

Ergasilus mirabilis Oldewage et Van As, 1987 from *Brycinus imberi*, *Clarias gariepinus*, *C. ngamensis*, *Cyphomyrus discorhynchus*, *Enteromius afrohamiltoni*, *Glossogobius giuris*, *Hemichromis elongatus*, *Hepsetus odoe*, *Hydrocynus vittatus*, *Labeo rosae*, *Marcusenius macrolepidotus*, *Petrocephalus catostoma*, *Schilbe intermedius*, *S. mystus*, ***Synodontis leopardinus*** (South Africa), *S. macrostigma*, *S. nigromaculatus*, *S. zambezensis*

Ergasilus nodosus Wilson, 1924 from ***Bagrus bajad*** (Sudan), *Bagrus* sp., *Brycinus leuciscus*, *B. nurse*, *Campylomormyrus elephas*, *Distichodus atroventralis*, *Hippopotamyrus psittacus*, *Pellonula leonensis*, *Petrocephalus grandoculis*, *Phago loricatus*, *Pterochromis congicus*, *Synodontis nigriventris*, *Tylochromis lateralis*, *T. microdon*

Ergasilus sarsi Capart, 1944 from *Brycinus imberi*, *Clarias anguillaris*, *C. gariepinus*, *C. ngamensis*, *Heterobranchus bidorsalis*, *Lamprichthys tanganicanus*, *Marcusenius macrolepidotus*, *Pseudotropheus* sp., *Synodontis nigromaculatus*, *Thoracochromis moeruensis*, *Tylochromis bangwelensis*, *T. microdon*, *T. mylodon*

****Ergasilus sieboldi*** von Nordmann, 1832 [syns *Ergasilus baikalensis* Messjatzeff, 1928; *Ergasilus depressus* Sars, 1862; *Ergasilus esocis* Sumpf, 1871; *Ergasilus hoferi* Borodin, 1915; *Ergasilus surbecki* Baumann, 1912; *Ergasilus trisetocetus* von Nordmann, 1832] from *Chelon aurata*, *C. ramada*, *C. saliens*, *Mugil cephalus*

Mugilicola Tripathi, 1960

Mugilicola smithae* Jones et Hine, 1978 from *Anguilla mossambica*** (South Africa), *Crenimugil seheli*, *Planiliza alata*, *P. macrolepis*, *Pseudomyxus capensis* [Fig. 4.9.4G]

Paraergasilus Markevich, 1937

Paraergasilus lagoonaris Paperna, 1969 from ***Aplocheilichthys* sp.**, ***Awaous lateristriga***, ***Coptodon guineensis***, ***Pellonula leonensis***, ***Sarotherodon melanotheron***, ***Sierrathrissa leonensis*** (all Ghana)

Paraergasilus minutus (Fryer, 1956) [syn. *Trigasilus minutus* Fryer, 1956] from ***Petrotilapia tridentiger***, ***Tropheops tropheops*** (both Lake Malawi) [Fig. 4.9.4H]

POROCEPHALIDA Heymons, 1935

List of the Porocephalida from African freshwater fishes

Only larval Porocephalida stages are known to infect fish hosts [Fig. 4.9.5A], however, the morphological information available for the different species on this infective stage is limited. As adults are usually found in the definitive piscivorous vertebrate host (usually a reptile), life-cycle studies or molecular identification may need to be completed for accurate species identification at nymph level.

Alofia Giglioli in Sambon, 1922

Alofia sp. from *Oreochromis mossambicus* [Fig. 4.9.5B]

Leiperia Sambon, 1922

Leiperia cincinnalis (Sambon in Vaney et Sambon, 1910) [syns *Porocephalus nematoides* Beauchamp, 1918; *Reighardia cincinnalis* Sambon in Vaney et Sambon, 1910] from *Alestes macrophthalmus*, *Bathybates ferox*, *Chrysichthys brachynema*, *C. mabusi*, *Coptodon rendalli*, *Lates microlepis*, *L. niloticus*, *Mastacembelus* sp., *Oreochromis mossambicus*, *O. niloticus*, *Sargochromis giardi*, *Serranochromis meridianus* [Fig. 4.9.5C]

Leiperia gracilis (Diesing, 1836) [syns *Leiperia neotropica* Heymons et Vitzthum, 1935; *Pentastoma gracile* Diesing, 1836; *Porocephalus crocodili* Wheeler, 1915] from *Alestes macrophthalmus*, *Chrysichthys mabusi*

Sebekia Sambon, 1922

Sebekia minor (Wedl, 1861) [syns *Pentastoma oxycephalum minor* Wedl, 1861; *Sebekia wedli* Giglioli in Sambon, 1922] from *Coptodon rendalli*, *Marcusenius macrolepidotus*, *Oreochromis mossambicus*, *Poecilia reticulata*

Sebekia okavangoensis Riley et Huchzermeyer, 1995 from *Clarias gariepinus* [Fig. 4.9.5D]

Subtriquetra Sambon, 1922

Subtriquetra rileyi Junker, Boomker et Booyse, 1998 from ***Coptodon rendalli***, ***Oreochromis mossambicus*** (type host not explicitly mentioned; South Africa) [Fig. 4.9.5A,E]

SIPHONOSTOMATOIDA Thorell, 1859

Key to the genera of the Siphonostomatoida (adults) from African freshwater fishes

- 1 (2) Caudal ramus and posterior processes absent.....3
- 2 (1) Caudal ramus or posterior processes present.....5
- 3 (4) Conical abdomen; lunules present; short and stout egg sacs; genital process absent [Fig. 4.9.6A].....***Achtheres***
- 4 (3) Large abdominal alae (wing-like structures); lunules absent; long and slender egg-sacs; 4th somite free and without dorsal plates [Fig. 4.9.6C].....***Dartevellia***
- 5 (6) Body elongate and cylindrical7
- 6 (5) Body oval, round or irregularly shaped; lacking dorsal plates.....9
- 7 (8) Body not clearly segmented, with long thoracic neck; legs 1-2 uniramous, legs 3-4 biramous [Fig. 4.9.6E].....***Lernaenicus***
- 8 (7) Body segmented; distinct groove between the cephalothorax and trunk; pits and grooves absent; biramous antennae [Fig. 4.9.6G].....***Parabrachiella***

- 9 (10) Lunules present; head and first three thoracic segments fused (4th free) [Fig. 4.9.6B].....**Caligus**
- 10 (9) Frontal lunules absent.....11
- 11 (12) Head and first three thoracic segments fused (4th free); antennula 2-segmented, antenna 3-segmented; 4th leg uniramous [Fig. 4.9.6D].....**Lepeophtheirus**
- 12 (11) Antennula 9-segmented, antenna 4-segmented; 4th leg with a pair of long, bilobate processes attached to posterolateral corner of trunk [Fig. 4.9.6F].....**Lernanthropsis**

List of the Siphonostomatoida (adults) from African freshwater fishes

(* indicates marine or brackish water species that might cross over into freshwater)

Achtheres von Nordmann, 1832

Achtheres micropteri Wright, 1882 from *Micropterus salmoides* [Fig. 4.9.6A]

Caligus Müller, 1785

**Caligus apodus* (Brian, 1924) [syns *Pseudocaligus apodus* Brian, 1924; *Pseudo-lepeophtheirus mediterraneus* Paperna, 1964] from *Chelon aurata*, *C. labrosus*, *C. ramada*, *C. saliens*, *Mugil cephalus* [Fig. 4.9.6B]

Caligus engraulidis* Barnard, 1948 from *Chelon tricuspidens*, *Mugil cephalus*, *Stolephorus holodon*** (South Africa)

**Caligus mugilis* Brian, 1935 [syns *Caligus minimus mugilis* Brian, 1935; *Caligus minimus* var. *mugilis* Brian, 1935] from *Chelon labrosus*

Caligus pageti* Russell, 1925 [syn. *Caligus argilasi* Brian, 1931] from *Chelon aurata*, *C. ramada*** (Egypt), *C. saliens*, *Mugil cephalus*

**Caligus pharaonis* von Nordmann, 1832 [syns *Lepeophtheirus pharaonis* (von Nordmann, 1832); *Sciaenophilus inopinus* Humes, 1957; *Sciaenophilus pharaonis* (von Nordmann, 1832)] – no hosts reported

Dartevellia Brian, 1939

Dartevellia bilobata Brian, 1939 from ***Arius* sp.** (Democratic Republic of the Congo) [Fig. 4.9.6C]

Lepeophtheirus von Nordmann, 1832

Lepeophtheirus monacanthus Heller, 1865 from *Arius latiscutatus*, *Carlarius heudelotii*

Lepeophtheirus plotosi Barnard, 1948 from ***Plotosus lineatus*** (South Africa) [Fig. 4.9.6D]

Lernaeenicus Le Sueur, 1824

**Lernaeenicus neglectus* Richiardi, 1877 from *Chelon ramada*, *C. saliens* [Fig. 4.9.6E]

Lernanthropsis Ho et Do, 1985

**Lernanthropsis mugilis* (Brian, 1898) [syn. *Lernanthropus mugilis* Brian, 1898] from *Chelon aurata* [Fig. 4.9.6F]

Parabrachiella Wilson, 1915

**Parabrachiella mugilis* (Kabata, Raibaut et Ben Hassine, 1971) [syns *Eubrachiella mugilis* Kabata, Raibaut et Ben Hassine, 1971; *Neobrachiella mugilis* (Kabata, Raibaut et Ben Hassine, 1971)] from *Chelon aurata*, *C. saliens* [Fig. 4.9.6G]

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Chapter 4.10.

HIRUDINEA

Kerry HADFIELD & Nico SMIT

Leeches (Hirudinea) – basic characteristics, life cycles, classification and principal diagnostic features

- phylum Annelida, class Clitellata (segmented worms)
- approximately 680 species globally (480 freshwater)
- cylindrical body
- posterior and anterior disc-shaped suckers
- 34 body segments (constant and do not correspond with the number of rings/annuli observed externally as is seen in other annelids)
- segments divided into rings or annuli (the number of annuli per segment in the middle of the body is taxon-specific)
- number of annuli per segment become progressively reduced towards either end of the body
- each segment with a single, transverse row of sensory structures called sensillae
- no internal skeleton
- often with elaborate colour patterns or brightly coloured
- hermaphrodites
- gaseous exchange through the skin
- eyes and oculiform spots to detect movement
- intermediate hosts for Digenea
- vectors for blood parasites (Haematozoa)

The subclass Hirudinea is divided into two orders based on the morphology of the proboscis and vascular system. Leeches of the order Arhynchobdellida Blanchard, 1894 have a non-protrusible muscular pharynx (with or without jaws) and a haemocoelomic system. Species of the order Rhynchobdellida Blanchard, 1894 have a protrusible proboscis and true vascular system. Sawyer (1986) comprehensively summarised leech biology, behaviour and systematics.

Leeches are hermaphroditic, having separate female and male reproductive systems in one organism. Cross-fertilisation occurs when mating leeches intertwine and spermatozoa are transferred (either by means of a protrusible penis, enclosed in hardened spermatophores, or injected into the body surface of the recipient leech). Internal fertilisation occurs followed by the production of a hardened cocoon (egg case). These cocoons are attached to a solid surface and contain all the eggs as well as a fluid to provide sustenance and energy to the eggs as they grow. Most leeches abandon the cocoons at this stage, but the glossiphoniid leeches show parental care during egg development and after the juveniles have hatched. Once

the juveniles hatch from the cocoons they will seek out a potential host to feed on (Oosthuizen & Siddall 2003).

Leeches are often only temporary ectoparasites and will leave their host shortly after a blood meal. However, some leeches (particularly marine species) may spend most of their lives on a host. In large numbers some leeches can even kill their host (Cruz-Lacierda *et al.* 2000). Leeches can also act as intermediate hosts and vectors for other parasites. Hayes *et al.* (2014) noted a marine fish trypanosome from South Africa, *Trypanosoma nudigobii* Fantham, 1919, inside the marine fish host as well as in the marine leech, *Zeylanicobdella arugamensis* De Silva, 1963. Morphological and molecular techniques were used to confirm the identity of the same trypanosome in both the fish and the leech. The role of a leech as an intermediate host is also known. Recently, *Helobdella adiastrata* Ringuet, 1972, *Helobdella triserialis* (Blanchard, 1849), *Haementeria eichhorniae* Ringuet, 1978, and *Haementeria* sp. were noted as secondary intermediate hosts for the digenean, *Australapatemon magnacetabulum* Dubois, 1988, in Argentina (see Davies & Ostrowski de Núñez 2012).

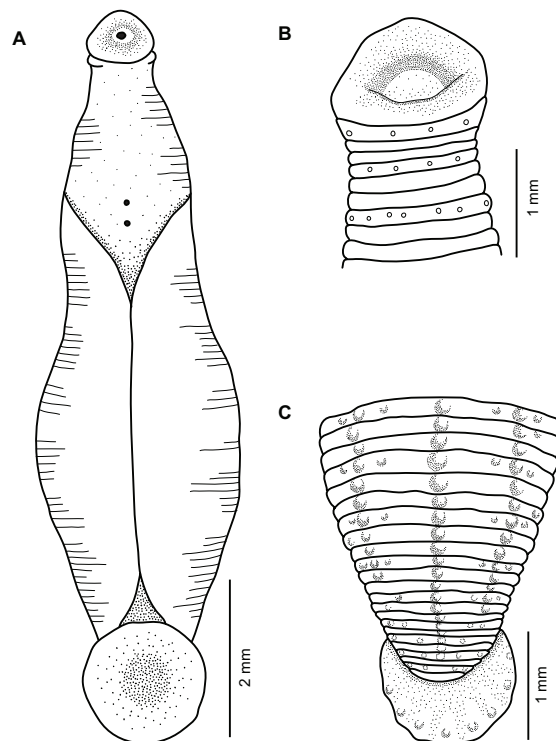


Fig. 4.10.1. Rhynchobdellida. *Batracobdelloides tricarinata* (Blanchard, 1897). **A.** Entire body; **B.** Head region; **C.** Posterior region. (Modified from Oosthuizen 1989.)

A systematic survey of leeches (Hirudinea) in African freshwater fishes

Only a single leech species, *Batracobdelloides tricarinata* (Blanchard, 1897), is currently a confirmed parasite of freshwater fishes from Africa (see Oosthuizen 1989) [Fig. 4.10.1]. However, two other leech species have been mentioned as possible African freshwater fish parasites but without specific hosts or localities recorded. *Hirudo michaelsoni* Augener, 1936 (syn. *Aliolimnatis michaelsoni* Sawyer, 1986) prefers mammalian hosts but according to Oosthuizen & Curtis (1990) also feeds on fishes, amphibians and snails. *Asiaticobdella buntonensis* (Meyer, 1951) (syn. *Limnatis buntonensis* Meyer, 1951) prefers hippopotami but according to Oosthuizen (1991) could possibly feed on freshwater fishes. These two species are excluded from the list of confirmed ectoparasites of African fishes. Fish names are according to Froese & Pauly (2017) and Eschmeyer *et al.* (2017).

RHYNCHOBDELLIDA Blanchard, 1894

List of the Rhynchobdellida (adults) from African freshwater fishes

Batracobdelloides Oosthuizen in Sawyer, 1986

Batracobdelloides tricarinata (Blanchard, 1897) [syns *Helobdella tricarinata* Blanchard, 1897; *Clepsine nilotica* Johansson, 1909; *Dundjibdella dartevellei* Sciacchitano, 1939; *Dundjibdella plurilineata* Sciacchitano, 1939; *Dundjibdella rubra* Sciacchitano, 1939; *Dundjibdella trilineata* Sciacchitano, 1939; *Dundjibdella triserialis* Sciacchitano, 1939; *Batrachobdella amnicola* Moore, 1958] from *Carassius auratus*, *Clarias gariepinus*, *Labeobarbus kimberleyensis*, *Oreochromis mossambicus*

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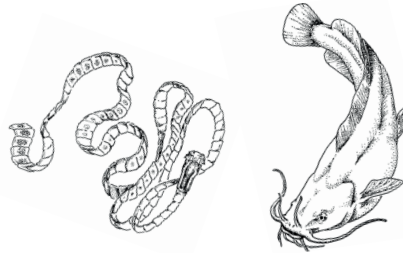
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PART 5

HOST-PARASITE LIST



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Principal groups of parasites are indicated by the following abbreviations: Protista – Pr, Myxozoa – Mx, Monogenea – Mo, Trematoda – Tr, Cestoda – Ce, Acanthocephala – Ac, Nematoda – Ne, Crustacea – Cr. Larval stages are indicated by [L]. Accidental host records are indicated by (?) following the parasite name. Fish names follow Froese & Pauly (2017). Orders and families of fishes are listed alphabetically similarly as parasites of principal groups.

ORDER ANGUILLIFORMES

FAMILY ANGUILLIDAE

Anguilla anguilla (Linnaeus): Pr – *Trichodinella epizootica*, Tr – *Deropristis inflata*, *Nicolla gallica*, *Plagioporus niloticus*, Ce – *Bothriocephalus claviceps*, Ne – *Cucullanus egyptae*, *Rhabdochona (Globochona) paski*, *Rhabdochona* sp.

Anguilla labiata (Peters): Cr – *Argulus africanus*

Anguilla marmorata Quoy et Gaimard: Ne – *Hysterothylacium anguillae*

Anguilla mossambica (Peters): Pr – *Ichthyophthirius multifiliis*, Ne – *Anguillicoloides papernai*, Ne – *Contraecaecum* sp. [L], *Heliconema africanum*, *Paraquimperia africana*, Cr – *Mugilicola smithae*

***Anguilla* sp.:** *Anguillicoloides crassus*, *Procamallanus (P.) armatus*

ORDER BELONIFORMES

FAMILY BELONIDAE

Strongylura senegalensis (Valenciennes): Cr – *Ergasilus inflatipes*

ORDER CHARACIFORMES

FAMILY ALESTIDAE

Alestes baremoze (Joannis): Mo – *Afrodiplozoon polycotyleus*, *Annulotrema curvipenis*, *A. elongata*, *A. longipenis*, *Characidotrema brevipenis*, *Paradiplozoon ghanense*, Tr – Cryptogonimidae gen. sp. [L], Ne – *Amplicaecum* sp. (type I) [L], *Rhabdochona (Globochona) paski*, Cr – *Argulus rhipidiophorus*

Alestes dentex (Linnaeus): Mx – *Myxobolus nyongana*, Mo – *Annulotrema elongata*, *Characidotrema nursei*, Ac – *Paragorgorhynchus albertianus*, Ne – *Amplicaecum* sp. (type I) [L], *Rhabdochona (Globochona) paski*, *Spinitectus allaeri*, Cr – *Lamproglena hemprichii*

Alestes macrolepidotus Valenciennes: Ne – *Spinitectus* spp.

Alestes macrophthalmus Günther: Ne – *Rhabdochona (Globochona) paski*, Cr – *Leiperia cincinnalis* [L], *L. gracilis* [L]

- Brycinus imberi** (Peters): Mo – *Annulotrema alestesimberi*, *A. allogravis*, *Characidotrema ruahae*, Ne – *Contraecaecum* sp. [L], *Rhabdochona (Globochona) paski*, Cr – *Ergasilus macrodactylus*, *E. mirabilis*, *E. sarsi*
- Brycinus jacksonii** (Boulenger): Mo – *Annulotrema gravis*, *Characidotrema elongata*, *C. nzoiaae*
- Brycinus kingsleyae** (Günther): Mo – *Annulotrema bouixi*, *A. combesi*, *A. maillardi*, *A. noyongensis*, *Characidotrema regia*
- Brycinus lateralis** (Boulenger): Pr – *Trichodina centrostrigeata*, *T. kwando*
- Brycinus leuciscus** (Günther): Mo – *Annulotrema robusta*, *Characidotrema elongata*, *C. nursei*, Cr – *Ergasilus cunningtoni*, *E. nodosus*
- Brycinus longipinnis** (Günther): Mx – *Myxobolus kribiensis*, Mo – *Annulotrema kribiensis*, *A. lamberti*, *A. moanko*
- Brycinus macrolepidotus** Valenciennes: Mx – *Myxobolus sangei*, Mo – *Annulotrema alberti*, *A. elongata*, *A. helicocirra*, *A. longipenis*, *A. tenuicirra*, *Paradiplozoon aegyptense*, *P. ghanense*, Tr – *Allocreadium voltanum*, Ne – *Contraecaecum* sp. [L], *Orientattractis brycini*, *Rhabdochona* sp. [L]
- Brycinus nurse** Rüppell: Mo – *Afrogyrodactylus girgifae*, *Annulotrema alestesnursi*, *A. delta*, *A. gravis*, *A. spiropenis*, *Characidotrema brevipenis*, *C. nursei*, *C. spinivaginus*, *C. undifera*, *C. zelotes*, Ce – *Lytocestus marcuseni*, Ne – *Amplicaeum* sp. (type I) [L], *Contraecaecum* sp. [L], *Rhabdochona (Globochona) paski*, Cr – *Ergasilus cunningtoni*, *E. nodosus*, *Lamproglena hemprichii*, *Lernaea hardingi*
- Hemigrammopetersius pulcher** (Boulenger): Mo – *Annulotrema amieti*, *A. gabrioni*, *Characidotrema spiropenis*
- Hepsetus cuvieri** (Castelnau): Pr – *Hemitrichodina robusta*, *Trichodina magna*, Mo – *Annulotrema hepseti*, Cr – *Dolops ranarum*
- Hydrocynus brevis** (Günther): Mo – *Annulotrema besalis*, *A. longipenis*, *A. nili*, *A. uncata*, Tr – *Siphodera ghanensis*, Ac – *Tenuisentis niloticus*, Ne – *Amplicaeum* sp. (type I) [L], *Contraecaecum* sp. [L], *Rhabdochona (Globochona) paski*, Cr – *Lamproglena hemprichii*
- Hydrocynus forskahlii** (Cuvier): Pr – *Trichodina heterodentata*, Mx – *Myxobolus hydrocyni*, *M. perforata*, Mo – *Annulotrema ansatum*, *A. besalis*, *A. bipatens*, *A. cryptophallus*, *A. cucullatum*, *A. curvipenis*, *A. gracilis*, *A. hydrocynusi*, *A. longipenis*, *A. magniamula*, *A. nili*, *A. pikei*, *A. pontile*, *A. spiropenis*, Tr – *Dinurus gizae*, *Didymozoidae* gen. sp. [L], Ac – *Neoechinorhynchus africanus*, *Paragorgorhynchus albertianus*, Ne – *Afrophilometra hydrocyoni*, *Amplicaeum* sp. (type I) [L], *Contraecaecum* sp. [L], *Rhabdochona (Globochona) paski*, *Rhabdochona* sp., *Spinitectus* spp., Cr – *Argulus rhipidiophorus*, *Ergasilus cunningtoni*, *Lamproglena hemprichii*
- Hydrocynus goliath** (Boulenger): Cr – *Argulus reticulatus*, *A. wilsoni*
- Hydrocynus vittatus** Castelnau: Mo – *Annulotrema bracteatum*, *A. longipenis*, *A. magna*, *A. nili*, *A. pikei*, *A. pikoides*, *A. pseudonili*, *A. ruahae*, Ce – *Schyzocotyle acheilognathi*, Ne – *Afrophilometra hydrocyoni*, *Amplicaeum* sp. (type I) [L], *Contraecaecum* sp.

[L], *Eustrongylides* sp. [L], *Galeiceps* sp. [L], *Paracamallanus cyathopharynx*, *Spinitectus* spp., Cr – *Argulus africanus*, *A. ambloplites*, *A. brachypeltis*, *A. monodi*, *A. rhipidiophorus*, *Ergasilus mirabilis*, *Lamproglena elongata*, *L. hemprichii*

Hydrocynus sp.: Mo – *Afrocleidodiscus hydrocynuous*, Ne – *Contraecum* sp. [L], Cr – *Argulus rhipidiophorus*, *Lamproglena hemprichii*

Micralestes acutidens (Peters): Pr – *Apiosoma constricta*, *A. dermatum*, *A. micralesti*, *Hemitrichodina robusta*, *Trichodina heterodentata*, *T. kwando*, *Trichodinella crenulata*, *Tripartiella lechridens*, Mo – *Afrogyrodactylus kingi*

Micralestes humilis Boulenger: Mo – *Annulotrema sangmelinensis*

Micralestes sp.: Mo – *Afrogyrodactylus characinis*, *Annulotrema edeensis*, *Gyrodactylus micralestes*

Phenacogrammus aurantiacus (Pellegrin): Ne – *Rhabdochona (Globochona) paski*

Phenacogrammus major (Boulenger): Mo – *Annulotrema amieti*, *A. gabrioni*, *Characidotrema spiropenis*

Phenacogrammus urotaenia (Boulenger): Mo – *Characidotrema spiropenis*

Rhabdalestes maunensis (Fowler): Mx – *Thelohanellus rhabdalestus*

Rhabdalestes septentrionalis (Boulenger): Mo – *Afrogyrodactylus ardae*

FAMILY CITHARINIDAE

Citharinops distichodooides (Pellegrin): Ac – *Neoechinorhynchus africanus*

Citharinus citharus (Geoffroy Saint-Hilaire): Mx – *Henneguya logonensis*, *Myxobolus charii*, *M. mbailaoi*, *Thelohanellus citharini*, *T. lagdoensis*, *T. taguii*, Mo – *Citharodactylus gagei*, *Nanotrema citharini*, *N. niokoloensis*, Tr – *Brevicaecum niloticum*, *Clinostomum* sp. [L], Ac – *Neoechinorhynchus africanus*, *Neoechinorhynchus* sp., Ne – *Cithariniella citharini*, *Procamallanus (P.) laevisconchus*, Cr – *Ergasilus kandti*, *Lamproglena elongata*

Citharinus gibbosus (Geoffroy Saint-Hilaire): Ne – *Procamallanus (P.) laevisconchus*, Cr – *Argulus schoutedeni*

Citharinus latus Müller et Troschel: Cr – *Lamproglena elongata*

Citharinus sp.: Cr – *Lamproglena intercedens*

FAMILY CTENOLUCIIDAE

Boulengerella cuvieri (Spix et Agassiz): Ne – *Contraecum* sp. [L]

FAMILY DISTICHODONTIDAE

Distichodus atroventralis Boulenger: Cr – *Ergasilus cunningtoni*, *E. nodosus*

- Distichodus brevipinnis*** Günther: Ne – *Cithariniella citharini*, *Falcaustra hexapapillata*, *F. sudanensis*, *F. tchadi*, *Procamallanus (P.) laeviconchus*, Cr – *Opistholernaea contorta*
- Distichodus engycephalus*** Günther: Mx – *Myxidium distichodi*, *Myxobolus distichodi*
- Distichodus fasciolatus*** Boulenger: Ne – *Labeonema bakeri*, Cr – *Argulus schoutedeni*
- Distichodus lusosso*** Schilthuis: Tr – *Brientrema malapteruri*, Ne – *Falcaustra piscicola*
- Distichodus nefasch*** (Bonnaterre): Mo – *Afrocleidodiscus paracleidodiscus*, Tr – *Sandonia sudanensis*, Ne – *Falcaustra hexapapillata*, *F. petrei*, *F. sudanensis*, *Procamallanus (P.) laeviconchus*, Cr – *Argulus cunningtoni*, *Lernaea composita*
- Distichodus rostratus*** Günther: Mo – *Afrocleidodiscus distichodis*, Tr – *Sandonia sudanensis*, Ne – *Falcaustra hexapapillata*, *F. petrei*, *F. tchadi*, *Procamallanus (P.) laeviconchus*, Cr – *Ergasilus cunningtoni*, *Opistholernaea contorta*
- Distichodus schenga*** Peters: Ne – *Cithariniella petterae*
- Distichodus sexfasciatus*** Boulenger: Ne – *Labeonema bakeri*
- Distichodus sp.***: Ne – *Falcaustra piscicola*
- Eugnathichthys eetveldii*** Boulenger: Cr – *Ichthyoxenos expansus*
- Ichthyborus besse*** Joannis: Ce – *Ichthybothrium ichthybori*, *Proteocephalus sp.*, Ac – *Neoechinorhynchus ichthyobori*
- Ichthyborus quadrilineatus*** (Pellegrin): Ce – *Ichthybothrium ichthybori*
- Nannaethiops unitaeniatus*** Günther: Mo – *Annulotrema nannaethiops*
- Nannocharax multifasciatus*** Boulenger: Pr – *Trichodina compacta*, *T. ngoma*
- Neolebias ansorgii*** Boulenger: Mx – *Myxidium camerounense*
- Neolebias trewasae*** Poll et Gosse: Mo – *Annulotrema bilongi*, *A. endjami*, *A. fomenai*
- Paradistichodus dimidiatus*** (Pellegrin): Ne – *Cithariniella khallili*, *C. koubkova*
- Phago loricatus*** Günther: Cr – *Ergasilus cunningtoni*, *E. nodosus*
- Xenocharax spilurus*** Günther: Ne – *Orientattractis brycini*, *Synodontisia thelastomoides*

FAMILY HEPSETIDAE

- Hepsetus cuvieri*** (Castelnau): Cr – *Lamproglana hepseti*
- Hepsetus odoe*** (Bloch): Mx – *Henneguya nkamensis*, *Myxobolus africanus*, *Sphaerospora sangmelimaensis*, Mo – *Annulotrema biaensis*, *A. hepseti*, *A. macropenis*, Ne – *Philometroides africanus*, *Procamallanus (Spirocamallanus) spiralis*, Cr – *Dolops ranarum*, *Ergasilus mirabilis*, *Lamproglana hemprichii*

ORDER CLUPEIFORMES

FAMILY CLUPEIDAE

Alosa fallax (Lacepède): Cr – *Ergasilus lizae*

Hilsa kelee (Cuvier): Cr – *Argulus izintwala*

Limnothrissa miodon (Boulenger): Mo – *Ancyrocephalus limnotrissae*

Pellonula leonensis Boulenger: Mo – *Ancyrocephalus pellonulae*, Cr – *Ergasilus cunningtoni*, *E. nodosus*, *Paraergasilus lagoonaris*

Sierrathrissa leonensis Boulenger: Cr – *Paraergasilus lagoonaris*

FAMILY ENGRAULIDAE

Stolephorus holodon (Boulenger): Cr – *Caligus engraulidis*

ORDER CYPRINIFORMES

FAMILY CYPRINIDAE

Barbus barbuis (Linnaeus): Cr – *Ergasilus lizae*

***Barbus* sp.:** Mx – *Myxobolus ovoidalis*, Mo – *Dactylogyrus afroruahae*, *D. barbuis*, *D. gabonensis*, *D. macrocleithrum*, Tr – *Allocreadium indistinctum*, *Aspidogaster limacoides*, Ce – *Parvitaenia* sp. 2 [L], Ne – *Camallanus kirandensis*, *Rhabdochona gendrei*, Cr – *Lernaea barbicola*

***Barilius* sp.:** Mo – *Ancyrocephalus barilii*

Carasobarbus fritschii (Günther): Mo – *Dactylogyrus kulindrii*, *D. marocanus*, *D. oumiensis*, *D. volutus*, *D. zatensis*, Ce – *Schyzocotyle acheilognathi*

Carasobarbus harterti (Günther): Mo – *Dactylogyrus marocanus*, *D. oumiensis*

Carasobarbus moulouyensis (Pellegrin): Mo – *Dactylogyrus fimbriphallus*, *D. ksibioides*

Carassius auratus (Linnaeus): Pr – *Chilodonella hexasticha*, *Dermocystidium* sp., *Ichthyophthirius multifiliis*, *Ichthyophthirius* sp., *Trichodina mutabilis*, *T. reticulata*, *T. uniformis*, Hi – *Batrachobdelloides tricarinata*

Chagunius nicholsi (Myers): Ce – *Ligula intestinalis* [L]

Ctenopharyngodon idella (Valenciennes): Pr – *Trichodinella epizootica*

Cyprinus carpio Linnaeus: Pr – *Chilodonella* sp., *Dermocystidium* sp., *Ichthyobodo necator*, *Ichthyobodo* sp., *Ichthyophthirius multifiliis*, *Tetrahymena pyriformis*, *Trichodina centrostrigeata*, *T. compacta*, *T. heterodentata*, *T. nobilis*, *T. reticulata*, *Trichodina* sp., *Trichodinella epizootica*, *Trichodinella* sp., *Tripartiella lechridens*, Mx – *Myxobolus ovoidalis*, Tr – *Clinostomum tilapiae* [L], *Tylodelphys* sp. [L], Ce – *Atractolytocestus huronensis*, *Cyclastera* sp. [L], *Neogryporhynchus lasiopeius* [L], *Schyzocotyle acheilognathi*, Ne – *Contracaecum* sp. [L], Cr – *Argulus japonicus*

Engraulicypris sardella (Günther): Cr – *Lernaea tuberosa*

- Enteromius ablables** (Bleeker): Mo – *Dactylogyrus afrobarbae*, *D. pokoase*
- Enteromius afrohamiltoni** (Crass): Cr – *Ergasilus mirabilis*
- Enteromius annectens** (Gilchrist et Thompson): Ce – *Schyzocotyle acheilognathi*
- Enteromius anoplus** (Weber): Pr – *Goussia anopli*
- Enteromius apneurogramma** (Boulenger): Mo – *Dactylogyrus nanocirrus*, *D. parvipallus*
- Enteromius argenteus** Günther: Ce – *Schyzocotyle acheilognathi*, Cr – *Lernaea inflata*
- Enteromius aspilus** (Boulenger): Mx – *Chloromyxum birgii*, *Myxidium nyongense*, *Myxobolus fobobi*, *M. nyongana*, *M. oloi*, *Thelohanellus valeti*, Mo – *Dactylogyrus aspili*, *D. mendehei*, *D. nyongensis*
- Enteromius bifrenatus** (Fowler): Ce – *Schyzocotyle acheilognathi*
- Enteromius brevipinnis** (Jubb): Ce – *Schyzocotyle acheilognathi*
- Enteromius callipterus** (Boulenger): Mx – *Myxobolus ngassami*, *M. sanagaensis*, *M. sessabai*
- Enteromius camptacanthus** (Bleeker): Mx – *Myxidium nyongense*, *Myxobolus fobobi*, *M. njinei*, *M. nyongana*, *M. oloi*, Mo – *Dactylogyrus amieti*, *D. njinei*, *D. valeti*, *Dogielius njinei*, Tr – *Allocreadium mazoensis*, Ne – *Rhabdochona gendrei*
- Enteromius cercops** (Whitehead): Mo – *Afrodiplozoon polycotyleus*
- Enteromius eutaenia** (Boulenger): Pr – *Trichodina compacta*, *T. heterodentata*, *Tripartiella macrosoma*, Ne – *Rhabdochona (Globochona) gambiana*
- Enteromius fasciolatus** (Günther): Pr – *Trichodina kalimbeza*
- Enteromius guirali** (Thominot): Mx – *Myxidium mendehei*, *M. nyongense*, *Myxobolus fobobi*, *M. njinei*, *M. nyongana*, *M. oloi*, Mo – *Dactylogyrus mendehei*, *D. nyongensis*
- Enteromius holotaenia** (Boulenger): Mo – *Gyrodactylus ivindoensis*
- Enteromius humilis** (Boulenger): Tr – *Apatemon barbusi* [L], *Diplostomum longicollis* [L], *D. montanum* [L], *Diplostomum* sp. [L], *Posthodiplostomum nanum* [L], Ne – *Contraecum* sp. [L], *Eustrongylides* sp. [L]
- Enteromius jae** (Boulenger): Mx – *Myxidium nyongense*, *Myxobolus fobobi*, *M. nkolyaensis*, *M. nyongana*, *Thelohanellus valeti*, Mo – *Dactylogyrus biradius*, *D. jaei*, *D. kii*
- Enteromius kamolondoensis** (Poll): Ce – *Ligula intestinalis* [L]
- Enteromius kerstenii** (Peters): Mo – *Afrodiplozoon polycotyleus*, Mo – *Dactylogyrus afromlongicornis*, *D. afropsilovaginus*, *D. afrotoxopous*, *D. brevicirrus*, *D. brevicornis*, *D. longionchus*, *D. longiphallus*, *D. parvipallus*
- Enteromius lineomaculatus** (Boulenger): Ce – *Ligula intestinalis* [L], Ne – *Rhabdochona esseniae*, *R. gendrei*
- Enteromius lukusiensis** (David et Poll): Ce – *Ligula intestinalis* [L]
- Enteromius macrops** (Boulenger): Mo – *Dactylogyrus mawli*, Ce – *Parvitaenia* sp. 2 [L], Cr – *Ergasilus cunningtoni*

- Enteromius magdaleneae** (Boulenger): Mo – *Dactylogyrus afrosclerovaginus*
- Enteromius martorelli** (Roman): Mx – *Chloromyxum birgii*, *Myxidium mendehei*, *M. nyongense*, *Myxobolus fobobi*, *M. njinei*, *M. nyongana*, *M. oloi*, Mo – *Dactylogyrus birgii*, *D. bopeleti*, *D. insolitus*, *D. maillardi*, *Dogielius martorellii*
- Enteromius mattozi** (Guimarães): Ce – *Schyzocotyle acheilognathi*, Ne – *Contraecum* sp. [L], Cr – *Argulus japonicus*, *Dolops ranarum*
- Enteromius miolepis** (Boulenger): Ne – *Rhabdochona* (R.) *centroafricana*
- Enteromius multilineatus** (Worthington): Tr – *Clinostomum complanatum* [L]
- Enteromius neefi** (Greenwood): Mo – *Afrodiplozoon polycotyleus*, *Dactylogyrus enidae*, Ac – *Acanthogyrus phillipi*
- Enteromius neglectus** (Boulenger): Mo – *Dactylogyrus afrofluviatilis*, *D. afrosclerovaginus*, *D. brevicirrus*, *D. nanocirrus*
- Enteromius neumayeri** (Fischer): Mo – *Afrodiplozoon polycotyleus*
- Enteromius nyanzae** (Whitehead): Mo – *Dactylogyrus clavatovaginus*, *D. spinicirrus*
- Enteromius paludinosus** (Peters): Pr – *Apiosoma phiala*, *A. piscicola*, *Chilodonella hexasticha*, *Cryptobia* sp., *Epistylis* sp., *Ichthyophthirius multifiliis*, *Tetrahymena pyriformis*, *Trichodina heterodentata*, *T. kazubski*, *T. nigra*, *Trichodina* sp., *Trichodinella epizootica*, *Trichodinella* sp., *Tripartiella lechridens*, Mx – *Myxobolus paludinosus*, Mo – *Afrodiplozoon polycotyleus*, *Dactylogyrus afrochelatus*, *D. afropsilovaginus*, *D. afrosclerovaginus*, *D. clavatovaginus*, *D. dominici*, *D. teresae*, *Dogielius intorquens*, *Paradiplozoon aegyptense*, Ce – *Ligula intestinalis* [L], *Paradilepis scolecina* [L], *Schyzocotyle acheilognathi*, *Valipora campylancristrota* [L], Ac – *Polyacanthorhynchus kenyensis* [L], Ne – *Camallanus* sp., *Contraecum* sp. [L], *Rhabdochona esseniae*, *R. gendrei*
- Enteromius perince** (Rüppell): Mo – *Dactylogyrus afrofluviatilis*, *D. afrolongicornis*, *D. afropsilovaginus*, *D. afrosclerovaginus*, *D. allolongionchus*, *D. brevicirrus*, *D. myersi*, *D. nanocirrus*, *Gyrodactylus kyogae*, Ne – *Cucullanus barbi*
- Enteromius pleurogramma** (Boulenger): Tr – *Apatemon barbusi* [L]
- Enteromius radiatus** (Peters): Pr – *Trichodina compacta*, Mo – *Dactylogyrus spinicirrus*, Ce – *Ligula intestinalis* [L]
- Enteromius sublineatus** (Daget): Mo – *Dactylogyrus afrobarbae*, *D. nanocirrus*
- Enteromius tanapelagi** (Graaf, Dejen, Sibbing et Osse): Tr – *Apatemon barbusi* [L]
- Enteromius thamalakanensis** (Fowler): Mx – *Myxobolus etsataensis*
- Enteromius treurensis** (Groenewald): Ce - *Parvitaenia* sp. [L]
- Enteromius trimaculatus** (Peters): Pr – *Apiosoma constricta*, *A. dermatum*, *A. phiala*, *A. piscicola*, *Trichodina compacta*, *T. heterodentata*, *T. kazubski*, *T. minuta*, *T. uretra*, *Trichodinella epizootica*, *Tripartiella lechridens*, Mo – *Afrodiplozoon polycotyleus*, *Dactylogyrus afrolongicornis*, *D. allolongionchus*, *D. myersi*, *D. spinicirrus*, Tr – *Allocreadium mazoensis*, Ce – *Paradilepis scolecina* [L], *Parvitaenia* sp. 1 [L],

- Parvitaenia* sp. 2 [L], *Schyzocotyle acheilognathi*, Ne – *Contraecaecum* sp. [L],
Rhabdochona esseniae, *R. gendrei*
- Enteromius trispilopleura*** (Boulenger): Mo – *Dactylogyrus afrobarbae*
- Enteromius trispilos*** (Bleeker): Mo – *Dactylogyrus nanocirrus*
- Enteromius unitaeniatus*** (Günther): Pr – *Apiosoma phiala*, Ce – *Ligula intestinalis* [L],
Paradilepis scolecina [L], Ne – *Contraecaecum* sp. [L]
- Enteromius* sp.:** Pr – *Trichodina centrostrigeata*
- Garra dembecha*** Getahun et Stiasny: Tr – *Diplostomum garrae* [L], *D. longicollis* [L],
D. montanum [L], *Diplostomum* sp. [L], *Ichthyocotylurus* sp. [L], *Posthodiplostomum*
nanum [L]
- Garra* sp. :** Cr – *Chonopeltis brevis*
- Labeo alluaudi*** (Pellegrin): Mo – *Dactylogyrus longiphalloides*, *Dogielius kabaensis*
- Labeo altivelis*** (Peters): Ne – *Camallanus kirandensis*, *Philometroides khallii*, Cr – *Dolops*
ranarum, *Lernaea barnimiana*, *L. cyprinacea*
- Labeo capensis*** (Smith): Pr – *Apiosoma phiala*, Mo – *Dactylogyrus iwani*, *D. larindae*,
D. nicolettae, *Dogielius intorquens*, *Paradiplozoon vaalense*, Cr – *Argulus japonicus*,
Chonopeltis australis, *Lernaea barnimiana*, *L. cyprinacea*
- Labeo congoro*** Peters: Mo – *Paradiplozoon krugerense*, Cr – *Chonopeltis meridionalis*,
Dolops ranarum, *Lernaea barnimiana*, *L. cyprinacea*
- Labeo coubie*** Rüppell: Mx – *Myxobolus burkinei*, *M. labeoi*, *Thelohanellus bicornei*,
Mo – *Dactylogyrus cyclocirrus*, *D. decaspirus*, *D. dembae*, *D. digitalis*, *D. falcilocus*,
D. jaculus, *D. labeous*, *D. leonis*, *D. oligospirophallus*, *D. retroversus*, *D. titus*,
D. yassensis, *Dogielius anthocolpos*, *D. clavipenis*, *D. complicatus*, *D. flagellatus*,
D. harpagatus, *D. tropicus*, *Paradiplozoon aegyptense*, Tr – *Clinostomum* sp. [L],
Nematobothrium labeonis, *Nematobothrium* sp., Ac – *Acanthogyrus nigeriensis*
- Labeo cylindricus*** Peters: Pr – *Apiosoma obliqua*, *A. phiala*, *A. piscicola*, *Trichodina*
centrostrigeata, *T. compacta*, *T. heterodentata*, *Tripartiella lechridens*,
Mo – *Dactylogyrus brevicirrus*, *D. cyclocirrus*, *Dogielius dubicornis*, *Paradiplozoon*
aegyptense, Ac – *Acanthogyrus malawiensis*, Cr – *Chonopeltis brevis*, *C. meridionalis*,
Lamproglenoides vermiformis, *Lernaea barnimiana*, *L. cyprinacea*, *L. lophiara*
- Labeo forskalii*** Rüppell: Mo – *Dactylogyrus brevicirrus*, *D. helicophallus*, *D. longiphallus*,
Paradiplozoon aegyptense, Tr – *Ectenurus labeonis*, *Lecithochirium magnicaudatum*,
Nematobothrium labeonis, Cr – *Lamproglena cleopatra*, *Lernaea barnimiana*
- Labeo horie*** Heckel: Tr – *Nematobothrium labeonis*, Ce – *Cycluster magna* [L],
Ne – *Camallanus longicaudatus*
- Labeo lukulae*** Boulenger: Ce – *Ligula intestinalis* [L]
- Labeo molybdinus*** du Plessis: Ne – *Camallanus* sp.
- Labeo niloticus*** (Linnaeus): Pr – *Apiosoma piscicola*, *Trichodina centrostrigeata*,
Mx – *Myxidium shamama*, *Myxobolus imami*, *M. labiae*, *M. naffari*, *M. niloticus*,

- Thelohanellus niloticus*, Tr – *Nematobothrium labeonis*, Ne – *Amplicaecum* sp. (type I) [L], *Camallanus kirandensis*, *C. longicaudatus*, *Rhabdochona* sp. [L]
- Labeo parvus** Boulenger: Mx – *Myxobolus kouoptamoensis*, *M. nchoutnounensis*, *M. njoyai*, *M. nyongana*, *Thelohanellus ndjamenaensis*, Mo – *Dactylogyrus brevicirrus*, *D. falcilocus*, *D. jucundus*, *D. longiphallus*, *D. omega*, *Dogielius kabaensis*, *D. parvus*, *D. rosumplicatus*
- Labeo rosae** (Boulenger): Mo – *Dactylogyrus pienaari*, *Paradiplozoon krugerense*, Ne – *Philometroides khalili*, Cr – *Chonopeltis australis*, *C. meridionalis*, *Ergasilus mirabilis*, *Lernaea barnimiana*, *L. cyprinacea*
- Labeo rouaneti** Daget: Mo – *Dactylogyrus jucundus*, *D. omega*, *D. sematus*, *Dogielius rosumplicatus*
- Labeo ruddi** Boulenger: Mo – *Dogielius junorstrema*, Cr – *Chonopeltis meridionalis*, *Lernaea cyprinacea*
- Labeo senegalensis** (Steindachner): Mx – *Thelohanellus costeae*, Mo – *Dactylogyrus cyclocirrus*, *D. labeous*, *D. rastellus*, *D. senegalensis*, *D. tubarius*, *Dogielius flosculus*, *D. tropicus*, Tr – *Nematobothrium* sp.
- Labeo umbratus** (Smith): Mo – *Dactylogyrus iwani*, *D. larindae*, *Dogielius intorquens*, *Paradiplozoon vaalense*, Cr – *Argulus japonicus*, *Chonopeltis australis*, *Lernaea barnimiana*
- Labeo victorianus** Boulenger: Pr – *Babesiosoma mariae*, Mo – *Afrodiplozoon polycotyleus*, *Dactylogyrus brachydiscus*, *D. brevicirrus*, *D. cyclocirrus*, *D. helicophallus*, *D. longiphallus*, *Paradiplozoon aegyptense*, Cr – *Chonopeltis brevis*, *Lernaea barnimiana*
- Labeo sp.:** Mx – *Myxobolus bilongi*, *Thelohanellus assambai*, *T. sanagaensis*, Mo – *Dactylogyrus nathaliae*, *Dogielius grandijugus*, Ne – *Labeonema intermedium*, Cr – *Argulus africanus*, *A. rhipidiophorus*
- Labeobarbus acutirostris** (Bini): Tr – *Apatemon barbusi* [L]
- Labeobarbus aeneus** (Burchell): Pr – *Ichthyophthirius multifiliis*, Mo – *Paradiplozoon ichthyoxanthon*, Ce – *Schyzocotyle acheilognathi*, Cr – *Argulus japonicus*, *Chonopeltis australis*, *Lernaea barnimiana*, *L. haplocephala*
- Labeobarbus altianalis** (Boulenger): Mo – *Dactylogyrus brevicirrus*, *D. longiphallus*, *D. spinicirrus*, Ce – *Schyzocotyle acheilognathi*, Ne – *Contraecum* sp. [L], *Eustrongylides* sp. [L], *Falcaustra straeleni*, *F. verbekei*, *Rhabdochona gendrei*, *R. (Globochona) paski*, Cr – *Chonopeltis brevis*, *Lamproglana barbicola*, *Lernaea barnimiana*
- Labeobarbus batesii** (Boulenger): Mo – *Dactylogyrus afer*
- Labeobarbus beso** (Rüppell): Tr – *Apatemon barbusi* [L], *Clinostomum* sp. [L], *Diplostomum montanum* [L]
- Labeobarbus bynni** (Forsskål): Mx – *Myxobolus caudatus*, *M. egypticus*, *M. fahmii*, *M. imami*, *M. naffari*, Mo – *Dactylogyrus aferoides*, *D. pseudanchoratus*, *D. sahelensis*,

Dogielius djolibaensis, Tr – *Allocreadium aswanensis*, *A. sudanensis*, *Aspidogaster africanus*, Ce – *Khawia armeniaca*, *Khawia* sp., *Schyzocotyle acheilognathi*, Ne – *Cucullanus barbi*, *C. djilorensis*, *Rhabdochona gendrei*, *R. (Globochona) paski*, *Rhabdochona* sp., Cr – *Lernaea barnimiana*

Labeobarbus dainellii (Bini): Tr – *Apatemon barbusi* [L]

Labeobarbus gorgorensis (Bini): Tr – *Diplostomum montanum* [L]

Labeobarbus gorguari (Rüppell): Tr – *Apatemon barbusi* [L]

Labeobarbus intermedius (Rüppell): Tr – *Apatemon barbusi* [L], Ne – *Falcaustra straeleni*, *F. verbekei*, *Rhabdochona gendrei*, Cr – *Lernaea barnimiana*

Labeobarbus johnstonii (Boulenger): Cr – *Lernaea lophiara*

Labeobarbus kimberleyensis (Gilchrist et Thompson): Pr – *Trichodina compacta*, Mo – *Dactylogyrus varicorhini*, Ce – *Paradilepis scolecina* [L], *Schyzocotyle acheilognathi*, Cr – *Argulus japonicus*, *Lernaea cyprinacea*, Hi – *Batracobdelloides tricarinata*

Labeobarbus macrolepis (Pfeffer): Mo – *Afrodiplozoon polycotyleus*, *Dactylogyrus papernai*, *D. pseudanchoratus*, *D. ruahae*, *D. rufijii*, *Dogielius grandiphallus*

Labeobarbus marequensis (Smith): Pr – *Apiosoma mothlapitsis*, *A. phiala*, *Trichodina compacta*, *T. heterodontata*, Mo – *Afrodiplozoon polycotyleus*, *Dactylogyrus spinicirrus*, Tr – *Allocreadium mazoensis*, Ce – *Ligula intestinalis* [L], *Paradilepis delachauxi* [L], *Schyzocotyle acheilognathi*, Ne – *Contracecum* sp. [L], *Rhabdochona esseniae*, *R. gendrei*, Cr – *Argulus japonicus*, *Chonopeltis meridionalis*, *Dolops ranarum*, *Lamproglena hoi*, *Lernaea barnimiana*, *L. cyprinacea*

Labeobarbus microbarbis (David et Poll): Ce – *Ligula intestinalis* [L]

Labeobarbus nedgia Rüppell: Tr – *Apatemon barbusi* [L], Ce – *Schyzocotyle acheilognathi*

Labeobarbus parawaldroni (Lévêque, Thys van den Audenaerde et Traoré): Mo – *Dactylogyrus aferoides*, *D. archaeopenis*, *D. parawaldronii*, *D. pseudanchoratus*, *D. ruahae*, *Dogielius pedaloe*

Labeobarbus petitjeani Daget: Mo – *Dactylogyrus aferoides*, *D. archaeopenis*, *D. clani*, *D. petitjeani*, *D. pseudanchoratus*, *D. sahelensis*, *Dogielius djolibaensis*

Labeobarbus polylepis (Wu): Cr – *Lamproglena hoi*

Labeobarbus reinii (Günther): Mo – *Dactylogyrus kulindrii*, *D. maroccanus*, *D. oumiensis*, *D. reinii*

Labeobarbus sacratus (Daget): Mo – *Dactylogyrus archaeopenis*, *D. pseudanchoratus*, *D. ruahae*, *D. sacrati*, *Dogielius phrygius*

Labeobarbus somereni (Boulenger): Mo – *Dactylogyrus spinicirrus*

Labeobarbus tropidolepis (Boulenger): Ce – *Khawia armeniaca*

Labeobarbus tsanensis (Nagelkerke et Sibbing): Ne – *Eustrongylides* sp. [L]

Labeobarbus wurtzi (Pellegrin): Mo – *Dactylogyrus falcilocus*, *D. pseudanchoratus*, *D. ruahae*, *D. wurtzii*, *Dogielius pedaloe*, *D. vexillus*

Labeobarbus sp.: Pr – *Ichthyobodo* sp.

Leptocypris niloticus (Joannis): Mo – *Dactylogyrus brevicirrus*

Luciobarbus callensis (Valenciennes): Mo – *Dactylogyrus fimbriphallus*, *D. heteromorphus*, *D. ksibii*, *D. marocanus*, *D. tunisiensis*, Ce – *Khawia armeniaca*, *Schyzocotyle acheilognathi*

Luciobarbus maghrebenensis (Doadrio, Perea et Yahyaoui): Mo – *Dactylogyrus falsiphallus*, *D. varius*

Luciobarbus magniatlantis (Pellegrin): *Dactylogyrus ksibii*

Luciobarbus moulouyensis (Pellegrin): Mo – *Dactylogyrus benhoussai*

Luciobarbus nasus Boulenger: Mo – *Dactylogyrus borjensis*, *D. marocanus*

Luciobarbus pallaryi (Pellegrin): Mo – *Dactylogyrus atlasensis*, *D. draaensis*, *D. fimbriphallus*, *D. guirensis*

Luciobarbus rifensis Doadrio, Casal-Lopez et Yahyaoui: Mo – *Dactylogyrus scorpius*

Luciobarbus setivimensis (Valenciennes): Mo – *Dactylogyrus ksibii*, *D. ksibioides*, *D. marocanus*, Ce – *Khawia armeniaca*, Ac – *Acanthogyru maroccanus* [L]

Mesobola brevianalis (Boulenger): Pr – *Ambiphrya neobolae*, *Apiosoma caulata*, *A. phiala*, *Trichodina compacta*, *T. heterodentata*, *T. magna*, *Trichodinella epizootica*, *Tripartiella clavodonta*, *T. lechridens*

Opsaridium microlepis (Günther): Cr – *Lernaea barilius*

Pseudobarbus burgi (Boulenger): Cr – *Chonopeltis minutus*

Pseudobarbus calidus (Barnard): Cr – *Chonopeltis minutus*

Pseudobarbus erubescens (Skelton): Cr – *Chonopeltis minutus*

Raiamas christyi (Boulenger): Ne – *Rhabdochona (Globochona) tricuspadata*

Raiamas moorii (Boulenger): Ne – *Rhabdochona (Globochona) gambiana*

Raiamas senegalensis (Steindachner): Mo – *Ancyrocephalus barilii*, *Paradiplozoon aegyptense*, Cr – *Ergasilus cunningtoni*

Raiamas steindachneri (Steindachner): Cr – *Lernaea barilius*

Rastrineobola argentea (Pellegrin): Tr – *Allocreadium engraulicypridis*, Ce – *Ligula intestinalis* [L]

ORDER CYPRINODONTIFORMES

FAMILY NOTHOBRANCHIIDAE

Aphyosemion batesii (Boulenger): Mo – *Dactylogyrus batesii*

Aphyosemion bivittatum (Lönnerberg): Mx – *Myxidium birgii*

Aphyosemion cameronense (Boulenger): Mo – *Cichlidogyrus amieti*, Ne – *Prosungulonema campanae*, *Rhabdochona (Rhabdochona) moravecii*

Aphyosemion exiguum (Boulenger): Mo – *Cichlidogyrus amieti*

Epiplatys multifasciatus (Boulenger): Ne – *Rhabdochona (Globochona) sp.*

Epiplatys sexfasciatus Gill: Tr – *Posthodiplostomoides leonensis* [L], *P. nanum* [L]

Epiplatys spilargyreus (Duméril): Tr – *Posthodiplostomoides leonensis* [L], *P. nanum* [L]

Epiplatys sp.: Mo – *Gyrodactylus cyprinodonti*, Tr – *Clinostomum sp.* [L]

Nothobranchius furzeri Jubb: Tr – *Apatemon sp.* [L], *Emoleptalea sp.*, Ne – Camalanidae gen. sp. [L], Gnathostomatidae gen. sp. [L]

Nothobranchius kadleci Reichard: Tr – *Emoleptalea sp.*, Ne – Camalanidae gen. sp. [L], Gnathostomatidae gen. sp. [L]

Nothobranchius orthonotus (Peters): Ne – Camalanidae gen. sp. [L], Gnathostomatidae gen. sp. [L]

Nothobranchius pienaar Shidlovskiy, Watters et Wildekamp: Ne – Camalanidae gen. sp. [L], Gnathostomatidae gen. sp. [L]

FAMILY POECILIIDAE

Aplocheilichthys sp.: Cr – *Paraergasilus lagoonaris*

Gambusia affinis (Baird et Girard): Tr – *Centrocestus cuspidatus* [L]

Lamprichthys tanganicanus (Boulenger): Cr – *Argulus exiguus*, *Ergasilus sarsi*

Micropanchax johnstoni (Günther): Pr – *Trichodina compacta*, *T. heterodontata*, *T. magna*

Poecilia reticulata Peters: Pr – *Ichthyophthirius multifiliis*, Cr – *Sebekia minor* [L]

Poropanchax luxophthalmus (Brüning): Mo – *Ancyrocephalus claveaui*

Poropanchax normani (Ahl): Mo – *Gyrodactylus cytophagus*

ORDER ELOPIFORMES

FAMILY ELOPIDAE

Elops machnata (Forsskål): Cr – *Argulus kosus*

ORDER LEPIDOSIRENIFORMES

FAMILY PROTOPTERIDAE

Protopterus aethiopicus Heckel: Tr – *Heterorchis crumenifer*, Ne – *Eustrongylides sp.* [L], Cr – *Argulus africanus*, *Dolops ranarum*

Protopterus annectens (Owen): Pr – *Trichodina sp.*, Tr – *Heterorchis crumenifer*, *H. protopteri*, *H. senegalensis*

Protopterus sp.: Tr – *Heterorchis crumenifer*