labium: lip on the cephalic region [Fig. 4.8.2C]

monodelphic: having one uterus

mucron: a small pointed projection, or spine-like ending on a terminus (*e.g.*, on tail tip of *Galeiceps*)

oesophagus (pharynx): part of the digestive tract that starts behind the buccal cavity or oral opening [Fig. 4.8.2D-J]

oesophastome: bulbous pseudobuccal capsule formed by an expansion of the oesophagus at its anterior end [Fig. 4.8.2D]

phasmids: peripheral somatic sense organs usually on the tail, probably with a chemoreceptory function [Fig. 4.8.2Q,U]

platymyarian: having fibres of the muscle cells adjacent and perpendicular to the hypodermis

spicule: sclerotised male copulatory organ of various shapes, usually paired, located immediately dorsal to the cloaca

stichocyte: glandular unicellular cell forming the stichosome [Fig. 4.8.2M]

stichosome: series of protein synthesising gland cells arranged in a row along the posterior portion of the oesophagus [Fig. 4.8.2L]

trophosome: structure which probably represents a modified intestine serving as a nutrient storage area of certain parasitic nematodes arranged along the posterior portion of the oesophagus

ventricular appendix: appendage of the ventriculus extending posteriorly to the intestine [Fig. 4.8.2H-K]

ventriculus: short region at the anterior end of the intestine [Fig. 4.8.2G-K]

Classification of nematodes infecting African fishes

A single asterisk (*) before a nematode's scientific name denotes that the taxon has been recorded only in its larval stage in the given fish host(s). A double asterisk (**) denotes records of both larvae and adults in the given host(s), whilst an unmarked taxon denotes records of only adults in the given host(s).

Class Adenophorea von Linstow, 1905
Subclass Enoplia Pearse, 1942
Order Enoplida Filipjev, 1929
Suborder Enoplina Chitwood et Chitwood, 1937
Order Trichocephalida Spasski, 1954
Suborder Trichinellina Hodda, 2007
Superfamily Trichinelloidea Ward, 1907
Family Capillariidae Railliet, 1915
Family Cystoopsidae Skrjabin, 1923
Suborder Dioctophymatina Skrjabin, 1927
Superfamily *Dioctophymatoidea Castellani et Chalmers, 1910
Family *Dioctophymatidae Castellani et Chalmers, 1910
Class Secernentea von Linstow, 1905
Order Oxyurida Skrjabin, 1923
Suborder Oxyurina Railliet, 1916
Superfamily Oxyuroidea Cobbold, 1864
Family Pharyngodonidae Travassos, 1920
Order Ascaridida Skrjabin et Schulz, 1940
Superfamily Cosmocercoidea Railliet, 1916
Family Cosmocercidae Railliet, 1916
Family Kathlaniidae Lane, 1914
Family Atractidae Railliet, 1917
Superfamily Seuratoidea Hall, 1916
Family Quimperiidae Gendre, 1928
Family Cucullanidae Cobbold, 1864
Superfamily Ascaridoidea Baird, 1853
Family **Anisakidae Railliet et Henry, 1912
Family *Ascarididae Baird, 1853
Family Heterocheilidae Railliet et Henry, 1915
Order Spirurida Chitwood, 1933
Suborder Camallanina Chitwood, 1937
Superfamily Camallanoidea Railliet et Henry, 1915
Family **Camallanidae Railliet et Henry, 1915
Superfamily Dracunculoidea Cameron, 1934
Family Philometridae Baylis et Daubney, 1926
Family Daniconematidae Moravec et Køie, 1987
Suborder Spirurina Chitwood, 1933
Superfamily **Anguillicoloidea Yamaguti, 1935
Family **Anguillicolidae Yamaguti, 1935

Superfamily *Gnathostomatoidea Railliet, 1895
Family *Gnathostomatidae Railliet, 1895
Superfamily Physalopteroidea Railliet, 1893
Family Physalopteridae Railliet, 1893
Superfamily Thelazioidea Skryabin, 1915
Family ** Rhabdochonidae Travassos, Artigas et Pereira, 1928
Superfamily Habronematoidea Chitwood et Wehr, 1932
Family Cystidicolidae Skryabin, 1946
Superfamily Acuarioidea Railliet, Henry et Sissoff, 1912
Family **Acuariidae Railliet, Henry et Sissoff, 1912

Identification keys and a systematic survey of nematodes (Nematoda) from African freshwater fish

The keys presented below are designed according to Moravec (2006, 2013), Thatcher (2006), Anderson *et al.* (2009), and Arai & Smith (2016) to allow identification of larval and/or adult nematodes up to the genus level. Species are listed alphabetically within the respective higher-order taxa. The type species of each genus and the type host of each species are highlighted in bold. The country where the type locality lies is given if known. Host names follow Froese & Pauly (2017).

Key to the classes of the Nematoda *sensu* Blaxter *et al.* (1998)

1 (2) Amphids always post-labial. Phasmids absent. Caudal papillae absent or few in number. Oesophagus cylindrical or with oesophageal glands free in pseudocoel and forming stichosome or trophosome. Excretory system with out lateral canals and terminal duct not lined with cuticle. Males with one spicule or spicule absent. Eggs usually unsegmented with plug at either pole or hatching *in utero*. First-larval stage often with stylet and usually infective to final host.....**Adenophorea** (**subclass Enoplia**)

2 (1) Amphid apertures on lips, often difficult to see. Phasmids present. Oesophagus never in form of stichosome. Excretory system with lateral canals and terminal canal lined with cuticle. Caudal papillae almost always numerous in males. Spicules two, exceptionally spicules absent. Eggs without polar plugs, rarely operculate at one or both poles, or hatching *in utero*. Early third larval stage infective to the final host.....**Secernentea**

ENOPLIA Pearse, 1942

Key to the superfamilies of the Enoplia from African freshwater fishes

1 (2) Well-developed oesophagus cylindrical; stichosome or trophosome absent. Male tail modified to form ventral sucker-like muscular bursa. Monodelphic. Vulva near anus. Body thick, massive.....**Dioctophymatoidea**

2 (1) Stichosome present. Male tail without muscular bursa. Vulva anterior or near the end of oesophagus. Body small, thin, mostly filiform. Only in *Cystoopsis* is posterior part of body globular.....**Trichinelloidea**

TRICHINELLOIDEA Ward, 1907

Key to the families of the Trichinelloidea from African freshwater fishes

1 (2) Digestive tract incomplete, intestine dilated into a sac, anus absent. Vulva near nerve ring. Female body with thread-like anterior region and poste-

riorly expanded to form vesicles. Parasites of the skin of sturgeons and gars, in Africa known from Cichlidae……**Cystoopsidae**

2 (1) Digestive tract complete including anus. Vulva near mid-region or end of oesophagus. Posterior region of female somewhat expanded but not cylindrical, not vesicle-like. Adults in the digestive tract or liver .....……**Capillariidae**

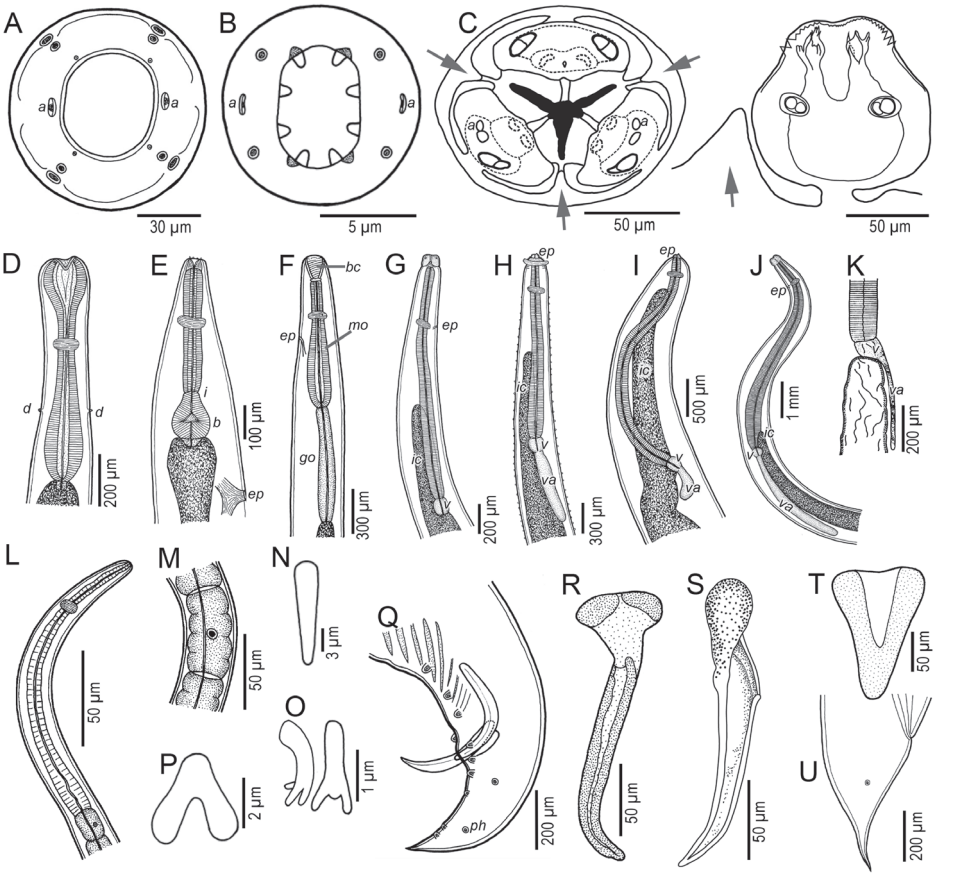

Fig. 4.8.2. Selected morphological characters important for identification. **A-C.** Amphids (*a*) of *Procamallanus daleneae* (Boomker, 1933) (A); *Rhabdochona tricuspidata* Moravec et Jirků, 2014 (B); *Multicaecum heterotis* Petter, Vassiliadès et Marchand, 1979 (C); **D.** Muscular oesophagus with oesophastome and deirids (*d*) of *Cucullanus mormyri* Moravec et Scholz, 2017; **E.** Cylindrical oesophagus of *Chitharinella khalili* Petter, Vassiliadès et Troncy, 1972, ending in a globular bulb (*b*) with valvular apparatus and separated from the corpus by a constriction (isthmus – *i*); **F.** Buccal capsule (*bc*) and oesophagus of *Procamallanus daleneae* (Boomker, 1933) divided into muscular (*mo*) and glandular (*go*) parts; **G-J.** Intestinal caecum (*ic*) of *Dujardinascaris mormyropsis* Moravec et Jirků, 2014 (G); third-stage larva of *Galeiceps* sp. with ventricular appendix (*va*) situated below ventral cephalic tooth (H); third-stage larva of *Contracaecum* sp. (I); *Hysterothylacium anguillae* Moravec, Taraschewski, Appelhoff et Weyl 2012 (J); **K.** Ventriculus with ventricular appendix of *Raphidascaroides bishaii* Khalil, 1961; **L, M.** Capillariidae gen. sp., muscular oesophagus (L); stichocyte in the middle of the stichosome (M); **N-P.** Deirids of *Rhabdochona* spp.; **Q.** Two equal spicules, gubernaculum, eleven pairs of caudal papillae (posterior lateral pair represents phasmids – *ph*) and one additional unpaired median papilla on the anterior cloacal lip of *Falcaustra similis* Moravec et Van As, 2004; **R-T.** Gubernaculum of *Dujardinascaris mormyropsis* Moravec et Jirků, 2014 (R); *Multicaecum heterotis* Petter, Vassiliadès et Marchand, 1979 (S); *Falcaustra similis* Moravec et Van As, 2004 (T); **U.** Phasmid of *Falcaustra piscicola* (von Linstow, 1907). (Modified from Moravec *et al*. 1999, 2012; Moravec & Van As 2004, 2015; Mašová *et al.* 2010; Moravec & Jirků 2014a,b, 2015, 2017; Moravec & Scholz 2017.) ex - excretory pore

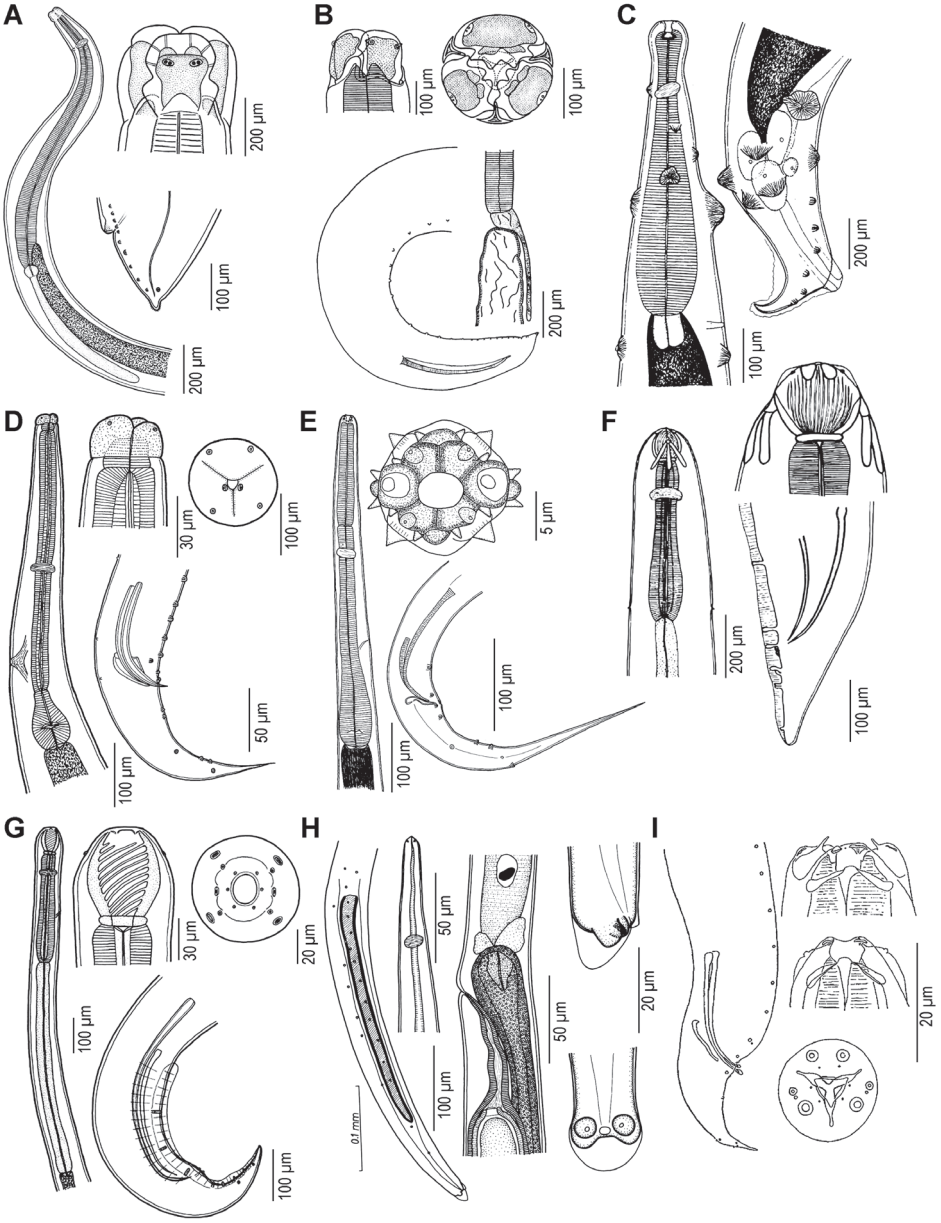

Fig. 4.8.3. Nematoda. **A.** *Hysterothylacium anguillae* Moravec, Taraschewski, Appelhoff et Weyl, 2012 from *Anguilla marmorata*; **B.** *Raphidascaroides bishaii* Khalil, 1961 from *Gymnarchus niloticus*; **C.** *Anguillicoloides papernai* (Moravec et Taraschewski, 1988) from *Anguilla mossambica*; **D.** *Labeonema africanum* Moravec et Van As, 2004 from *Synodontis nigromaculatus*; **E.** *Orientatractis brycini* González-Solís et Mariaux, 2017 from *Brycinus macrolepidotus*; **F.** *Camallanus longicaudatus* Moravec, 1973 from *Labeo horie*; **G.** *Procamallanus* (*Spirocamallanus*) *spiralis* Baylis, 1923 from *Clarias theodorae*; **H.** *Capillostrongyloides fritschi* (Travassos, 1914) from *Bagrus docmak*; **I.** *Aplectana chamaeleonis* (Baylis, 1929) from *Oreochromis niloticus.* (Modified from Khalil 1961; Chen 1966; Moravec 1973, 2001; Moravec & Taraschewski 1988; Moravec & Van As 2004, 2015; Moravec *et al*. 2012; González-Solís & Mariaux 2017.)

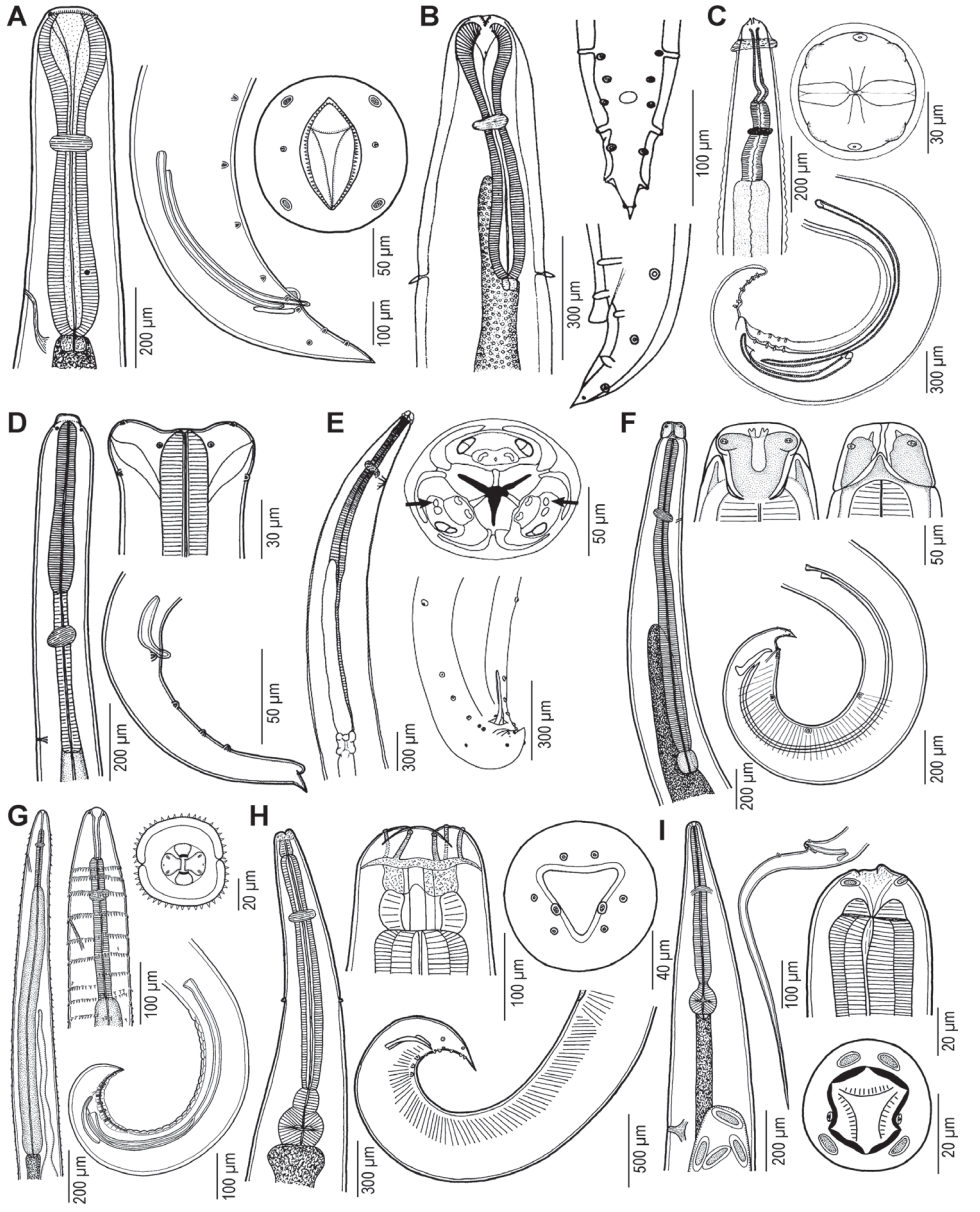

Fig. 4.8.4. Nematoda. **A.** *Cucullanus baylisi* Campana-Rouget, 1961 from *Synodontis schall*; **B.** *Dichelyne fossor* Jägerskiöld, 1902 from *Lates niloticus*; **C.** *Pseudoproleptus africanus* Khalil, 1973 from *Mormyrus* sp.; **D.** *Mexiconema africanum* Moravec, Jirků, Charo-Karisa et Mašová, 2009 from *Auchenoglanis occidentalis*; **E.** *Multicaecum heterotis* Petter, Vassiliadès et Marchand, 1979 from *Heterotis niloticus*; **F.** *Dujardinascaris mormyropsis* Moravec et Jirků, 2014 from *Mormyrops anguilloides*; **G.** *Spinitectus polli* Campana-Rouget, 1961 from *Synodontis decorus*; **H.** *Falcaustra similis* Moravec et Van As, 2004 from *Synodontis nigromaculatus*; **I.** *Cithariniella longicaudata* Moravec et Van As, 2015 from *Schilbe intermedius.* (Modified from Moravec 1974; Moravec & Van As 2004; Moravec *et al.* 2009a; Mašová *et al.* 2010; Moravec & Jirků 2014a, 2017; Moravec & Scholz 2017.)

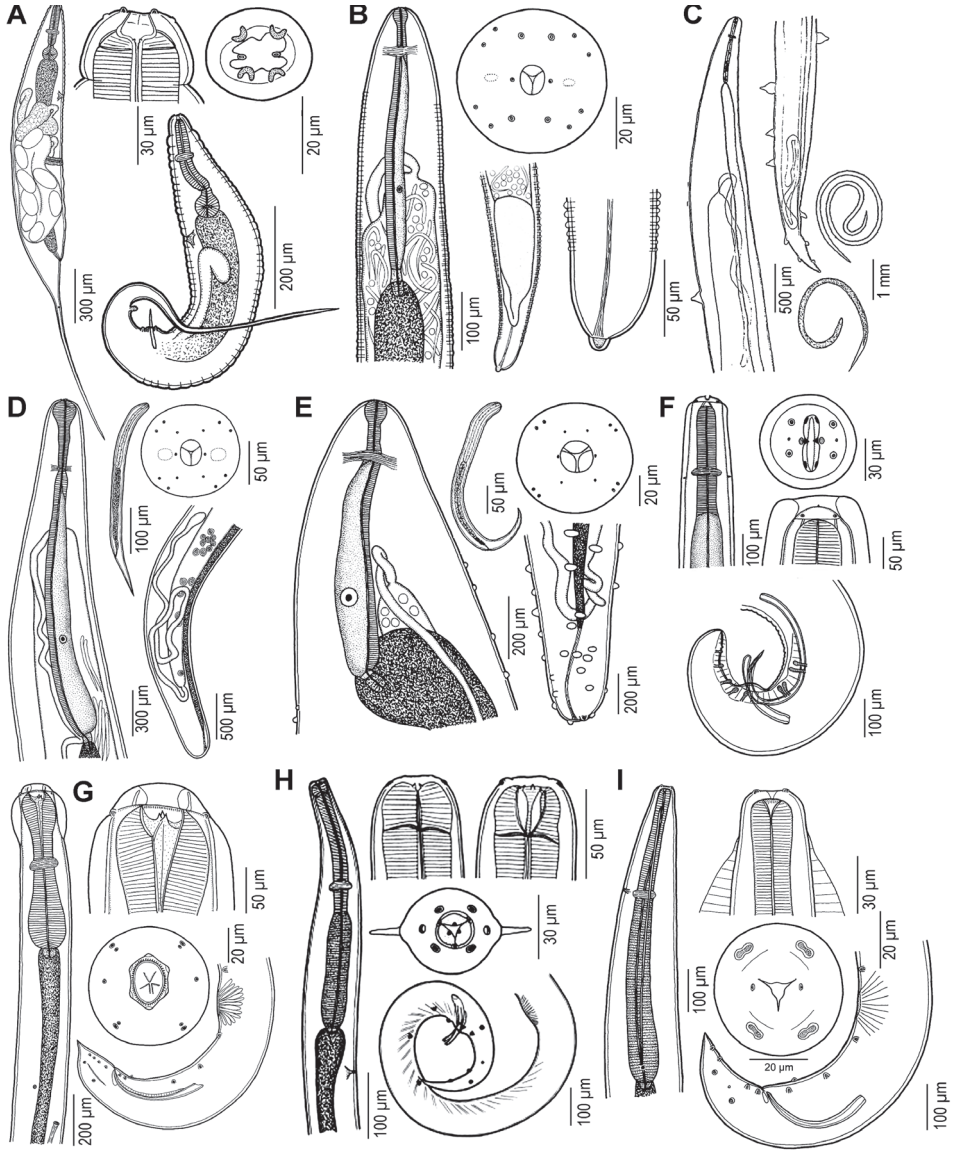

Fig. 4.8.5. Nematoda. **A.** *Synodontisia okavangoensis* Moravec et Van As, 2004 from *Synodontis nigromaculatus*; **B.** *Afrophilometra hydrocyoni* (Fahmy, Mansour et El-Naffar, 1976) from *Hydrocynus forskahlii*; **C.** *Nilonema gymnarchi* Khalil, 1960 from *Gymnarchus niloticus*; **D.** *Philometra lati* Moravec, Charo-Karisa et Jirků, 2009 from *Lates niloticus*; **E.** *Philometroides khalili* Moravec, Halajian, Tavakol, Nyagura et Luus-Powell, 2015 from *Labeo rosae*; **F.** *Heliconema africanum* (von Linstow, 1899) from *Anguilla mossambica*; **G.** *Gendria sanghaensis* Moravec et Jirků, 2017 from *Schilbe marmoratus*; **H.** *Paraquimperia africana* Moravec, Boomker et Taraschewski, 2000 from *Anguilla mossambica*; **I.** *Quimperia lanceolata* Gendre, 1926 from *Ctenopoma kingsleyae.* (Modified from Khalil 1960; Moravec *et al.* 2000; Moravec & Van As 2004; Moravec *et al.* 2009b, 2013, 2015; Moravec & Jirků 2017.)

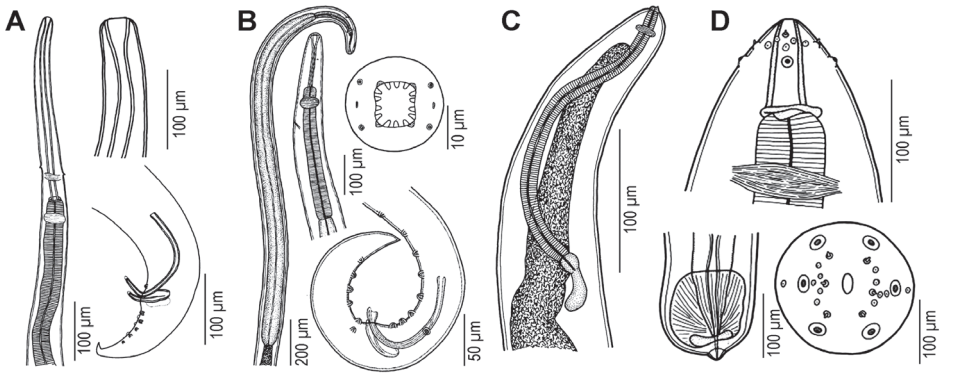

Fig. 4.8.6. Nematoda. **A.** *Prosungulonema africanum* (Moravec et Puylaert, 1970) from *Thoracochromis schwetzi*; **B.** *Rhabdochona* (*Rhabdochona*) *centroafricana* Moravec et Jirků, 2014 from *Enteromius miolepis*; **C.** *Contracaecum* sp. from *Hydrocynus vittatus*; **D.** *Eustrongylides* sp. from *Hydrocynus vittatus*. (Modified from Moravec & Puylaert 1970; Moravec & Jirků 2014b; Moravec & Van As 2015.)

List of the Enoplia from African freshwater fishes

Capillariidae Railliet, 1915

Capillaria Zeder, 1800

Capillaria sp. from *Clarias gariepinus*, *Clarotes laticeps*, *Malapterurus electricus*, *Synodontis zambezensis*

Capillostrongyloides Freitas et Lent, 1935

Capillostrongyloides fritschi (Travassos, 1914) [syns *Capillaria fritschi* Travassos, 1914; *Capillaria yamagutii* Tadros et Mahmoud, 1968] from *Bagrus bajad*, *B. docmak*, *Malapterurus electricus* [Fig. 4.8.3H]

Capillariidae gen. sp. from *Auchenoglanis* sp., *Gnathonemus petersii*

Note: representatives of *Capillaria* are not known from fishes. This very probably concerns a misidentification. For generic key to fish capillariids – see Moravec (2001).

Cystoopsidae Skryabin, 1923

Cystoopsis Wagner, 1867

Cystoopsis sp. from *Tropheus moorii* (see Moravec and Salgado-Maldonado 2003 who reported unpublished data of G.L. Hoffman)

*****Dioctophymatidae Railliet, 1915

Eustrongylides Jägerskiöld, 1909

Eustrongylides africanus (Jägerskiöld, 1909) from *Clarias anguillaris*, *C. gariepinus*

Eustrongylides sp. from *Bagrus docmak*, *Clarias camerunensis*, *C. gariepinus*, *C. theodorae*, *Clarias* sp., *Clarotes laticeps*, *Dinotopterus cunningtoni*, *Enteromius humilis*, *Haplochromis angustifrons*, *H. argenteus*, *H. eduardii*, *H. graueri*, *H. guiarti*, *H. labiatus*, *H. nubilus*, *H. pappenheimi*, *Haplochromis* sp., *Hydrocynus vittatus*, *Labeobarbus altianalis*, *L. tsanensis*, *Lepidiolamprologus cunningtoni*, *Mormyrus caschive*, *Oreochromis niloticus*, *Protopterus aethiopicus* [Fig. 4.8.6D]

Note: *Eustrongylides africanus* was designated as *species inquirenda* by Measures (1988). *Eustrongylides* sp. from *Clarias* sp. was originally misidentified as *Philometra congolensis* Schuurmans-Stekhoven, 1937 – see Moravec (2006).

SECERNENTEA von Linstow, 1905

Key to the orders of the Secernentea from African fishes

1 (2) Male with a reduced number of caudal papillae. Generally only one spicule. Body short and stout. Oesophagus with a bulb. Pre-anal sucker absent. Female with large embryonated eggs often flattened on one side. Monoxenous with two moults in egg. Parasites of colon or rectum……**Oxyurida** (**Pharyngodonidae**)

2 (1) Nematodes lacking most of the above characters…….3

3 (4) Anterior extremity triradiate (except in some members of the Seuratoidea). Head end with three lips (one dorsal and two ventrolateral). Lateral, external labial papillae present. With 2-3 pairs of caudal papillae in dorsolateral position. Oesophagus variable in form but not divided into short muscular and long glandular parts. Pre-anal sucker present or absent in males. Usually found in the intestine of the final host. Larval stages preinfective for final host do not develop entirely in an intermediate host…….**Ascaridida**

4 (3) Anterior extremity bilaterally symmetrical. Lateral, external labial papillae absent. Head end with two lateral lips or lips reduced or absent. Stoma usually well developed, sometimes reduced. Oesophagus divided into shorter anterior muscular part and longer posterior glandular part; division sometimes indistinct. Caudal papillae always ventral or ventrolateral in position. Pre-anal sucker not present. Parasites of anterior part of gut (oesophagus, stomach, rarely duodenum) or tissues and tissue voids. Larval stages preinfective for final host develop entirely in an intermediate host …….. **Spirurida**

Pharyngodonidae Travassos, 1920

Key to the genera of the family Pharyngodonidae from African freshwater fishes

(for keys to the species of *Chitariniella* – see Koubková *et al.* 2010; for keys to pharyngodonid genera from fishes – see Moravec 1994)

1(2) Tail long, slender and sharply pointed. Oral aperture hexagonal. Spicule present……...***Synodontisia***

2 (1) Tail long, slender and sharply pointed. Oral aperture triangular. Buccal cavity present; vulva close to anus; eggs with polar filaments……***Chitariniella***

List of the Pharyngodonidae from African freshwater fishes

Chitariniella Khalil, 1964

Chitariniella citharini Khalil, 1964 from ***Citharinus citharus*** (Sudan), *Distichodus brevipinnis*, *Synodontis schall*, *S. serratus*

Chitariniella khalili Petter, Vassiliadès et Troncy, 1972 [syn. *Chitariniella gonzalesi* van Waerebeke, Chabaud, Bain et Georges, 1988] from *Auchenoglanis biscutatus*, *Paradistichodus dimidiatus*, *Synodontis acanthomias*, *S. batensoda*, *S. frontosus*, *S. greshoffi*, *S. longirostris*, *S. membranaceus*, *S. nigrita*, *S. ocellifer*, ***S. schall*** (Chad), *S. serratus*, *S. sorex*

Chitariniella koubkovae Moravec et Van As, 2015 from ***Paradistichodus dimidiatus*** (Senegal)

Chitariniella longicaudata Moravec et Van As, 2015 from ***Schilbe intermedius*** (Botswana) [Fig. 4.8.4I]

Chitariniella petterae Khalil, 1974 from ***Distichodus schenga*** (Zambia), *Synodontis nigrita*, *S. schall*

Synodontisia Petter, Vassiliadès et Troncy, 1972

Synodontisia annulata Moravec et Van As, 2015 from ***Schilbe intermedius*** (Botswana)

Synodontisia okavangoensis Moravec et Van As, 2004 from ***Synodontis nigromaculatus*** (Botswana), *S. vanderwaali* [Fig. 4.8.5A]

Synodontisia thelastomoides Petter, Vassiliadès et Troncy, 1972 from *Synodontis acanthomias*, *S. decorus*, *S. greshoffi*, *S. nigrita*, *S. nigriventris*, *S. pleurops*, *S. ocellifer*, *S. schall*, ***S. sorex*** (Senegal), *S. zambezensis*, *Xenocharax spilurus*

ASCARIDIDA Skrjabin et Schulz, 1940

Key to the superfamilies of the Ascaridida from African freshwater fishes

1 (2) Lips present or absent, when present variable in number and form. Platymyarian (*i.e.*, having all muscle cells lying next to the hypodermis, their sarcoplasm being uncovered on three sides next to the body cavity). Eggs hatching *in utero* or eggs with delicate shells deposited by females. First moult generally outside eggs. Usually small worms, less than 1 cm long……3

2 (1) With three well-defined lips usually of large size, sometimes separated by interlabia. Coelomyarian (*i.e.*, musculature in which the muscle fibres are next to the hypodermis and perpendicular to it; myofibrils extend varying distances up the side of the muscle cell). Eggs thick-shelled and not embryonated when deposited. First moult inside eggs. Generally large nematodes, more than 1 cm long……5

3 (4) Oesophagus cylindrical, anteriorly differentiated into distinct pharyngeal part, a subspherical or elongate isthmus and a valved bulb possessing uninucleate gland cells. Viviparous nematodes……**Cosmocercoidea**

4 (3) Oesophagus short, simple and cylindrical, or short and divided into two parts of the same or different diameters. Pharyngeal part of oesophagus present or absent. Oviparous nematodes……...**Seuratoidea**

5 (6) Pre-anal sucker present, surrounded by cuticularised ring. Oesophagus with claviform corpus, short isthmus, and valved bulb with binucleated subventral oesophageal glands or oesophagus cylindrical. Caeca absent……**Heterakoidea**

6 (5) Pre-anal sucker absent. Oesophagus simple and cylindrical or terminated by swelling, without valves, containing uninucleate gland cells. Caeca pre-

sent or absent……...**Ascaridoidea**

COSMOCERCOIDEA Railliet, 1916

Key to the families of the Cosmocercoidea from African freshwater fishes

1 (2) Oviparous, or if viviparous, larvae laid in the first stage. Didelphic……3

2 (1) Viviparous with larvae laid in an advanced stage of development and capable of endogenous development. Generally monodelphic……...**Atractidae**

3 (4) Oesophageal isthmus elongate, not spherical. Male without a pre-anal sucker……**Cosmocercidae**

4 (4) Oesophageal isthmus not elongate, generally spherical. Male generally with one or several pre-anal suckers……**Kathlanidae**

Atractidae Railliet, 1917

Key to the genera of the Atractidae from African freshwater fishes

1 (2) Oral opening surrounded by three lips……***Labeonema***

2 (1) Oral opening surrounded by 6 (2 lateral and 4 submedian) poorly developed lips…….. ***Orientatractis***

List of the Atractidae (adults) from African freshwater fishes

Labeonema Puylaert, 1970

Labeonema africanum Moravec et Van As, 2004 from ***Synodontis nigromaculatus*** (Botswana), *S. vanderwaali* [Fig. 4.8.3D]

Labeonema bainae Baker, 1982 from ***Schilbe mandibularis*** (Gabon)

Labeonema bakeri van Waerebeke, Chabaud, Bain et Georges, 1988 from ***Distichodus fasciolatus***, ***D. sexfasciatus*** (type host not explicitly mentioned; Central African Republic)

Labeonema intermedium Puylaert, 1970 from ***Labeo* sp.** (Democratic Republic of the Congo)

Labeonema longispiculatum Moravec et Jirků, 2017 from ***Synodontis acanthomias*** (Democratic Republic of the Congo)

Labeonema synodontisi (Vassiliadès, 1973) [syn. *Raillietnema synodontisi* Vassiliades, 1973] from *Synodontis eupterus*, *S. frontosus*, *S. nigrita*, ***S. ocellifer*** (Senegal), *S. schall*, *S. zambezensis*

Orientatractis Petter, 1966

Orientatractis brycini González-Solís et Mariaux, 2017 from ***Brycinus macrolepidotus*** (Gabon), *Xenocharax spilurus* [Fig. 4.8.3E]

Atractidae gen. sp. from *Schilbe intermedius*

List of the Atractidae (larvae) from African freshwater fishes

Atractidae gen. sp. from *Clarias gariepinus*

Cosmocercidae Railliet, 1916

List of the Cosmocercidae from African freshwater fishes

Aplectana Railliet et Henry, 1916

Aplectana chamaeleonis (Baylis, 1929) [syn. *Oxysomatium chamaeleonis* Baylis, 1929] from *Oreochromis niloticus* [Fig. 4.8.3I]

Note: Chen (1966) found this species common in reptiles also in the frog *Amietia angolensis* (Bocage) and a freshwater fish (*Oreochromis niloticus*).

Kathlaniidae Lane, 1914

List of the Kathlanidae from African freshwater fishes

Falcaustra Lane, 1914

Falcaustra hexapapillata (Khalil, 1962) [syns *Spironoura hexapapillata* Khalil, 1962; *Falcaustra guiersi* Vassiliadès, 1973, *Spironoura guiersi* (Vassiliadès, 1973)] from *Distichodus brevipinnis*, ***D. nefasch*** (Sudan), *D. rostratus*

Falcaustra petrei (Khalil, 1970) from *Distichodus nefasch*, ***D. rostratus*** (Ghana)

Falcaustra piscicola (von Linstow, 1907) [syns *Nematoxys piscicola* von Linstow, 1907; *Spironoura congolense* Taylor, 1925] from *Distichodus lusosso*, ***Distichodus* sp.** (Cameroon)

Falcaustra similis Moravec et Van As, 2004 from *Schilbe intermedius*, *Synodontis acanthomias*, *S. frontosus*, *S. nigrita*, ***S. nigromaculatus*** (Botswana), *S. schall*, *S. serratus*, *S. vanderwaali* [Fig. 4.8.4H]

Falcaustra straeleni Campana-Rouget, 1961 from ***Labeobarbus altianalis***, ***L. intermedius*** (type host not explicitly mentioned; Democratic Republic of the Congo)

Falcaustra sudanensis (Khalil, 1962) from ***Distichodus brevipinnis*** (Sudan), *D. nefasch*

Falcaustra tchadi Vassiliadès et Troncy, 1973 from ***Distichodus brevipinnis*** (Chad), *D. rostratus*

Falcaustra therezieni Petter, 1979 from ***Arius madagascariensis***, ***Ptychochromoides betsileanus*** (type host not explicitly mentioned; Madagascar)

Falcaustra verbekei Campana-Rouget, 1961 from ***Labeobarbus altianalis***, ***L. intermedius*** (type host not explicitly mentioned; Democratic Republic of the Congo)

SEURATOIDEA Hall, 1916

Key to the families of the Seuratoidea from African freshwater fishes

1 (2) Buccal cavity absent, or if present, derived from cheilostome; cuticle of walls of cheilostome has same structure and staining reactions as external body cuticle……...**Quimperiidae**

2 (1) Buccal cavity formed from modifications of the anterior end of oesophagus (oesophastome); walls of oesophastome surrounded by oesophageal tissue……..**Cucullanidae**

Cucullanidae Cobbold, 1864

Key to the genera of the Cucullanidae from African freshwater fishes

1 (2) Intestinal caecum absent……***Cucullanus***

2 (1) Intestinal caecum present……***Dichelyne***

List of the Cucullanidae from African freshwater fishes

Cucullanus Müller, 1777

Cucullanus barbi Baylis, 1923 from *Enteromius perince*, ***Labeobarbus bynni*** (Egypt)

Cucullanus baylisi Campana-Rouget, 1961 from ***Synodontis schall*** (Democratic Republic of the Congo), *Synodontis* sp. [Fig. 4.8.4A]

Cucullanus clarotis Baylis, 1923 from *Clarotes laticeps*, ***Synodontis schall*** (Sudan), *Synodontis* sp.

Cucullanus congolensis Moravec et Jirků, 2017 from ***Auchenoglanis occidentalis*** (Democratic Republic of the Congo)

Cucullanus djilorensis Ndew, Diouf, Bâ et Morand, 2014 from *Labeobarbus bynni*, ***Mugil curema*** (Senegal), *Tilapia sparrmanii*

Cucullanus egyptae Abdel-Ghaffar, Bashtar, Abdel-Gaber, Morsy, Mehlhorn, Al Quraishy et Mohammed, 2014 from ***Anguilla anguilla*** (Egypt)

Cucullanus mormyri Moravec et Scholz, 2017 from *Marcusenius cyprinoides*, ***Mormyrus caschive*** (Sudan), *Mormyrus* sp.

Cucullanus sp. from *Tilapia sparrmanii*

Dichelyne Jägerskiöld, 1902

Dichelyne fossor Jägerskiöld, 1902 from *Bagrus bajad*, ***Lates niloticus*** (Sudan) [Fig. 4.8.4B]

Dichelyne sp. from *Lates niloticus*

Quimperiidae Gendre, 1928

Key to the genera of the Quimperiidae from African freshwater fishes

1 (2) Pre-anal sucker absent in juvenile males, present in fully developed males. Distinct ventral muscle bands in pre-anal region present in males. Parasites of eels……***Paraquimperia***

2 (1) Pre-anal sucker present. Ventral oblique muscle bands in preanal region absent or inconspicuous in males. Parasites of African fishes…….3

3 (4) Cephalic vesicle absent. Cervical alae well developed. Buccal capsule absent. Oral opening triangular……***Quimperia***

4 (3) Cephalic vesicle present. Cervical alae usually absent. Buccal cavity with three teeth, the two-ventrolateral ones sometimes reduced. Oral opening oval to circular……***Gendria***

List of the Quimperiidae from African freshwater fishes

Gendria Baylis, 1930 [syn. *Chabaudus* Inglis et Ogden, 1965]

Gendria chabaudi (Inglis et Ogden, 1965) from ***Heterobranchus bidorsalis*** (Sierra Leone)

Gendria longispiculata Moravec et Jirků, 2017 from ***Schilbe grenfelli*** (Democratic Republic of the Congo)

Gendria polypteri Vassiliadès et Chevalier, 1973 from *Erpetoichthys calabaricus*, ***Polypterus senegalus*** (Senegal)

Gendria thysi (Puylaert, 1970) from ***Parauchenoglanis punctatus*** (Democratic Republic of the Congo)

Gendria tilapiae Baylis, 1930 from ***Sarotherodon galilaeus*** (Mali)

Gendria sanghaensis Moravec et Jirků, 2017 from ***Schilbe marmoratus*** (Central African Rep.) [Fig. 4.8.5G]

Gendria sp. from *Pantodon buchholzi*

Paraquimperia Baylis, 1934

Paraquimperia africana Moravec, Boomker et Taraschewski, 2000 from ***Anguilla mossambica*** (South Africa) [Fig. 4.8.5H]

Quimperia Gendre, 1926

Quimperia lanceolata Gendre, 1926 from ***Ctenopoma kingsleyae*** (Guinea) [Fig. 4.8.5I]

ASCARIDOIDEA Baird, 1853

Key to the families of the Ascaridoidea from African freshwater fishes

1 (2) Oesophagus cylindrical, slightly enlarged posteriorly. Ventriculus absent. Long intestinal caecum present…….**Heterocheilidae**

2 (1) Oesophagus with oblong to cylindrical posterior ventriculus, anterior intestinal caecum and posterior ventricular appendix present or both absent……3

3 (2) If only intestinal caecum present, then excretory pore situated between subventral lips or at base of ventral interlabium……**Anisakidae**

4 (3) Anterior intestinal caecum present, excretory pore approximately at level of nerve ring…….. ***Ascarididae**

**Anisakidae Railliet et Henry, 1912

Key to genera of the Anisakidae from African freshwater fishes

1 (2) Anterior intestinal caecum absent and ventricular appendix present ……...***Raphidascaroides***

2 (1) Both anterior intestinal caecum and ventricular appendix present……3

3 (2) Anterior end with distinct cuticular collar. Body covered by many small cuticular bosses……***Galeiceps***

4 (3) Anterior end without distinct cuticular collar. Body without cuticular projecti ons……5

5 (4) Excretory pore situated at level of nerve ring or somewhat posterior, always distant from head end. Tail of fourth-stage larvae with minute cuticular projections at tip. Adults parasitic in fishes ……***Hysterothylacium***

6 (5) Excretory pore located at base of ventral interlabium. Tail of larvae conical or rounded, without cuticular projections at tip. Adults parasitic in fish-eating birds and marine mammals……...***Contracaecum***

List of the Anisakidae (adults) from African freshwater fishes

Hysterothylacium Ward et Magath, 1917

Hysterothylacium anguillae Moravec, Taraschewski, Appelhoff et Weyl, 2012 from ***Anguilla marmorata*** (South Africa) [Fig. 4.8.3A]

Raphidascaroides Yamaguti, 1941

Raphidascaroides bishaii Khalil, 1961 from *Chrysichthys nigrodigitatus*, ***Gymnarchus niloticus*** (Sudan) [Fig. 4.8.3B]

List of Anisakidae (larvae) from African freshwater fishes

Contracaecum Railliet et Henry, 1912

Contracaecum microcephalum (Rudolphi, 1809) from *Synodontis batensoda*

Contracaecum sp. from *Anguilla mossambica*, *Bagrus bajad*, *B. docmak*, *Boulengerella cuvieri*, *Brycinus imberi*, *B. macrolepidotus*, *B. nurse*, *Campylomormyrus tamandua*, *Chetia flaviventris*, *Clarias gariepinus*, *C. liocephalus*, *C. ngamensis*, *C. platycephalus*, *C. stappersii*, *C. theodorae*, *Clarias* sp., *Clarotes laticeps*, *Coptodon rendalli*, *Cyprinus carpio*, *Decapterus russelli*, *Enteromius humilis*, *E. mattozi*, *E. paludinosus*, *E. trimaculatus*, *E. unitaeniatus*, *Gnathonemus petersii*, *Haplochromis astatodon*, *H. eduardii*, *H. guiarti*, *H. ishmaeli*, *H. mahagiensis*, *H. pappenheimi*, *H. paucidens*, *H. placodus*, *H. serridens*, *Haplochromis* sp., *Hydrocynus brevis*, *H. forskahlii*, *H. vittatus*, *Hydrocynus* sp., *Hyperopisus bebe*, *Labeobarbus altianalis*, *L. marequensis*, *Lates niloticus*, *Lepidiolamprologus cunningtoni*, *Malapterurus electricus*, *Marcusenius stanleyanus*, *Micropterus salmoides*, *Mormyrops anguilloides*, *Oreochromis andersonii*, *O. leucostictus*, *O. macrochir*, *O. mossambicus*, *O. niloticus*, *Pomadasys olivaceus*, *P. commersonnii*, *Pseudocrenilabrus philander*, *Sandelia capensis*, *Sargochromis carlottae*, *S. codringtonii*, *Schilbe intermedius*, *S. mystus*, *Serranochromis angusticeps*, *S. macrocephalus*, *S. robustus*, *Synodontis nigromaculatus*, *Thoracochromis wingatii*, *Tilapia sparrmanii* [Fig. 4.8.6C]

Galeiceps Railliet, 1916

Galeiceps sp. from *Clarias gariepinus*, *Hydrocynus vittatus*, *Thoracochromis wingatii*

Hysterothylacium Ward et Magath, 1917

Hysterothylacium sp. from *Chrysichthys nigrodigitatus*, *Thoracochromis wingatii*

*****Ascarididae Baird, 1853

Key to the genera of the Ascarididae from African freshwater fishes

1 (2) Oesophagus with spherical or elongate ventriculus…….****Porrocaecum***

2 (1) Oesophagus without ventriculus……. ****Amplicaecum***

List of the Ascarididae from African freshwater fishes

Amplicaecum Baylis, 1920

Amplicaecum sp. (type I) from *Alestes baremoze*, *A. dentex*, *Brycinus nurse*, *Bagrus bajad*, *B. docmak*, *Clarias anguillaris*, *C. gariepinus*, *Coptodon zillii*, *Hydrocynus brevis*, *H. forskahlii, H. vittatus*, *Labeo niloticus*, *Malapterurus electricus*, *Oreochromis niloticus*, *Polypterus endlicheri*, *P. senegalus*, *Sarotherodon galilaeus*, *Schilbe mystus*, *S. uranoscopus*, *Synodontis schall*

Amplicaecum sp. (type II) from *Coptodon zillii*, *Oreochromis niloticus*, *Sarotherodon galilaeus*

Porrocaecum Railliet et Henry, 1912

Porrocaecum sp. from *Clarias buthupogon*, *C. dumerilii*, *Micropterus salmoides*, *Periophthalmus barbarus*, *Tilapia* sp.

******Heterocheilidae Railliet et Henry, 1915

Key to the genera of the Heterocheilidae from African freshwater fishes

1 (2) Oesophagus with small posterior ventriculus with two anteriorly and three posteriorly directed appendices of different sizes……***Multicaecum***

2 (1) Ventriculus without appendices……..*****Dujardinascaris***

List of the Heterocheilidae (adults) from African freshwater fishes

Dujardinascaris Baylis, 1947

Dujardinascaris malapteruri (Baylis, 1923) from ***Malapterurus electricus*** (Sudan)

Dujardinascaris mormyropsis Moravec et Jirků, 2014 from ***Mormyrops anguilloides*** (Central African Rep.) [Fig. 4.8.4F]

Dujardinascaris sp. from *Lates microlepis*

Multicaecum Baylis, 1923

Multicaecum heterotis Petter, Vassiliadès et Marchand, 1979 from ***Heterotis niloticus*** (Senegal) [Fig. 4.8.4E]

SPIRURIDA Chitwood, 1933

Key to the suborders and superfamilies of the Spirurida from African freshwater fishes

1 (2) Pseudolabia always absent. Buccal capsule well developed, reduced or absent. Oesophagus divided into muscular and glandular portions or muscular throughout. Oesophageal glands usually uninucleate. Larvae without cephalic hooks, tail generally long and pointed, usually with conspicuous phasmids containing broad cavities and prominent pores. Parasites of gut of cold-blooded vertebrates or other organs of all classes of vertebrates. Intermediate hosts mostly copepods, rarely branchiurids or ostracods (suborder **Camallanina**)……3

2 (1) Head end with pseudolabia, sometimes rudimentary. Buccal capsule (stoma) usually elongate, moderately sclerotised tube. Oesophagus divided into well differentiated muscular and glandular parts. Oesophageal glands

usually multinucleate. Larvae usually with cephalic hooks or spines and inconspicuous pore-like phasmids, containing broad cavities and prominent pores. Parasites of gut or tissues of all classes of vertebrates. Intermediate host invertebrates other than copepods (except Gnathostomatoidea) (suborder **Spirurina**)……7

3 (4) Buccal capsule well developed, orange-brown in colour. Buccal cavity well developed; internal labial papillae tiny; parasitic in the digestive tract……**Camallanoidea**

4 (3) Buccal capsule reduced or absent (except for Anguillicoloidea). If buccal cavity present then simple, rounded, not separated into two valves, tridents absent; internal labial papillae prominent. Not usually parasitic in the digestive tract……5

5 (6) Oviparous. Buccal capsule well developed. Oesophagus short, undivided. Sclerotised copulatory organs absent. Vulva functional. Parasites of swim bladder of eels……**Anguillicoloidea**

6 (5) Viviparous. Buccal capsule usually reduced or absent. Oesophagus divided into muscular and glandular portions or muscular throughout. Spicules, copulatory plate or sclerotised genital cone present. Anus and vulva in gravid worms sometimes atrophied. Parasites of tissues, body cavity or closed cavities and organs of vertebrates……**Dracunculoidea**

7 (8) Buccal capsule well cuticularised, elongate or short. Pseudolabia present or absent……9

8 (7) Buccal capsule weakly cuticularised; two massive lateral trilobed pseudolabia present. Cuticle on the inner face of each pseudolabium thick, generally folded into rounded tooth-like formations that fit into corresponding folds on adjacent pseudolabium. Anterior extremity sometimes swollen into a bulb. Intermediate hosts are copepods or molluscs. Adults in fishes, reptiles and mammals, only larvae in fishes. Note: from Africa unpublished data……..***Gnathostomatoidea**

9 (10) Pseudolabia absent. Buccal capsule variable, sometimes long and cylindrical. Mouth opening hexagonal or oval. Caudal papillae not arranged as in typical spirurid. Adults in the intestine of fishes……**Thelazioidea**

10 (9) Pseudolabia present…… 11

11 (12) Two small pseudolabia present. Cephalic and outer labial papillae not fused. Adults in various organs of fishes……..**Habronematoidea**

12 (11) Two large pseudolabia present. Cephalic and outer labial papillae fused……13

13 (14) Pseudolabia involving entire cephalic surface. Cuticular cephalic ornamentation present, in form of cordons, collarettes or ptilina derived from ante-

rior cuticular structures. Larvae parasitic in arthropods and fishes, adults in birds……..... **Acuarioidea**

14 (13) Pseudolabia with a variable number of teeth on their free borders. Body cuticle immediately behind pseudolabia often expanded to form collarette. Male with ornamented cuticle in posteroventral region (area rugosa). Intermediate hosts insects……..**Physalopteroidea**

**ANGUILLICOLOIDEA Yamaguti, 1935

**Anguillicolidae Yamaguti, 1935

List of the Anguillicolidae from African freshwater fishes

***Anguillicoloides* Moravec et Taraschewski, 1988

Anguillicoloides crassus (Kuwahara, Niimi et Hagaki, 1974) from *Anguilla* spp.

Anguillicoloides papernai (Moravec et Taraschewski, 1988) from ***Anguilla mossambica*** (South Africa) [Fig. 4.8.3C]

CAMALLANOIDEA Railliet et Henry, 1915

Camallanidae Railliet et Henry, 1915

Key to the subfamilies, genera and subgenera of the Camallanidae from African freshwater fishes

1 (2) Buccal capsule round, continuous and not separated into two valves (*i.e.*, single cup-shaped object) (subfamily **Procamallaninae**)……3

2 (1) Buccal capsule divided into two valves united by a posterior hinge (subfamily **Camallaninae**)……5

3 (1) Buccal capsule interior smooth and without markings in both males and females……...***Procamallanus* (*Procamallanus*)**

4 (3) Buccal capsule interior with ridges arranged in a spiral……***Procamallanus* (*Spirocamallanus*)**

5 (2) Buccal capsule composed of two chambers; buccal cavity behind valves large……..***Paracamallanus***

6 (5) Buccal capsule composed of two chambers; buccal cavity behind valves reduced to basal ring……..***Camallanus***

List of the Camallanidae (adults) from African freshwater fishes

Camallanus Railliet et Henry, 1915

Camallanus (*Zeylanema*) *ctenopomae* Vassiliadès et Petter, 1972 [syn. *Camallanus ctenopomae* Vassiliadès et Petter, 1972] from ***Ctenopoma kingsleyae*** (Senegal), *Ctenopoma* sp.

Camallanus kirandensis Baylis, 1928 from ***Barbus* sp.** (Tanzania), *Labeo altivelis*, *L. niloticus*

Camallanus longicaudatus Moravec, 1973 from ***Labeo horie*** (Egypt), *Labeo niloticus* [Fig. 4.8.3F]

Camallanus polypteri Kabré et Petter, 1997 from *Clarias anguillaris*, ***Polypterus bichir*** (Burkina Faso), *Synodontis schall*

Camallanus sp. from *Clarias gariepinus*, *Clarotes laticeps*, *Coptodon zillii*, *Enteromius paludinosus*, *Labeo molybdinus*

Paracamallanus Yorke et Maplestone, 1926

Paracamallanus cyathopharynx Baylis, 1923 [syn. *Paracamallanus senegalensis* Vassiliadès, 1970] from *Clariallabes laticeps*, *Clarias anguillaris*, ***C. gariepinus*** (Egypt), *C. stappersii*, *C. theodorae*, *C. werneri*, *Clarias* sp., *Clarotes laticeps*, *Heterobranchus longifilis*, *Hydrocynus vittatus*, *Schilbe intermedius*, *Synodontis zambezensis*

Paracamallanus sp. from *Clarias gariepinus*

Procamallanus Baylis, 1923

Procamallanus (*Procamallanus*) *armatus* Campana-Rouget et Therezien, 1965 from ***Anguilla* sp.** (Madagascar)

Procamallanus (*Procamallanus*) *laeviconchus* (Wedl, 1861) [syn. *Cucullanus laeviconchus* Wedl, 1861] from *Astatotilapia desfontainii*, *Auchenoglanis biscutatus*, *A. occidentalis*, *Bagrus bajad*, *B. docmak*, *Campylomormyrus tamandua*, *Citharinus citharus*, *C. gibbosus*, *Clarias anguillaris*, *C. gariepinus*, *Distichodus brevipinnis*, *D. nefasch*, *D. rostratus*, *Malapterurus electricus*, *Marcusenius cyprinoides*, *Mormyrops anguilloides*, *Mormyrus caschive*, *M. rume*, *Schilbe intermedius*, *S. mystus*, *Synodontis batensoda*, *S. clarias*, *S. membranaceus*, *S. nigrita*, *S. nigromaculatus*, *S. ocellifer*, ***S. schall*** (Egypt), *S. sorex*, *S. thamalakanensis*, *S. vanderwaali*, *Tetraodon lineatus*

Procamallanus (*Procamallanus*) *pseudolaeviconchus* Moravec et Van As, 2014 from *Clarias alluaudi*, *C. anguillaris*, ***C. gariepinus*** (Egypt), *C. stappersii*, *C. theodorae*

Procamallanus (*Procamallanus*) *siluranae* (Jackson et Tinsley, 1995) from *Erpetoichthys calabaricus* (accidental infection)

Procamallanus (*Spirocamallanus*) *daleneae* (Boomker, 1993) from *Synodontis acanthomias*, *S. afrofischeri*, *S. batensoda*, *S. eupterus*, *S. haugi*, *S. membranaceus*, *S. ocellifer*, *S. schall*, *S. tessmanni*, *S. vanderwaali*, *S. victoriae*, ***S. zambezensis*** (South Africa)

Procamallanus (*Spirocamallanus*) *olseni* (Campana-Rouget et Razarihelissoa, 1965) from ***Rhabdosargus sarba*** (inland brackish-water lake) (South Africa)

Procamallanus (*Spirocamallanus*) *parachannae* Moravec et Jirků, 2015 from ***Parachanna insignis*** (Sudan)

Procamallanus (*Spirocamallanus*) *pseudospiralis* Moravec et Jirků, 2017 from *Synodontis frontosus*, *S. nigrita*, ***S. schall*** (Democratic Republic of the Congo)

Procamallanus (*Spirocamallanus*) *serranochromis* Moravec et Van As, 2015 from *Serranochromis angusticeps*, ***S. macrocephalus*** (Botswana), *S. robustus*

Procamallanus (*Spirocamallanus*) *spiralis* Baylis, 1923 [syn. *Spirocamallanus mazabukae* Yeh, 1957] from *Auchenoglanis occidentalis*, ***Clarias anguillaris*** (Egypt), *C. gariepinus*, *C. stappersii*, *C. theodorae*, *Hepsetus odoe*, *Polypterus endlicheri*, *Synodontis eupterus*, *S. tessmanni* [Fig. 4.8.3G]

Procamallanus (*Spirocamallanus*) sp. from *Synodontis afrofischeri*, *S. membranaceus*, *S. ocellifer*, *S. schall*

Procamallanus sp. from *Clarias gariepinus*, *C. pachynema*, *Clarias* sp., *Mormyrus* sp., *Synodontis schall*

List of the Camallanidae (larvae) from African freshwater fishes

Camalanidae gen. sp. from *Nothobranchius furzeri*, *N. kadleci*, *N. orthonotus*, *N. pienaari*

DRACUNCULOIDEA Cameron, 1934

Key to the families and genera of the Dracunculoidea from African freshwater fishes

1 (2) Spicules absent. Oesophagus distinctly divided into short anterior muscular part and posterior, longer glandular part with two large cell nuclei. Vulva anterior or pre-equatorial, well developed in mature female……family **Daniconematidae** (***Mexiconema***)

2 (1) Spicules present. Oesophagus short, undivided or with markedly large unicellular dorsal oesophageal gland with large cell nucleus; anterior part of oesophagus often bulbously inflated. Vulva posterior or equatorial, more or less completely atrophied in gravid female (family **Philometridae**)……3

3 (4) Cuticle of adult females smooth…….***Philometra***

4 (3) Cuticle of adult females with ornamentation……5

5 (6) Cuticle of adult females covered with numerous narrow transverse bands of raised cuticle, interrupted by narrow smooth lateral fields……...***Afrophilometra***

6 (5) Cuticle of adult females with bosses……7

7 (6) Bosses rounded……***Philometroides***

8 (7) Bosses conical……***Nilonema***

Daniconematidae Moravec et Køie, 1987

List of the Daniconematidae from African freshwater fishes

Mexiconema Moravec, Vidal et Salgado-Maldonado, 1992

Mexiconema africanum Moravec, Jirků, Charo-Karisa et Mašová, 2009 from ***Auchenoglanis occidentalis*** (Kenya) [Fig. 4.8.4D]

PHILOMETRIDAE Baylis et Daubney, 1926

List of the Philometridae from African freshwater fishes

Afrophilometra Moravec, Charo-Karisa et Jirků, 2009

Afrophilometra hydrocyoni (Fahmy, Mansour et El-Naffar, 1976) [syn. *Philometroides hydrocyonae* Fahmy, Mandour et El-Nafar, 1976] from ***Hydrocynus forskahlii*** (Egypt), *H. vittatus* [Fig. 4.8.5B]

Nilonema Khalil, 1960

Nilonema gymnarchi Khalil, 1960 from ***Gymnarchus niloticus*** (Sudan) [Fig. 4.8.5C]

Philometra Costa, 1845

Philometra bagri (Khalil, 1965) [syn. *Thwaitia bagri* Khalil, 1965] from ***Bagrus bajad*** (Sudan)

Philometra lati Moravec, Charo-Karisa et Jirků, 2009 from ***Lates niloticus*** (Kenya) [Fig. 4.8.5D]

Philometra spiriformis Moravec, Charo-Karisa et Jirků, 2009 from ***Lates niloticus*** (Kenya)

Philometroides Yamaguti, 1935

Philometroides africanus Moravec et Van As, 2001 from ***Hepsetus odoe*** (Botswana)

Philometroides khalili Moravec, Halajian, Tavakol, Nyagura et Luus-Powell, 2015 from *Labeo altivelis*, ***L. rosae*** (Zimbabwe) [Fig. 4.8.5E]

Philometridae gen. sp. from *Schilbe intermedius*, *Serranochromis meridianus*, *Synodontis zambezensis*

GNATHOSTOMATOIDEA Railliet, 1895

*Gnathostomatidae Railliet, 1895

List of the Gnathostomatidae (larvae) from African freshwater fishes

Gnathostomatidae gen. sp. from *Nothobranchius furzeri*, *N. kadleci*, *N. orthonotus*, *N. pienaari*

PHYSALOPTEROIDEA Railliet, 1893

Physalopteridae Railliet, 1893