

SUPPLEMENTARY MATERIAL

Appendix S1. Abundance of aquatic taxa recorded in cave streams in the Parque Estadual Turístico do Alto Ribeira (PETAR), state of São Paulo, Brazil. Caption: Caves: CS = Santana, SU = Água Suja, AS = Água Sumida, AR = Aranhas, PE = Pescaria, TE = Temimina. Co = collected individuals, Si = sighted individuals. Clas = classification, TB = troglobite, TM = troglomorphic (possibly troglobite), TF = troglophile; AC = accidental; ? = uncertain classification. Hierarchical classification of taxa: Ph. = Phylum, C. = Class, IC. = Infraclass O. = Order; SpO = Superorder; So = Suborder; F. = Family; Sf. = Subfamily; T. = Tribe. Exp = experts who identified the taxonomic groups, ALZ = Ana M Leal-Zanchet, CSF = Camile S Fernandes, LRP = Ludmila R Penoni, MSA = Marcel S Araújo, MD = Matheus Duarte, MEB = Maria E Bichuette, RFB = Rayssa KF Borges, RGF = Rhainer Guillermo-Ferreira, RF = Roberta Freitas, STS = Susana Trivinho-Strixino. Highlighted in red: taxa recorded in a unique cave.

| Taxa | Genus/ species | Clas | CAVES | | | | | | | | | | | | Exp | |
|----------------------|---|------|-------|----|----|----|----|----|----|----|----|----|----|----|-----|-------------|
| | | | CS | | SU | | AS | | AR | | PE | | TE | | | |
| | | | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | | |
| C. Actinopterygii | | | | | | | | | | | | | | | | |
| O. Siluriformes | | | | | | | | | | | | | | | | |
| F. Heptapteridae | <i>Pimelodella transitoria</i> (Miranda Ribeiro, 1907) | TF | 1 | 2 | | 2 | | | | | | | | | | MEB |
| | <i>Rhamdioglanis frenatus</i> Ihering, 1907 | TF | | | 1 | 4 | | | | | 2 | 4 | | | | MEB |
| F. Loricariidae | sp. | TF | | | 1 | | | | | | | | | | | MEB |
| Sf. Loricariinae | cf. <i>Harttia</i> sp. 1 | TF | | | | | | | | | | | | 3 | 15 | MEB |
| | cf. <i>Harttia</i> sp. 2 | TF | | | | | | | | | 1 | 1 | | | | MEB |
| Sf. Neoplecostominae | <i>Isbrueckerichthys alipionis</i> (Gosline, 1947) | TF | 5 | 3 | | | 1 | 7 | | | | | | | | MEB |
| C. Arachnida | | | | | | | | | | | | | | | | |
| Sc. Acari | | | | | | | | | | | | | | | | |
| O. Prostigmata | | | | | | | | | | | | | | | | |
| So. Hydrachnidia | sp. n. 1 | TF | | | | | | | | | | | | 1 | | MSA |
| | sp. | TF | | | | | 1 | | | | | | | | | MSA |
| C. Copepoda | | | | | | | | | | | | | | | | |
| O. Cyclopoida | sp. | TF | | | | | | | 1 | | 1 | | | 6 | | MD |
| O. Harpacticoida | sp. | TF | | | 1 | | 3 | | 1 | | 1 | | | 2 | | MD |
| C. Malacostraca | | | | | | | | | | | | | | | | |
| O. Amphipoda | | | | | | | | | | | | | | | | |
| F. Hyalellidae | <i>Hyalella</i> sp. n. 1 | TF | | | | | 23 | 3 | 32 | 2 | | | | | | LRP/ RFB |
| | <i>Hyalella</i> sp. n. 2 | TF | | | | | | | | | | | | 4 | | LRP/ RFB |
| | <i>Hyalella</i> sp. n. 8 | TM | 5 | 1 | | | | | | | | | | | | LRP/ RFB |
| O. Decapoda | | | | | | | | | | | | | | | | |
| F. Aeglidae | <i>Aegla schmitti</i> Hobbs, 1979 | TF | | 1 | 1 | | | | | | | | | 4 | 169 | CSF |

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| Taxa | Genus/ species | Clas | CAVES | | | | | | | | | | | | Exp | | |
|---------------------|---|------|-------|----|----|----|----|----|----|----|----|----|----|----|-----|--|-----|
| | | | CS | | SU | | AS | | AR | | PE | | TE | | | | |
| | | | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | | | |
| F. Palaemonidae | <i>Macrobrachium</i> aff. <i>iheringi</i> (Ortmann, 1897) | TF | | | | | 4 | 4 | 3 | 25 | | | | | | | CSF |
| F. Trichodactylidae | <i>Trichodactylus</i> aff. <i>fluviatilis</i> Latreille, 1828 | TF | | | | | 1 | | | | | | | | | | |
| C. Ostracoda | sp. | TF | | | 1 | | | | | | | | | | | | |
| C. Insecta | | | | | | | | | | | | | | | | | |
| O. Coleoptera | | | | | | | | | | | | | | | | | |
| F. Dryopidae | sp. 1 | TF | | | | | | | | | | | | 1 | | | RF |
| | sp. 2 | TF | | | 2 | | 2 | | | | | | | | | | RF |
| | sp. 3 | TF | | | | | 2 | | | | | | | | | | RF |
| F. Elmidae | sp. 2 | TF | | | | | | | | | | 1 | | | | | RF |
| | <i>Heterelmis</i> sp. 1 | TF | | | | | 1 | | | | | 3 | | | | | RF |
| | <i>Heterelmis</i> sp. 2 | TF | | | | | 1 | | | | | | | | | | RF |
| | <i>Heterelmis</i> sp. 3 | TF | | | 3 | | 2 | | 1 | | | | | | | | RF |
| | <i>Heterelmis</i> sp. 4 | TF | | | 1 | | 3 | | | | | | | | | | RF |
| | <i>Heterelmis</i> sp. 5 | TF | | | | | 3 | | 1 | | | | | 4 | | | RF |
| | <i>Hexacylloepus</i> sp. 2 | TF | | | | | 1 | | 1 | | | | | | | | RF |
| | <i>Macrelmis</i> sp. 1 | TF | | | | | 3 | | | | | | | | | | RF |
| | <i>Macrelmis</i> sp. 2 | TF | | | 1 | | 2 | | 3 | | | | | | | | RF |
| | <i>Macrelmis</i> sp. 3 | TF | | | 1 | | 1 | | | | | | | | | | RF |
| | <i>Macrelmis</i> sp. 5 | TF | | | | | | | 1 | | | | | | | | RF |
| | <i>Macrelmis</i> sp. 6 | TF | | | 1 | | | | 1 | | | | | | | | RF |
| | <i>Microcyloepus</i> sp. 1 | TF | | | | | 3 | | | | 1 | | | 1 | | | RF |
| | <i>Microcyloepus</i> sp. 2 | TF | | | 2 | | 1 | | | | | | | | | | RF |
| | <i>Microcyloepus</i> sp. 3 | TF | | | | | 1 | | | | | | | 1 | | | RF |
| | <i>Neelmis</i> sp. 1 | TF | | | | | 1 | | | | | | | | | | RF |
| | <i>Neelmis</i> sp. 2 | TF | | | | | 1 | | 1 | | | | | | | | RF |
| | <i>Xenelmis</i> sp. 1 | TF | | | | | | | | | | 1 | | | | | RF |
| | <i>Xenelmis</i> sp. 2 | TF | | | | | | | | | | 1 | | | | | RF |
| F. Gyrinidae | <i>Gyretes</i> sp. | TF | | | | | | | 22 | 29 | | | | | | | RF |
| F. Hydrophilidae | sp. | TF | | | | | 3 | | | | | | | | | | RF |
| F. Psephenidae | sp. | ? | | | | | 1 | | 1 | | 1 | | | | | | RF |
| O. Diptera | | | | | | | | | | | | | | | | | |
| So. Nematocera | | | | | | | | | | | | | | | | | |
| F. Chironomidae | | | | | | | | | | | | | | | | | |
| Sf. Chironominae | | | | | | | | | | | | | | | | | |

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|----------------------|-----------------------------|------|-------|----|----|----|----|----|----|----|----|----|----|----|-----|----|-----|
| | | | CS | | SU | | AS | | AR | | PE | | TE | | | | |
| | | | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | | | |
| T. Chironomini | <i>Nilothauma</i> sp. | TF | | | | | 1 | | | | | | | | | | STS |
| | <i>Phaenopsectra</i> sp. | TF | | | | | | | | 8 | | | | | | | STS |
| T. Pseudochironomini | gen. n. sp. n. | TF | 25 | | 48 | | 2 | | | | | 1 | | | | | STS |
| T. Tanytarsini | <i>Rheotanytarsus</i> sp. | TF | | | 1 | | 20 | | | | | 5 | | | | | STS |
| | <i>Tanytarsus</i> sp. | TF | | | | | 1 | | | | | | | | | | STS |
| Sf. Orthoclaadiinae | <i>Corynoneura</i> sp. | TF | | | | | 1 | | 1 | | 1 | | | | | | STS |
| | <i>Cricotopus</i> sp. | TF | 1 | | | | | | | | | | | | 1 | | STS |
| | <i>Lopescladius</i> sp. | TF | | | | | | | | | | | | | | 2 | STS |
| | <i>Nanocladius</i> sp. | TF | | | | | | | | 1 | | | | | | | STS |
| | <i>Parametriocnemus</i> sp. | TF | | | | | 10 | | 2 | | 4 | | | | 10 | | STS |
| Sf. Tanypodinae | | | | | | | | | | | | | | | | | |
| T. Procladiiini | <i>Djalmabatista</i> sp. | TF | 10 | | 1 | | | | | | | | | | | | STS |
| T. Pentaneurini | <i>Ablabesmyia</i> sp. | TF | | | | | 4 | | | | | | | | 1 | | STS |
| F. Tipulidae | sp. 1 | TF | | | | | 3 | | 2 | | | | | | 3 | | |
| | sp. 2 | TF | | | | | | | 1 | | | | | | 1 | | |
| | sp. 3 | TF | | | | | 2 | | 2 | | | | | | | | |
| | sp. 4 | TF | | | | | | | | | | | | | 1 | | |
| F. Ceratopogonidae | sp. 1 | TF | | | 2 | | | | | | | | | | | | |
| | sp. 2 | TF | | | | | | | 3 | | | | | | 1 | | |
| F. Dixidae | sp. | ? | | | | | 1 | | | | | | | | | | |
| F. Simuliidae | | | | | | | | | | | | | | | | | |
| Sf. Simuliinae | | | | | | | | | | | | | | | | | |
| T. Simuliini | <i>Simulium</i> sp. | ? | | | 3 | | 26 | | 2 | | 12 | | | | 1 | | STS |
| O. Ephemeroptera | | | | | | | | | | | | | | | | | |
| F. Baetidae | sp. | ? | | | | | 3 | | 3 | | 2 | | | | 1 | | |
| F. Caenidae | sp. | ? | | | | | | | | | | | | | 1 | | |
| F. Euthyplociidae | sp. | ? | | | | | | | 7 | | | | | | | | |
| F. Leptohyphidae | sp. | ? | | | | | 17 | | | | | | | | 8 | | |
| F. Leptophlebiidae | sp. 1 | ? | | | | | 10 | | | | | | | | 209 | 94 | |
| | sp. 2 | ? | 1 | | 1 | | 61 | | 11 | | 2 | | | | 42 | | |
| F. Oligoneuriidae | sp. | ? | | | | | | | | | | | | | 1 | | |
| O. Hemiptera | | | | | | | | | | | | | | | | | |
| So. Gerromorpha | | | | | | | | | | | | | | | | | |
| F. Veliidae | sp. 1 | TF | | | | | | | 4 | | | | | | | | |
| | sp. 2 | TF | | | 5 | | 18 | 11 | 6 | 2 | 1 | | | | 6 | | |
| So. Nepomorpha | | | | | | | | | | | | | | | | | |

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|----------------------|----------------------------|------|-------|----|----|----|----|----|----|----|----|----|-----|----|-----|-----|
| | | | CS | | SU | | AS | | AR | | PE | | TE | | | |
| | | | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | | |
| F. Naucoridae | sp. | TF | | | | | 7 | | | | | | | | | |
| O. Megaloptera | | | | | | | | | | | | | | | | |
| F. Corydalidae | sp. 1 | ? | | | | | 7 | 1 | | | | | | 2 | | |
| | sp. 2 | ? | | | | | 7 | | 1 | 2 | | | | 2 | | |
| O. Odonata | | | | | | | | | | | | | | | | |
| So. Anisoptera | | | | | | | | | | | | | | | | |
| F. Gomphidae | <i>Epigomphus</i> sp. | ? | | | | | | | 1 | | | | | | | RGF |
| | <i>Progomphus</i> sp. | ? | | | | | | | 9 | | | | | 5 | | RGF |
| So. Zygoptera | | | | | | | | | | | | | | | | |
| F. Calopterygidae | <i>Hetaerina</i> sp. | ? | | | | | 4 | | 1 | | | | | 1 | | RGF |
| F. Coenagrionidae | <i>Argia</i> sp. | ? | | | 1 | | 7 | | | | | | | 7 | | RGF |
| | sp. | ? | | | | | | | | | | | | 1 | | RGF |
| F. Heteragrionidae | <i>Heteragrion</i> sp. | ? | | | | | | | 2 | | | | | 1 | | RGF |
| F. Megapodagrionidae | gen. n. sp. n. | ? | | | | | | | 2 | | | | | 2 | | RGF |
| O. Plecoptera | | | | | | | | | | | | | | | | |
| F. Gripopterygidae | <i>Gripopteryx</i> sp. | ? | | | | | | | | | | | | 2 | | |
| | <i>Paragripopteryx</i> sp. | ? | | | | | | | 2 | | | | | | | |
| | <i>Tupiperla</i> sp. | ? | | | | | | | | | | | | 1 | | |
| F. Perlidae | <i>Anacroneuria</i> sp. 1 | ? | | | | | 18 | | 9 | | 1 | | | 22 | | |
| | <i>Anacroneuria</i> sp. 3 | ? | | | | | | | | | | | | 1 | | |
| | <i>Kempnyia</i> sp. | ? | | | | | | | 2 | | | | | | | |
| O. Trichoptera | | | | | | | | | | | | | | | | |
| So. Annulipalpia | | | | | | | | | | | | | | | | |
| F. Hydropsychidae | sp. 1 | TF | 2 | | 1 | | 63 | | 30 | | 22 | 1 | 109 | 13 | | |
| | sp. 2 | TF | | | | | 3 | | | | | | 1 | | | |
| F. Philopotamidae | sp. 1 | TF | | | 1 | | 14 | | 1 | | 11 | | | | | |
| | sp. 2 | TF | | | | | | | 4 | | | | 1 | | | |
| | sp. 3 | TF | | | | | 1 | | | | | | | | | |
| F. Polycentropodidae | sp. 1 | ? | 2 | | | | | | | | | | | | | |
| | sp. 2 | ? | | | | | 2 | | | | | | 3 | | | |
| | sp. 3 | ? | | | 1 | | 3 | | | | | | 7 | | | |
| F. Helicopsychidae | sp. | ? | | | | | | | 2 | | | | | | | |
| F. Limnephilidae | sp. | ? | | | | | | | 12 | | | | | | | |
| F. Psychomyiidae | sp. | ? | | | | | 1 | | 1 | | | | | | | |
| Ph. Tardigrada | sp. | ? | | | 1 | | | | | | | | | | | |
| C. Gastropoda | | | | | | | | | | | | | | | | |

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| Taxa | Genus/ species | Clas | CAVES | | | | | | | | | | | | Exp | | |
|------------------------|---------------------------|------|-------|-----|----|-----|----|----|----|----|-----|-----|----|----|-----|--|-----|
| | | | CS | | SU | | AS | | AR | | PE | | TE | | | | |
| | | | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | Co | Si | | | |
| O. Caenogastropoda | | | | | | | | | | | | | | | | | |
| F. Tateidae | <i>Potamolithus</i> sp. 4 | TF | | | 90 | 139 | | | | | | | | | | | MEB |
| | <i>Potamolithus</i> sp. 5 | TF | 44 | 399 | | | | | | | | | | | | | MEB |
| | <i>Potamolithus</i> sp. 6 | TF | | | | | 2 | | | | | | | | | | MEB |
| | <i>Potamolithus</i> sp. 9 | TB | | | | | | | | | 102 | 841 | | | | | MEB |
| O. Pulmonata | | | | | | | | | | | | | | | | | |
| SpO. Basommatophora | | | | | | | | | | | | | | | | | |
| F. Ancyliidae | cf. <i>Uncancylus</i> sp. | TF | | | 42 | 48 | 1 | | 1 | | 15 | 1 | | | | | MEB |
| F. Planorbidae | sp. | TF | | | | | 3 | | | | | | | | | | MEB |
| F. Helicinidae | sp. | TF | | | | | 1 | | | | | | | | | | MEB |
| IC. Heterobranchia | sp. | AC | | | | | 1 | | | | | | | | | | MEB |
| C. Clitellata | | | | | | | | | | | | | | | | | |
| O. Haplotaxida | sp. 1 | TF | | | 2 | | 3 | | 1 | | | | | | 2 | | |
| | sp. 2 | TF | | | | | 1 | | | | | | | | | | |
| | sp. 4 | TF | | | | | | | 1 | | | | | | | | |
| | sp. 6 | TF | | | 1 | | | | | | | | | | | | |
| O. Hirudinea | sp. | AC | | | | | | | 1 | | | | | | | | |
| C. Turbellaria | | | | | | | | | | | | | | | | | |
| O. Tricladida | | | | | | | | | | | | | | | | | |
| F. Dugesiidae | <i>Girardia</i> sp. n. 1 | TM | 4 | | | | | | | | | | | | | | ALZ |
| | <i>Girardia</i> sp. 2 | TF | 1 | | | | | | | | | | | | | | ALZ |
| | <i>Girardia</i> sp. 4 | TF | | | | | | | 1 | | | | | | | | ALZ |
| | <i>Girardia</i> sp. 5 | TM | | | | | | | 3 | | | | | | | | ALZ |
| | <i>Girardia</i> sp. 6 | TF? | 1 | | | | 27 | | | | | | | | | | |