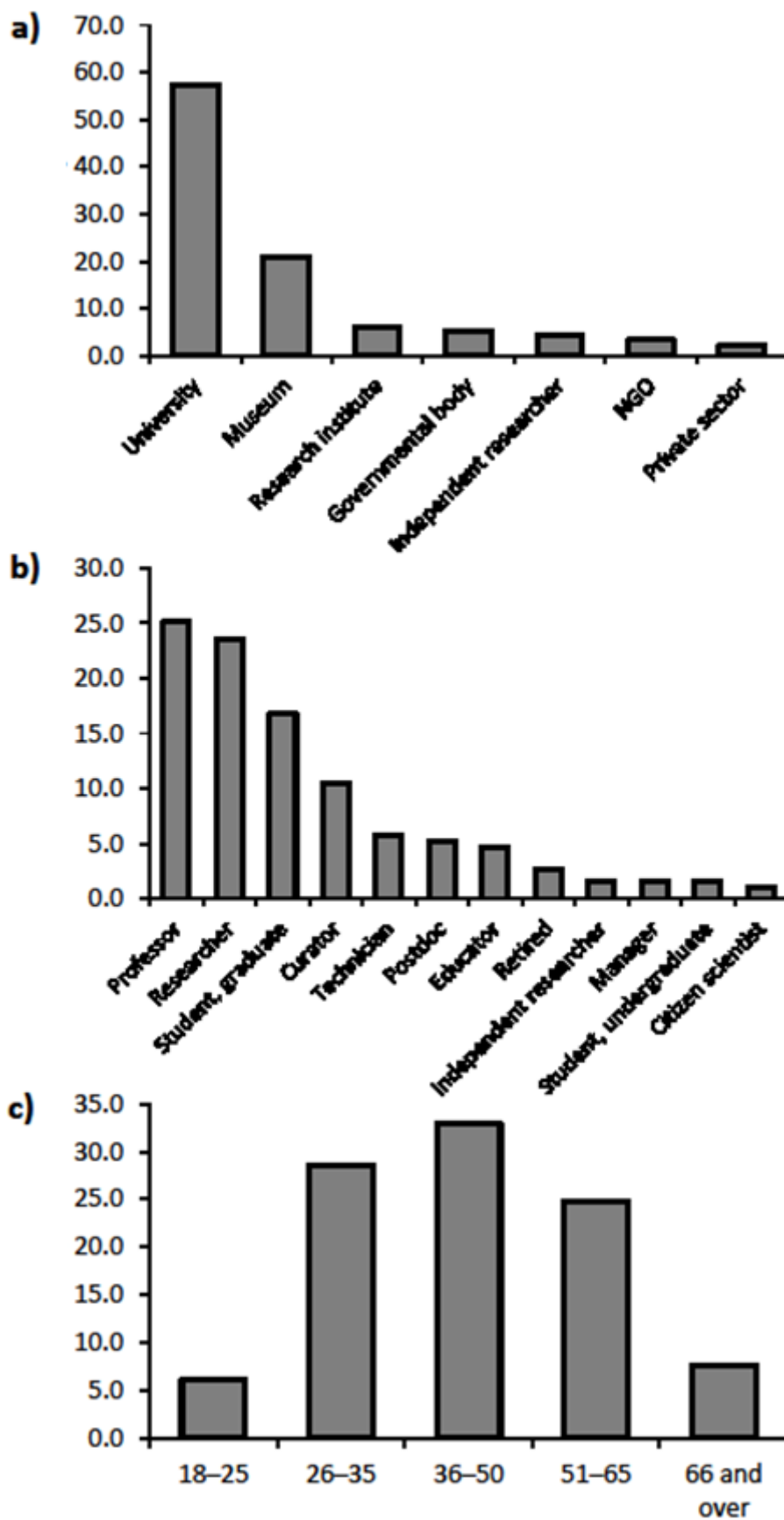


Figure S1. a. Proportion of answers to Q1.6, regarding the type of institution where the respondents presently work. **b.** Proportion of answers to Q1.8, regarding the present job/position title of the respondents. **c.** Proportion of answers to Q1.3, regarding the age group of the respondents.

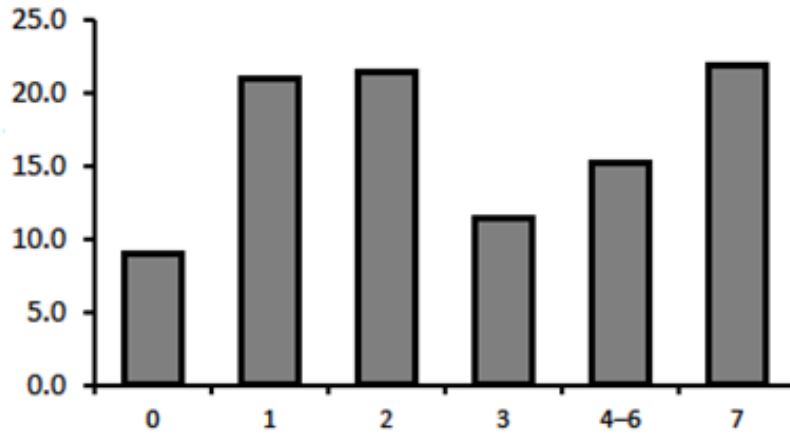


Figure S2. Proportion of answers to Q1.10, regarding how many times the respondents engaged in science communication/outreach activities in the three months prior to the questionnaire.

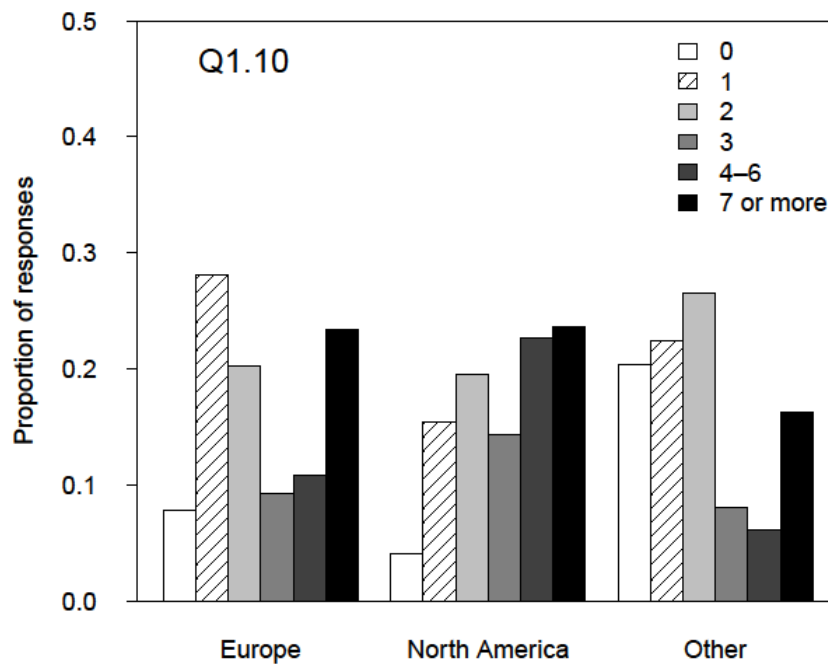


Figure S3. Comparison of the number of activities related to science communication (Q1.10, Fig. S2) developed by scientists from different continents.

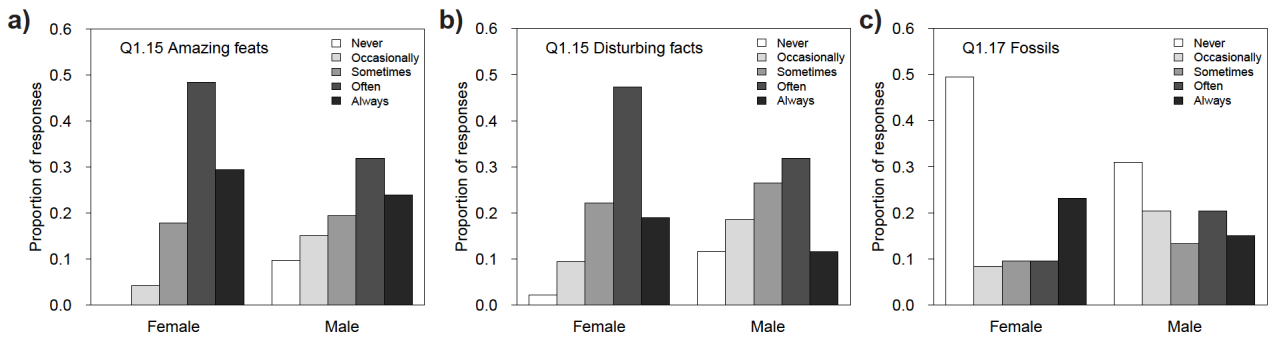


Figure S4. Gender differences of the responses of scientists related to the approach (a, b; Q1.15) or activities (c; Q1.17) related to science communication.

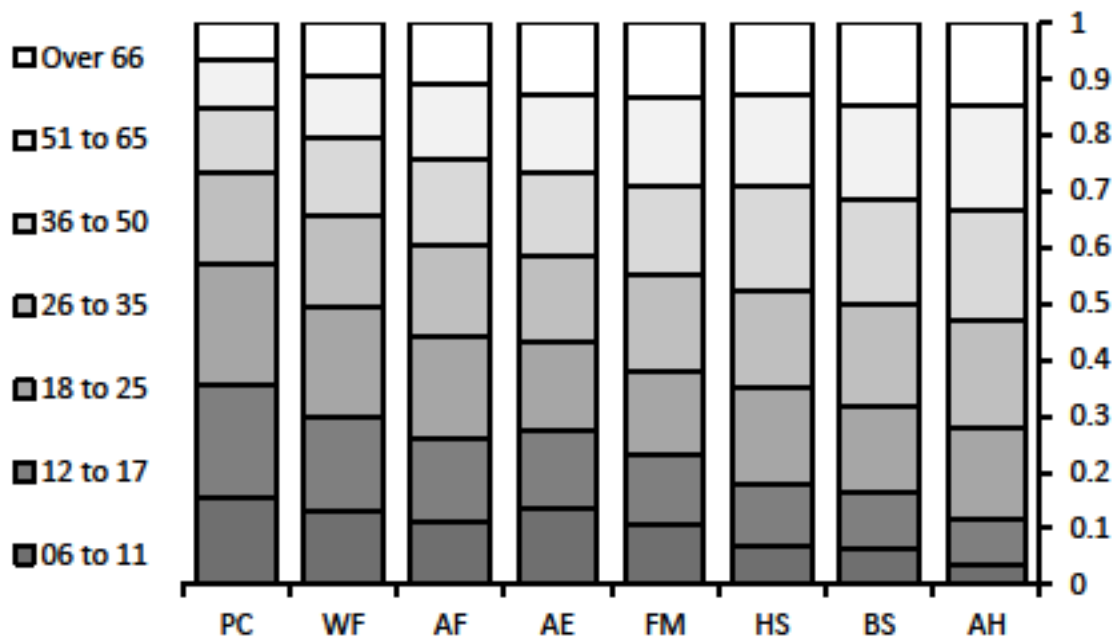


Figure S5. Proportion of answers to Q1.16, regarding how often the respondents used the approaches from Q1.15 to engage each age group of the public. Abbreviations: AE = aesthetics; AF = amazing feats; AH = Archaeology/History; BS = beneficial species for humankind; FM = folklore / myths; HS = harmful species for humankind; PC = pop culture; WF = “Weird/disturbing” facts.

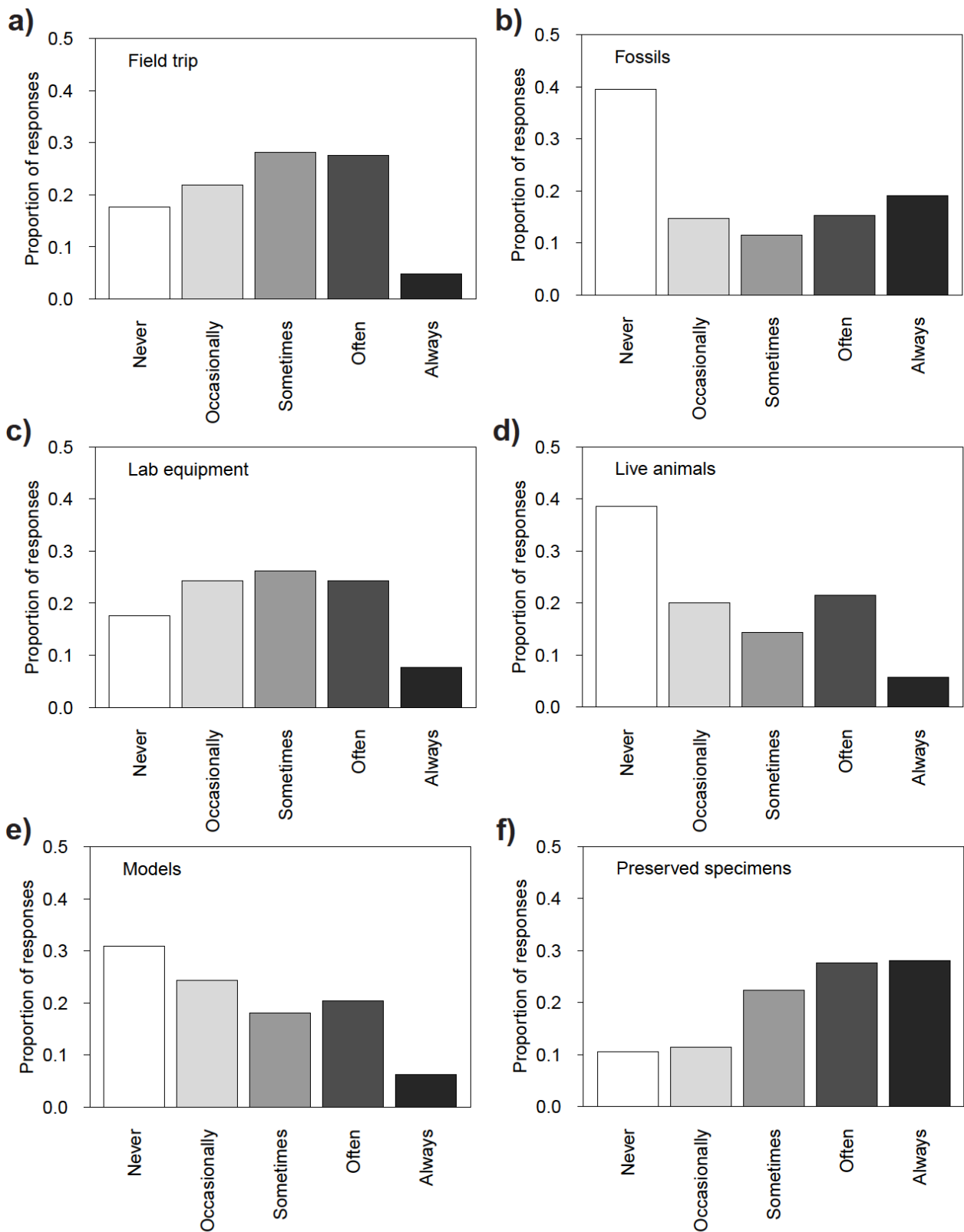


Figure S6. Proportion of answers to Q1.17 regarding how often the respondents used the following hands-on activity to engage the public: **a.** Field trip; **b.** Fossils; **c.** Lab equipment; **d.** Live animals; **e.** Models; **f.** Preserved specimens.



Figure S7. Tag cloud of keywords from the respondents’ answers to Q1.18. The specific answers are not reproduced here for privacy reasons.

C. Part 1: Statistical Analyses

Below are presented the tables resulting from the statistical analyses performed for Q1.10, Q1.11, Q1.15, and Q1.17.

Table S5. Results of the Pearson's chi-squared test, investigating the association between the answers to Q1.10 and the age, gender or continent of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
Age	10	210	12.19	0.27
Gender	5	210	6.49	0.26
Continent	NA	210	22.84	0.01*

Table S6. Results of the Pearson's chi-squared test, investigating the association between the answers to Q1.11 and the gender or continent of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
<i>A: Biodiversity</i>				
Gender	NA	210	3.62	0.46
Continent	NA	210	5.47	0.75
<i>A: Conservation</i>				
Gender	4	210	3.93	0.41
Continent	NA	210	6.86	0.56
<i>A: Evolution</i>				
Gender	NA	210	0.78	0.94
Continent	NA	210	14.52	0.07
<i>A: Pathology</i>				
Gender	NA	210	6.83	0.14
Continent	NA	210	4.23	0.84
<i>A: Economical applications</i>				
Gender	4	210	5.17	0.27
Continent	NA	210	3.57	0.90

Table S7. Results of the Pearson's chi-squared test, investigating the association between the answers to Q1.15 and the gender or continent of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
<i>A: Aesthetics</i>				
Gender	NA	210	7.33	0.12
Continent	NA	210	10.16	0.26
<i>A: Amazing feats</i>				
Gender	NA	210	19.51	<0.05*
Continent	NA	210	8.93	0.35
<i>A: Weird/disturbing facts</i>				
Gender	NA	210	14.82	<0.05*
Continent	NA	210	8.76	0.37
<i>A: Beneficial species</i>				
Gender	4	210	8.58	0.07
Continent	8	210	5.82	0.67
<i>A: Harmful species</i>				
Gender	4	210	6.61	0.16
Continent	NA	210	3.68	0.89
<i>A: Archeology/History</i>				
Gender	NA	210	0.13	0.99
Continent	NA	210	7.02	0.54
<i>A: Folklore/Myths</i>				
Gender	NA	210	1.36	0.86
Continent	NA	210	3.86	0.88
<i>A: Pop culture</i>				
Gender	4	210	8.97	0.06
Continent	NA	210	15.89	0.04

Table S8. Results of the Pearson's chi-squared test, investigating the association between the answers to Q1.17 and the gender or continent of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
<i>A: Live animals</i>				
Gender	4	210	2.03	0.73
Continent	NA	210	6.21	0.63
<i>A: Preserved specimens</i>				
Gender	4	210	9.5	0.05
Continent	8	210	5.95	0.65
<i>A: Fossils</i>				
Gender	4	210	15.84	<0.05*
Continent	8	210	10.65	0.22
<i>A: Models</i>				
Gender	4	210	7.13	0.13
Continent	NA	210	9.44	0.31
<i>A: Lab equipment</i>				
Gender	4	210	5.63	0.23
Continent	NA	210	13.82	0.09
<i>A: Field trips</i>				
Gender	NA	210	0.64	0.96
Continent	NA	210	5.83	0.68

D. Part 2: Surveying the Public

2.1. I have read and understand the information sheet. [Available from: https://drive.google.com/file/d/1V0WmbP0goppzjuZ11LwEpxRq9cw_zaTN/view]

- Yes

2.2. Nationality

- NZ citizen
- International citizen

2.3. Residency

- NZ residents
- NZ visitor

2.4. Ethnicity (optional)

- _____

2.5. Gender

- Male
- Female
- Prefer not to say
- Other _____

2.6. Education level

- None of the below
- Some High School education
- High School Graduate/ NCEA Level 3 or equivalent
- Some Tertiary Education
- Trade/ technical/ vocational training
- Bachelor's degree
- Bachelor's degree, with honours
- Master's degree
- Doctoral degree

2.7. Age

- 16–17
- 18–25
- 26–35
- 36–50
- 51–65
- 66 and over

2.8. Occupation

- _____

2.9. Do you know what an invertebrate animal is?

- Yes
- No
- Maybe

NOTE: If the answer is “Yes” or “Maybe”, proceed to Q2.10.

If the answer is “No”, the following brief explanation is given, accompanied by illustrations of the animals (sourced from Wikimedia Commons or Flickr): “*An invertebrate is an animal that neither possesses nor develops a vertebral column (commonly known as a backbone or spine). Some examples of invertebrate animals pictured here are insects (such as butterflies and bees), octopuses, flatworms, anemones, crustaceans (such as crabs), jellyfish, and many more.*” Then proceed directly to Q.2.11.

2.10. Could you give 3 examples of invertebrate animals?

- _____
- _____
- _____

2.11. What percentage of all animal species do you think are invertebrates?

- 15% (=1/6)
- 25 % (=1/4)
- 50 % (=1/2)
- 75 % (=3/4)
- 95 % (~1)

2.12. Do you think invertebrates are important for ecosystems and the environment?

- Yes
- No
- Uncertain

2.13. Do you think invertebrate animals are interesting?

- Yes
- No
- Uncertain

2.14. If so, which groups? Choose up to three.

- Worms and leeches
- Spiders, scorpions, and sea-spiders
- Crustaceans (crabs, lobsters, crayfish, shrimp, krill, woodlice, and barnacles)
- Insects
- Jellyfish, corals, and sea anemones
- Sea stars, sea urchins, sand dollars, and sea cucumbers
- Snails, clams, scallops, oysters, and chitons
- Octopuses, squids, cuttlefish
- Roundworms (including parasitic worms)
- Flatworms
- Sponges

2.15. If you wanted to learn more about invertebrates, who would you prefer to learn from?

- School teachers
- Scientists / university professors
- Journalists
- Other educators (museum guides, etc.)
- Documentary filmmakers
- Other _____

2.16. Which topics related to invertebrate science would you be interested in?

	Not interesting at all	Slightly interesting	Moderately interesting	Very interesting	Extremely interesting
Biodiversity (number and different types of species)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation (endangered animals)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evolution (how invertebrates evolved)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pathology (parasites and animals that transmit disease)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economical applications (beneficial species, agricultural pests)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.17. When learning about invertebrates, which of the following interactive elements or hands-on activities would you enjoy the most? Choose up to 3.

- Live animals
- Preserved specimens (*e.g.*, from museum collections)
- Fossils
- Models
- Lab equipment (*e.g.*, microscopes, DNA extraction kits)
- Field trips

2.18. When learning about invertebrates, what topics do you find interesting?

	Extremely interesting	Very interesting	Moderately interesting	Slightly interesting	Not at all interesting
Aesthetics (beautiful animals, like butterflies and seashells)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amazing feats (<i>e.g.</i> , monarch migration, octopus camouflage, tardigrade resilience)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
“Weird/disturbing” facts (<i>e.g.</i> , mantis/spider mating, velvet worm gluey spray)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beneficial species for humankind (<i>e.g.</i> , economical importance, medicinal use)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Harmful species for humankind (<i>e.g.</i> , parasites, disease vectors, crop pests, invasive species)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Archaeology / History (<i>e.g.</i> , artifacts, documents, paintings, sculptures)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Folklore / Myths (<i>e.g.</i> , tales in which the animal(s) in question have a major role)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pop culture (<i>e.g.</i> , movies/ cartoons, comics, video games, sci-fi/fantasy literature)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.19. What types of media/ communication would you prefer to use in order to learn more about invertebrates?

- Newspaper / magazine articles
- Internet articles/ blog posts
- Books
- TV and documentaries
- Internet videos (YouTube, etc.)
- Museums / zoos / aquaria
- Workshops / symposia
- Societies (*e.g.*, Entomological Society of NZ, Shell Club)
- Citizen science projects

2.20. How often do you engage with these forms of science communication? Please tick the most appropriate box

	Every day	Once a week	Once a month	Less than once a month	Never
Newspaper / magazine articles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet articles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Books	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TV documentaries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet videos (YouTube, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Museums / zoos / aquaria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Workshops / symposia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Societies (e.g., Entomological Society of NZ, Shell Club)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Citizen science projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.21. Personal experience? – Can you recall an effective piece of biological science communication you watched, read, or participated in recently? Why was it effective? What did you learn? – Is there anything else you would like to say about invertebrate animals or science communication more generally?

E. Part 2: Answers

Below are tables and figures compiling the relative proportion of the answers to some of the questions, as well as additional figures that complement the results discussed in the main text.

Table S9. Proportion of answers to Q2.6, asking the respondents about their education level.

Education level	Proportion
None of the below	0.5%
Some High School education	5.1%
High School Graduate/ NCEA Level 3 or equivalent	7.1%
Some Tertiary Education	13.2%
Trade/ technical/ vocational training	9.6%
Bachelor's degree	34.5%
Bachelor's degree, with honours	13.2%
Master's degree	14.2%
Doctorate degree	2.5%

Table S10. Proportion of answers to Q2.10, asking the respondents for examples of invertebrate animals. The answers are organized by clusters of species, as the vast majority of people answered with broad categories such as “squid”, with very few naming a single species (*e.g.*, colossal squid). Answers that do not represent invertebrates are indicated in **bold**.

"Species"	Greater group	Proportion	"Species"	Greater group	Proportion
snails	Gastropoda	11.1%	bivalves	Bivalvia	1.3%
worms (undefined)	"worms" (undefined)	10.0%	Echinoderms (others)	Echinodermata	1.3%
crabs	Crustacea	7.8%	mammals	Vertebrata	1.3%
jellyfish	Cnidaria	6.3%	crayfish	Crustacea	1.1%
Hymenoptera	insects	5.2%	fish	Vertebrata	1.1%
spiders	Araneae	5.2%	reptiles (others)	Vertebrata	1.1%
slugs	Gastropoda	4.1%	anemones/corals	Cnidaria	< 1%
squids	Cephalopoda	3.9%	annelids	Annelida	< 1%
insects (undefined)	insects	3.5%	Blattodea	insects	< 1%
Diptera	insects	3.3%	protozoans	Protozoa	< 1%
octopuses	Cephalopoda	3.0%	sponges	Porifera	< 1%
insects (others)	insects	2.8%	isopods	Crustacea	< 1%
reptiles (snakes)	Vertebrata	2.6%	slugs (sea)	Gastropoda	< 1%
Lepidoptera	insects	2.4%	velvet worms	Onychophora	< 1%
Orthoptera	insects	2.4%	arthropods (undefined)	Arthropoda (undefined)	< 1%
myriapods	Myriapoda	2.2%	birds	Vertebrata	< 1%
Coleoptera	insects	2.0%	crustaceans (undefined)	Crustacea	< 1%
lobsters/shrimps	Crustacea	2.0%	flatworms	Platyhelminthes	< 1%
mollusks (undefined)	Mollusca	2.0%	limulids	Xiphosura	< 1%
Starfish	Echinodermata	1.5%			

Table S11. Proportion of answers to Q2.10 (same as Table S9) separated by the greater, more inclusive, groups (Class and above). Non-invertebrates indicated in **bold**.

Greater group	Proportion	Greater group	Proportion
insects	20.2%	Mollusca (undefined)	2.0%
Gastropoda	15.7%	Bivalvia	1.3%
Crustacea	11.5%	Annelida	<1%
"worms" (undefined)	10.0%	Porifera	<1%
Cnidaria	7.2%	Protozoa	<1%
Cephalopoda	7.0%	Onychophora	<1%
Vertebrata	6.3%	Arthropoda (undefined)	<1%
Araneae	5.2%	Platyhelminthes	<1%
Echinodermata	2.8%	Xiphosura	<1%
Myriapoda	2.2%		

Table S12. Answers to Q2.14: groups of invertebrates the respondents find interesting.

Group	Proportion
Octopuses, squids, cuttlefish	16.7%
Jellyfish, corals, and sea anemones	15.7%
Insects	15.3%
Crustaceans (crabs, lobsters, crayfish, shrimp, krill, woodlice, and barnacles)	14.3%
Spiders, scorpions, and sea-spiders	12.5%
Sea stars, sea urchins, sand dollars, and sea cucumbers	8.2%
Snails, clams, scallops, oysters, and chitons	6.4%
Sponges	4.7%
Worms and leeches	4.2%
Roundworms (including parasitic worms)	1.3%
Flatworms	0.7%
Sponges	4.7%

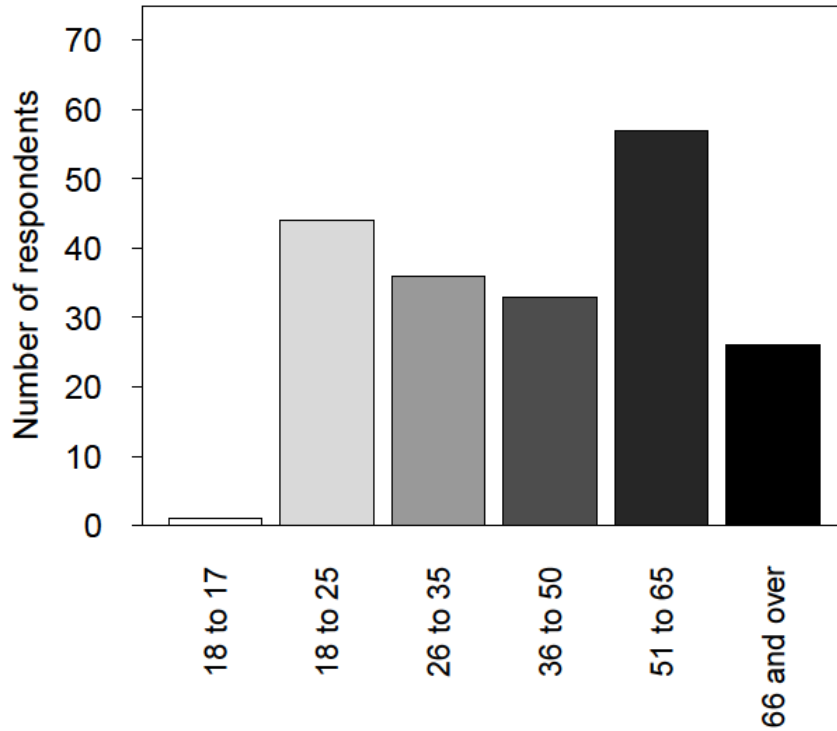


Figure S8. Number of answers to Q2.7, regarding the age group of the respondents.

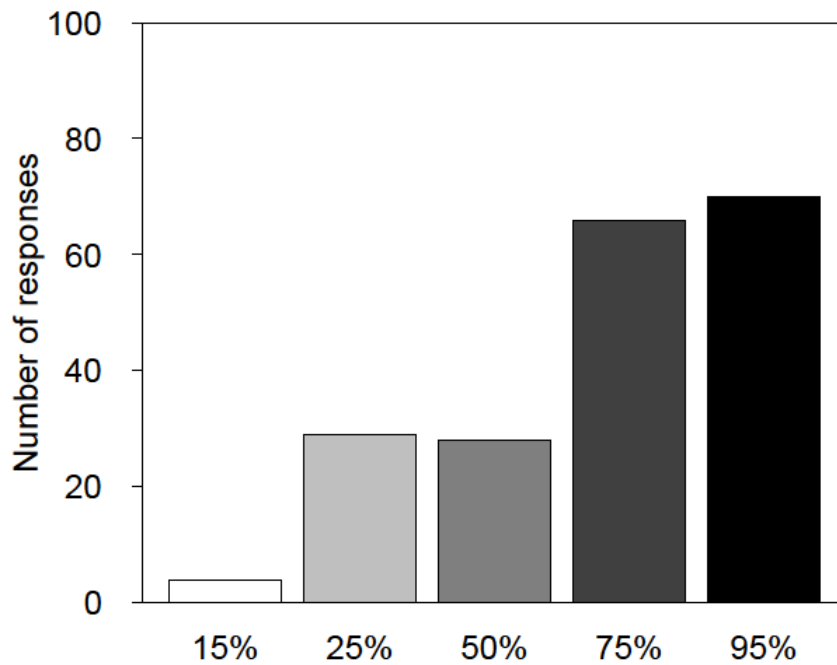


Figure S9. Number of answers to Q2.11, regarding the percentage of animal species represented by invertebrates.

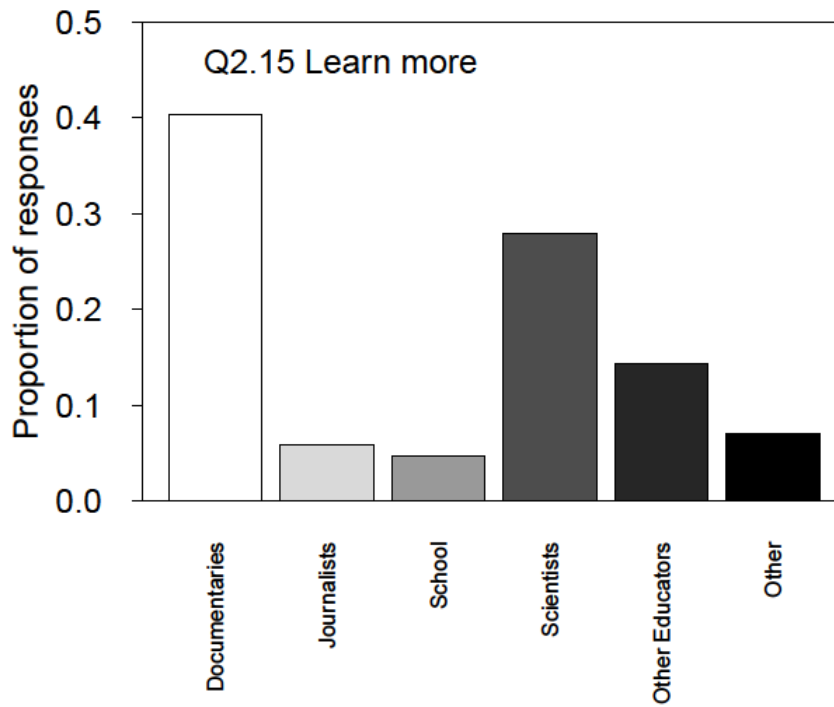


Figure S10. Proportion of answers to Q2.15, regarding the source that the public prefers when learning about invertebrates.

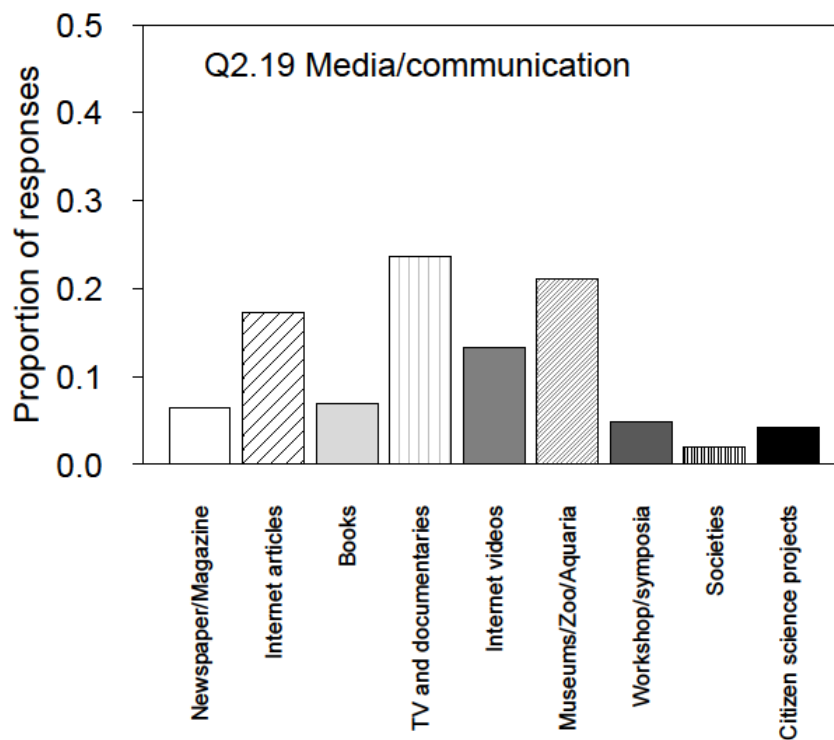


Figure S11. Proportion of answers to Q2.19, regarding the source that the public prefers when learning about invertebrates.

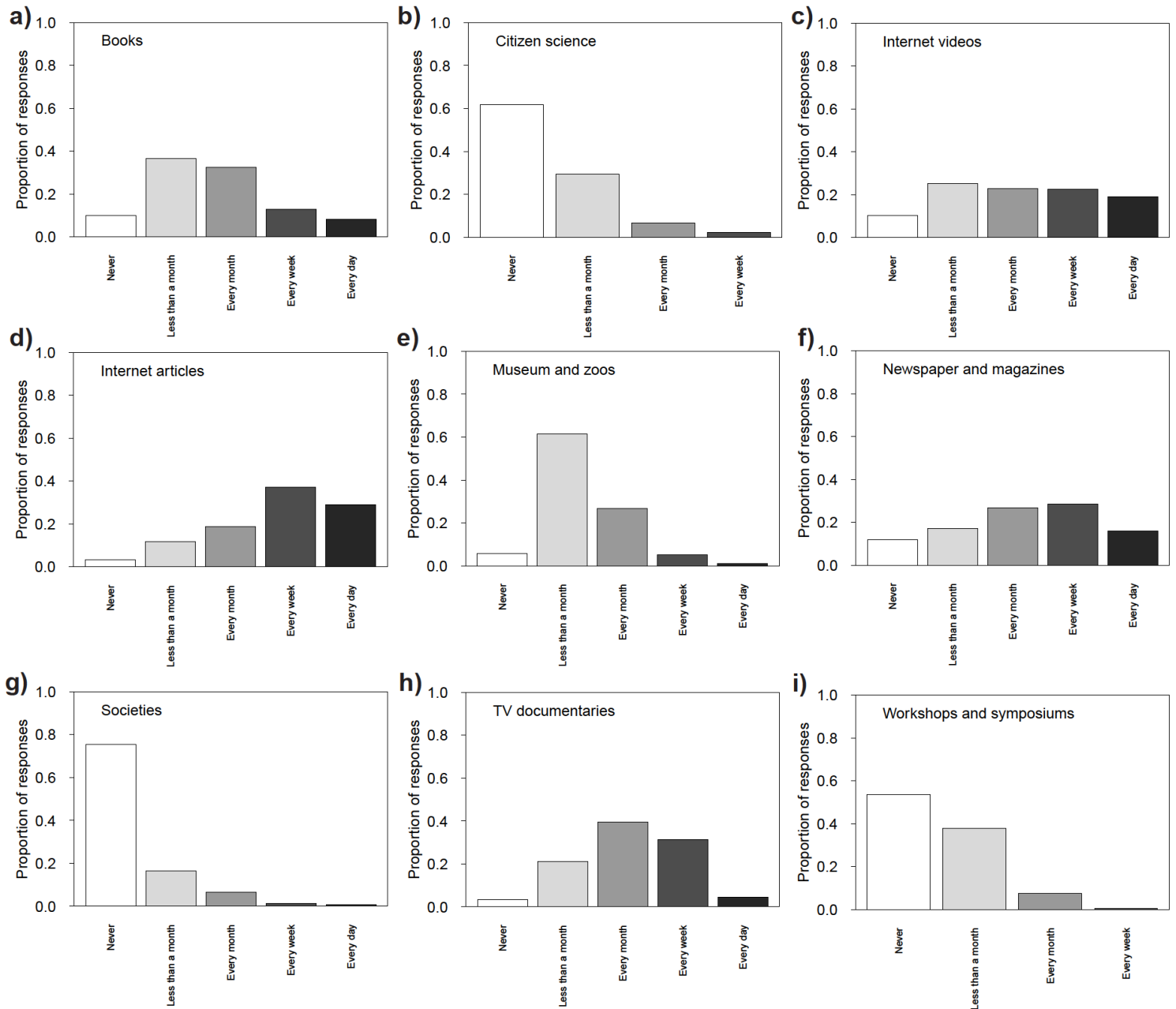


Figure S12. Proportion of answers to Q2.20, regarding how often the public engage with the types of media/communication sources when learning about invertebrates.

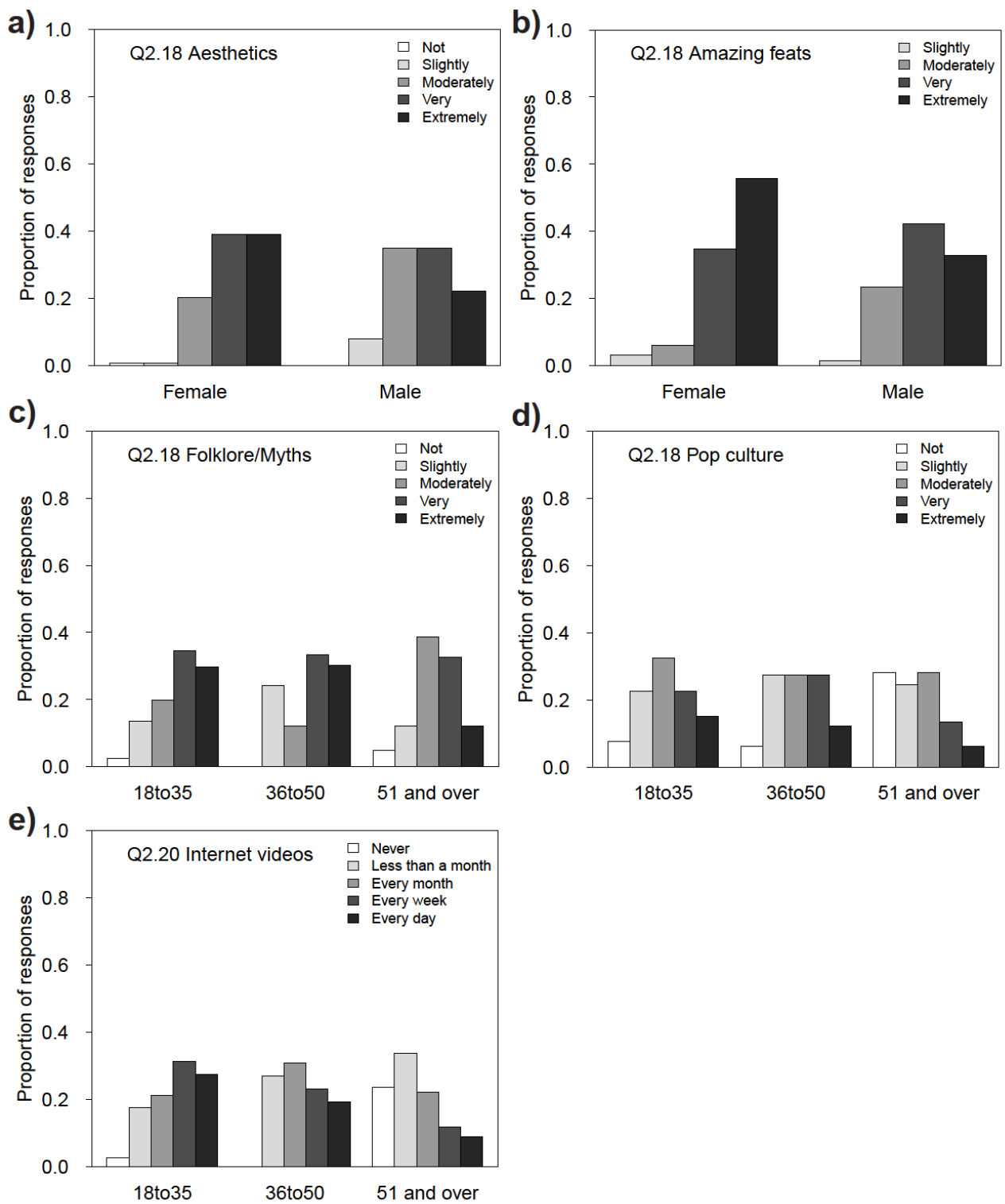


Figure S14. Gender and age differences of the responses of the public to related to the approach (a–d; Q2.18) and media/communication sources (e; Q2.20).

F. Part 2: Statistical Analyses

Below are presented the tables resulting from the statistical analyses performed for Q2.9, Q2.11, Q2.13, Q2.15, Q2.16, Q2.17, Q2.18, Q2.19, and Q2.20.

Table S13. Model results of the multiple logistic regression analysis of Q2.9 testing the effect of age, gender and nationality on the probability of knowing what are invertebrates. Statistics are given at the point of exclusion from the model.

Categories	df	n	χ^2	p-value
Age	2	197	1.80	0.41
Gender	1	197	0.32	0.57
Nationality	1	197	1.42	0.23

Table S14. Model results of the multiple logistic regression analysis of Q2.11 testing the effect of age, gender and nationality on the probability of knowing the correct proportion of invertebrates in the world's animal biodiversity. Statistics are given at the point of exclusion from the model.

Categories	df	n	χ^2	p-value
Age	2	197	1.76	0.42
Gender	1	197	1.46	0.23
Nationality	1	197	0.59	0.44

Table S15. Model results of the multiple logistic regression analysis of Q2.13 testing the effect of age, gender and nationality on the probability of finding invertebrates interesting. Statistics are given at the point of exclusion from the model.

Categories	df	n	χ^2	p-value
Age	2	197	1.46	0.23
Gender	1	197	0.01	0.92
Nationality	1	197	2.61	0.11

Table S16. Results of the Pearson's chi-squared test, investigating the association between answers to Q2.15 and age, gender or nationality of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
Age	2	260	14.85	0.14
Gender	1	260	7.85	0.16
Nationality	1	260	1.61	0.91

Table S17. Results of the Pearson’s chi-squared test, investigating the association between answers to Q2.16 and age, gender or nationality of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
<i>A: Biodiversity</i>				
Age	NA	197	7.96	0.44
Gender	NA	197	6.09	0.19
Nationality	NA	197	6.96	0.13
<i>A: Conservation</i>				
Age	NA	197	7.50	0.28
Gender	NA	197	7.42	0.06
Nationality	NA	197	3.47	0.32
<i>A: Evolution</i>				
Age	NA	197	4.20	0.85
Gender	NA	197	3.75	0.45
Nationality	NA	197	6.83	0.14
<i>A: Pathology</i>				
Age	NA	197	4.71	0.80
Gender	NA	197	2.58	0.64
Nationality	NA	197	3.73	0.45
<i>A: Economy</i>				
Age	NA	197	6.95	0.55
Gender	NA	197	1.28	0.88
Nationality	NA	197	3.73	0.46

Table S18. Results of the Pearson’s chi-squared test, investigating the association between answers to Q2.17 and age, gender or nationality of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
Age	2	508	12.94	0.23
Gender	1	508	5.91	0.32
Nationality	1	508	5.20	0.39

Table S19. Results of the Pearson’s chi-squared test, investigating the association between answers to Q2.18 and age, gender or nationality of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
<i>A: Aesthetics</i>				
Age	NA	197	10.00	0.25
Gender	NA	197	14.72	<0.05*
Nationality	NA	197	5.49	0.22
<i>A: Amazing feats</i>				
Age	NA	197	8.37	0.21
Gender	NA	197	16.36	<0.05*
Nationality	NA	197	0.43	0.98
<i>A: Weird/disturbing facts</i>				
Age	NA	197	8.61	0.38
Gender	NA	197	6.35	0.17
Nationality	NA	197	0.43	0.98
<i>A: Beneficial species</i>				
Age	NA	197	10.81	0.20
Gender	NA	197	4.87	0.29
Nationality	NA	197	2.05	0.79
<i>A: Harmful species</i>				
Age	NA	197	8.50	0.20
Gender	NA	197	1.74	0.63
Nationality	NA	197	3.21	0.37
<i>A: Archeology/History</i>				
Age	NA	197	8.27	0.41
Gender	NA	197	5.69	0.22
Nationality	NA	197	1.28	0.87
<i>A: Folklore/Myths</i>				
Age	NA	197	19.86	0.01
Gender	NA	197	7.28	0.12
Nationality	NA	197	5.95	0.21
<i>A: Pop culture</i>				
Age	NA	197	19.75	0.01
Gender	NA	197	2.29	0.69
Nationality	NA	197	1.18	0.88

Table S20. Results of the Pearson’s chi-squared test, investigating the association between answers to Q2.19 and age, gender or nationality of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
Age	2	631	20.36	0.20
Gender	1	631	10.23	0.25
Nationality	1	631	4.07	0.86

Table S21. Results of the Pearson’s chi-squared test, investigating the association between answers to Q2.20 and age, gender or nationality of the respondent. Each line represents a different test.

Categories	df	n	χ^2	p-value
<i>A: Magazines and newspapers</i>				
Age	NA	197	11.08	0.20
Gender	NA	197	0.81	0.94
Nationality	NA	197	4.73	0.32
<i>A: Internet articles</i>				
Age	NA	197	4.94	0.78
Gender	NA	197	8.49	0.07
Nationality	NA	197	6.02	0.20
<i>A: Books</i>				
Age	NA	197	6.67	0.58
Gender	NA	197	2.56	0.64
Nationality	NA	197	1.33	0.86
<i>A: TV documentaries</i>				
Age	NA	197	12.03	0.15
Gender	NA	197	5.23	0.27
Nationality	NA	197	2.21	0.70
<i>A: Internet videos</i>				
Age	NA	197	36.59	<0.05*
Gender	NA	197	7.35	0.12
Nationality	NA	197	0.71	0.95
<i>A: Museums and zoos</i>				
Age	NA	197	5.97	0.68
Gender	NA	197	2.17	0.72
Nationality	NA	197	2.19	0.74
<i>A: Workshops and symposia</i>				
Age	NA	197	2.66	0.90
Gender	NA	197	2.13	0.59
Nationality	NA	197	3.49	0.31
<i>A: Societies</i>				
Age	NA	197	11.90	0.13
Gender	NA	197	5.54	0.23
Nationality	NA	197	5.32	0.23
<i>A: Citizen science</i>				
Age	NA	197	3.15	0.81
Gender	NA	197	0.71	0.88
Nationality	NA	197	0.07	1.00