

SUPPLEMENTARY MATERIAL TABLE 1 | List of fish species observed in the seven streams in northeastern Pará. The taxonomic categories are arranged according Buckup *et al.* (2007). Body size: 1. Small body size (SL ≤ 50 mm); 2. Medium body size (50 mm < SL ≤ 150 mm); and 3. Big body size (SL > 150 mm) * Functional groups defined according Breyão *et al.* (2013). ** Body size obtained from FishBase (2019).

| Order/Family/Species (Code) | Functional Group* (Code) | Body size** | Upstream | | | | | Impoundment | | | | | Downstream | | | | |
|---|---|----------------|----------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|------------|-----|-----|-----|-----|
| | | | Bui | Lar | Pir | Sjo | Tim | Bui | Lar | Pir | Sjo | Tim | Bui | Lar | Pir | Sjo | Tim |
| CHARACIFORMES | | | | | | | | | | | | | | | | | |
| Curimatidae | | | | | | | | | | | | | | | | | |
| <i>Curimatopsis cf. cryptica</i> (Curcry) | Mud-eater (ME) | 1 | 0 | 0 | 0 | 0 | 0 | 10 | 4 | 16 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Anostomidae | | | | | | | | | | | | | | | | | |
| <i>Leporinus cf. friderici</i> (Lepfri) | Nibbler (NIB) | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Crenuchidae | | | | | | | | | | | | | | | | | |
| <i>Characidium fasciatum</i> (Chafas) | Sit-and-wait predator (SWP) | 1 | 12 | 0 | 0 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 27 | 3 | 22 | 25 | 19 |
| <i>Crenuchus spilurus</i> (Crespi) | Diurnal backwater drift feeder (DBDF) | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| Gasteropelecidae | | | | | | | | | | | | | | | | | |
| <i>Carnegiella strigata</i> (Carstri) | Surface striker (SS) | 1 | 13 | 0 | 18 | 0 | 0 | 18 | 0 | 65 | 0 | 12 | 6 | 0 | 7 | 1 | 1 |
| Characidae | | | | | | | | | | | | | | | | | |
| <i>Astyanax bimaculatus</i> (Astbim) | Diurnal channel drift feeder (DCDF) | 2 | 220 | 0 | 17 | 1 | 0 | 5 | 0 | 99 | 2 | 5 | 15 | 0 | 1 | 2 | 0 |
| <i>Bryconamericus cf. diaphanus</i> (Brydia) | Diurnal channel drift feeder (DCDF) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| <i>Bryconops melanurus</i> (Brymel) | Diurnal channel drift feeder (DCDF) | 2 | 75 | 0 | 37 | 0 | 47 | 67 | 0 | 20 | 58 | 0 | 22 | 7 | 34 | 137 | 0 |
| <i>Charax cf. metae</i> (Chamet) | Ambush and stalking predator (ASP) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| <i>Gnathocharax steindachneri</i> (Gnaste) | Surface striker (SS) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Hemigrammus cf. rodwayi</i> (Hemrod) | Diurnal backwater drift feeder (DBDF) | 1 | 0 | 0 | 0 | 0 | 0 | 150 | 82 | 9 | 0 | 0 | 2 | 14 | 0 | 0 | 0 |
| <i>Hemigrammus ocellifer</i> (Hemoce) | Diurnal backwater drift feeder (DBDF) | 1 | 3 | 0 | 5 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 4 | 15 | 6 | 0 | 0 |
| <i>Hyphessobrycon heterorhabdus</i> (Hyphet) | Diurnal backwater drift feeder (DBDF) | 1 | 310 | 261 | 197 | 52 | 22 | 178 | 1 | 99 | 8 | 0 | 44 | 61 | 47 | 37 | 43 |
| <i>Hyphessobrycon cf. bentosi</i> (Hyphen) | Diurnal backwater drift feeder (DBDF) | 1 | 42 | 0 | 99 | 0 | 1 | 70 | 0 | 588 | 0 | 72 | 0 | 17 | 18 | 0 | 0 |
| <i>Iguanodectes rachovii</i> (Igurac) | Diurnal channel drift feeder (DCDF) | 1 | 110 | 164 | 27 | 239 | 2 | 56 | 24 | 410 | 12 | 0 | 61 | 32 | 58 | 75 | 3 |
| <i>Jupiaba anteroides</i> (Jupant) | Diurnal channel drift feeder (DCDF) | 2 | 21 | 0 | 0 | 15 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| <i>Metynnis cf. lippincottianus</i> (Metlip) | Browser (BRO) | 2 | 0 | 0 | 0 | 0 | 0 | 10 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



TABLE 1 | (Continued)

| Order/Family/Species (Code) | Functional Group* (Code) | Body size** | Upstream | | | | | Impoundment | | | | | Downstream | | | | |
|---|--|----------------|----------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|------------|-----|-----|-----|-----|
| | | | Bui | Lar | Pir | Sjo | Tim | Bui | Lar | Pir | Sjo | Tim | Bui | Lar | Pir | Sjo | Tim |
| <i>Moenkhausia collettii</i> (Moecol) | Diurnal channel drift feeder (DCDF) | 2 | 0 | 0 | 129 | 0 | 0 | 8 | 0 | 720 | 0 | 5 | 0 | 0 | 19 | 4 | 1 |
| <i>Moenkhausia cf. comma</i> (Moecom) | Diurnal channel drift feeder (DCDF) | 2 | 10 | 0 | 53 | 1 | 0 | 0 | 0 | 8 | 1 | 8 | 35 | 4 | 46 | 20 | 4 |
| <i>Moenkhausia oligolepis</i> (Moeoli) | Diurnal channel drift feeder (DCDF) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acestrorhynchidae | | | | | | | | | | | | | | | | | |
| <i>Acestrorhynchus cf. falcatus</i> (Acefal) | Pursuit predator (PP) | 3 | 0 | 0 | 2 | 2 | 0 | 1 | 3 | 2 | 10 | 3 | 0 | 1 | 1 | 0 | 0 |
| Erythrinidae | | | | | | | | | | | | | | | | | |
| <i>Hoplias cf. malabaricus</i> (Hopmal) | Ambush and stalking predator (ASP) | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 |
| Lebiasinidae | | | | | | | | | | | | | | | | | |
| <i>Nannostomus beckfordi</i> (Nanbec) | Diurnal surface picker (DSP) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 4 | 0 | 0 | 0 | 0 |
| <i>Nannostomus eques</i> (Nanequ) | Diurnal surface picker (DSP) | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Nannostomus trifasciatus</i> (Nantri) | Diurnal surface picker (DSP) | 1 | 0 | 0 | 3 | 0 | 1 | 5 | 0 | 56 | 0 | 0 | 1 | 0 | 8 | 0 | 0 |
| <i>Pyrrhulina cf. laeta</i> (Pyrlae) | Diurnal surface picker (DSP) | 1 | 0 | 168 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 |
| SILURIFORMES | | | | | | | | | | | | | | | | | |
| Cetopsidae | | | | | | | | | | | | | | | | | |
| <i>Denticetopsis cf. epa</i> (Denepa) | Crepuscular to nocturnal drift feeder (CNDF) | 1 | 3 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 3 | 5 | 0 |
| <i>Helogenes marmoratus</i> (Helmar) | Crepuscular to nocturnal drift feeder (CNDF) | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 9 | 0 | 19 | 0 |
| Aspredinidae | | | | | | | | | | | | | | | | | |
| <i>Bunocephalus coracoideus</i> (Buncor) | Crepuscular to nocturnal bottom predator (CNBP) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Trichomycteridae | | | | | | | | | | | | | | | | | |
| <i>Paravandellia sp.</i> (Parsp) | Parasites (PAR) | 1 | 4 | 8 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 6 | 3 | 0 |
| <i>Potamoglanis hasemani</i> (Pothas) | Crepuscular to nocturnal bottom predator (CNBP) | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 0 |
| Callichthyidae | | | | | | | | | | | | | | | | | |
| <i>Corydoras aff. acutus</i> (Coracu) | Grubber (GRU) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| <i>Megalechis thoracata</i> (Megtho) | Grubber (GRU) | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Loricariidae | | | | | | | | | | | | | | | | | |



TABLE 1 | (Continued)

| Order/Family/Species (Code) | Functional Group* (Code) | Body size** | Upstream | | | | | Impoundment | | | | | Downstream | | | | |
|---|--|----------------|----------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|------------|-----|-----|-----|-----|
| | | | Bui | Lar | Pir | SJo | Tim | Bui | Lar | Pir | SJo | Tim | Bui | Lar | Pir | SJo | Tim |
| <i>Ancistrus cf. hoplogenyis</i> (Anchop) | Grazer (GRA) | 2 | 8 | 0 | 4 | 0 | 4 | 2 | 0 | 7 | 0 | 8 | 15 | 0 | 10 | 0 | 16 |
| <i>Farlowella cf. amazonum</i> (Farama) | Grazer (GRA) | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 4 | 0 | 1 | |
| <i>Hemiodontichthys acipenserinus</i> (Hemaci) | Digger (DIG) | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | |
| <i>Rineloricaria cf. hasemani</i> (Rinhas) | Grazer (GRA) | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 16 | 0 | 0 | 4 | 6 | |
| Pseudopimelodidae | | | | | | | | | | | | | | | | | |
| <i>Batrochoglanis cf. raninus</i> (Batan) | Crepuscular to nocturnal bottom predator (CNBP) | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heptapteridae | | | | | | | | | | | | | | | | | |
| <i>Mastiglanis asopos</i> (Masaso) | Sit-and-wait predator (SWP) | 1 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 4 |
| <i>Pimelodella sp.</i> (Pimsp) | Crepuscular to nocturnal bottom predator (CNBP) | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 1 | |
| <i>Rhamdia mulleri</i> (Rhamul) | Crepuscular to nocturnal bottom predator (CNBP) | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 5 | 1 | 1 | 1 | 0 | |
| Auchenipteridae | | | | | | | | | | | | | | | | | |
| <i>Trachelyopterus galeatus</i> (Tragal) | Crepuscular to nocturnal drift feeder (CNDF) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | |
| <i>Tatia gyrina</i> (Tatgyr) | Crepuscular to nocturnal drift feeder (CNDF) | 1 | 4 | 0 | 25 | 0 | 1 | 36 | 0 | 4 | 0 | 3 | 0 | 17 | 0 | 5 | |
| <i>Tatia intermedia</i> (Tatint) | Crepuscular to nocturnal drift feeder (CNDF) | 2 | 6 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 6 | |
| <i>Tetranematchthys barthemi</i> (Tetbar) | Crepuscular to nocturnal drift feeder (CNDF) | 2 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | |
| GYMNOTIFORMES | | | | | | | | | | | | | | | | | |
| Gymnotidae | | | | | | | | | | | | | | | | | |
| <i>Gymnotus cf. coropinae</i> (Gymcor) | Ambush and stalking predator (ASP) | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | |
| Sternopygidae | | | | | | | | | | | | | | | | | |
| <i>Eigenmannia cf. trilineata</i> (Eigtri) | Nocturnal invertebrate picker (NIV) | 3 | 6 | 2 | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 13 | 18 | 2 | 3 | 2 | |
| <i>Sternopygus macrurus</i> | Nocturnal invertebrate picker (NIV) | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | |
| Rhamphichthyidae | | | | | | | | | | | | | | | | | |
| <i>Gymnorhamphichthys rondoni</i> (Gymron) | Nocturnal invertebrate picker (NIV) | 2 | 83 | 22 | 8 | 5 | 8 | 0 | 0 | 2 | 0 | 38 | 8 | 5 | 20 | 13 | |



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|--|---|----------------|----------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|------------|-----|-----|-----|-----|
| | | | Bui | Lar | Pir | SJo | Tim | Bui | Lar | Pir | SJo | Tim | Bui | Lar | Pir | SJo | Tim |
| Hypopomidae | | | | | | | | | | | | | | | | | |
| <i>Hypopygus lepturus</i> (Hyplep) | Nocturnal invertebrate picker (NIV) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 0 |
| <i>Microsternarchus bilineatus</i> (Micbil) | Nocturnal invertebrate picker (NIV) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| <i>Steatogenys duidae</i> (Stedui) | Nocturnal invertebrate picker (NIV) | 3 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 5 | 1 | 0 | 2 |
| Apterontidae | | | | | | | | | | | | | | | | | |
| <i>Apterontus cf. albifrons</i> (Aptalb) | Nocturnal invertebrate picker (NIV) | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| CYPRINOTONTIFORMES | | | | | | | | | | | | | | | | | |
| Rivulidae | | | | | | | | | | | | | | | | | |
| <i>Laimosemion cf. strigatus</i> (Laistr) | Diurnal surface picker (DSP) | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Poeciliidae | | | | | | | | | | | | | | | | | |
| <i>Poecilia parae</i> (Poepar) | Diurnal surface picker (DSP) | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BELONIFORMES | | | | | | | | | | | | | | | | | |
| Belonidae | | | | | | | | | | | | | | | | | |
| <i>Potamorhaphis guianensis</i> (Potgui) | Pursuit predator (PP) | 3 | 2 | 0 | 6 | 0 | 1 | 12 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| PERCIFORMES | | | | | | | | | | | | | | | | | |
| Cichlidae | | | | | | | | | | | | | | | | | |
| <i>Aequidens cf. tetramerus</i> (Aeqtet) | Picker and browser (PB) | 2 | 4 | 9 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 28 | 11 | 2 | 4 | 0 |
| <i>Apistogramma caetei</i> (Apicae) | Digger (DIG) | 1 | 13 | 3 | 17 | 10 | 0 | 23 | 10 | 31 | 2 | 0 | 1 | 9 | 3 | 3 | 0 |
| <i>Crenicara punctulata</i> (Crepun) | Digger (DIG) | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 6 | 1 | 0 | 5 | 0 | 3 | 6 | 0 |
| <i>Crenicichla saxatilis</i> (Cresax) | Ambush and stalking predator (ASP) | 2 | 7 | 0 | 5 | 4 | 0 | 1 | 6 | 7 | 13 | 3 | 7 | 1 | 2 | 5 | 2 |
| <i>Crenicichla cf. johanna</i> (Crejoa) | Ambush and stalking predator (ASP) | 3 | 3 | 1 | 13 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 |
| <i>Heros cf. efasciatus</i> (Herefa) | Picker and browser (PB) | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 42 | 2 | 23 | 0 | 10 | 0 | 1 | 1 | 0 |
| <i>Krobia aff. guianensis</i> (Krogui) | Picker and browser (PB) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| <i>Mesonauta sp.</i> (Messp) | Picker and browser (PB) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 118 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| <i>Satanoperca jurupari</i> (Satjur) | Digger (DIG) | 2 | 2 | 0 | 0 | 0 | 0 | 58 | 2 | 0 | 14 | 1 | 6 | 0 | 0 | 7 | 0 |

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