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## THE PARASITES OF THE FRESH WATER FISHES OF LOUISIANA

### II. CHECK LIST OF PARASITES

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### INTRODUCTION

In 1967 Arnold, et al, recorded the incidence and distribution of the parasitism in the freshwater fishes of Louisiana. The results of that study provided the basis for the current check list of the parasites of the fishes of Louisiana.

The identification of the parasites and the terminology used in this paper have been based for the most part on the original research publications in this field, the 1932 and 1953 U. S. D. A. Index-Catalogue of Medical and Veterinary Zoology, the 1963 Trematode series of this same publication, and the works of Yamaguti.

### CHECK LIST OF PARASITES

#### Lepisosteidae — Gars

*Lepisosteus oculatus* (Winchill)— Spotted gar

#### Trematoda

None

#### Cestoda

*Proteocephalus* sp.

#### Nematoda

*Contraecaecum spiculigerum* (Rudolphi 1809)

#### Acanthocephala

None

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*Lepisosteus spatula* Lacepede — alligator gar

Trematoda  
None  
Cestoda  
*Proteocephalus* sp.  
Nematoda  
None  
Acanthocephala  
None

Amiidae — Bowfins

*Amia calva* Linnaeus — bowfin

Trematoda  
None  
Cestoda  
*Proteocephalus* sp.  
Nematoda  
None  
Acanthocephala  
None

Clupeidae — Herrings

*Alosa chrysochloris* (Rafinesque) — skipjack herring

Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None

*Dorosoma cepedianum* (LeSueur) — gizzard shad

Trematoda  
*Posthodiplostomum minimum* (MacCallum 1921)  
*Clinostomum* sp.  
Cryptogonimidae Ciurea 1933  
Cestoda  
*Proteocephalus* sp.  
Nematoda  
*Spiroxyys* sp.  
Acanthocephala  
*Gracilisentis gracilisentis* (Van Cleave 1913)  
*Tanaorhamphus longirostris* (Van Cleave 1913)

*Dorosoma petenense* (Gunther) — threadfin shad

Trematoda  
None  
Cestoda  
None  
Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Agamonema* sp.  
Acanthocephala  
*Pallisentis* sp.  
*Tanaorhamphus longirostris* (Van Cleave 1913)

Esocidae — Pikes

*Esox americanus vermicularus* LeSueur — grass pickerel

Trematoda  
*Posthodiplostomum minimum* (MacCallum 1921)  
Cestoda  
None  
Nematoda  
*Agamonema* sp.  
Acanthocephala  
None

*Esox niger* LeSueur — chain pickerel

Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None

Cyprinidae — Minnows and Carps

*Carassius auratus* (Linnaeus)— goldfish

Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None

*Cyprinus carpio* Linnaeus — carp

Trematoda  
*Posthodiplostomum minimum* (MacCallum 1921)  
*Allocreadium isoporum* (Looss 1894)  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)  
*Neoechinorhynchus cylindratu*s (Van Cleave 1913)

*Notemigonus crysoleucas* (Mitchill)— golden shiner

Trematoda  
None  
Cestoda  
None  
Nematoda  
*Agamonema* sp.  
Acanthocephala  
None

*Notropis venustus* (Girard)— blacktail shiner

Trematoda  
*Pisciamphistoma stunkardi* (Holl 1929)  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
*Neoechinorhynchus cylindratu*s (Van Cleave 1913)

*Notropis maculatus* (Hay) — taillight shiner

Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None

*Phenacobius mirabilis* (Girard)— suckermouth minnow

Trematoda  
None  
Cestoda  
None

- Nematoda  
None  
Acanthocephala  
None
- Pimephales notatus* (Rafinesque)—bluntnose minnow  
Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None
- Pimphales vigilax* (Baird and Girard)—bullhead minnow  
Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None
- Catostomidae — Suckers
- Erimyzon oblongus* (Mitchill)—creek chubsucker  
Trematoda  
None  
Cestoda  
*Monobothrium* sp.  
*Biacetabulum* sp.  
Nematoda  
None  
Acanthocephala  
None
- Erimyzon sucetta* (Lacepeda)—Lake chubsucker  
Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None
- Ictiobus bubalus* (Rafinesque)—smallmouth buffalo  
Trematoda  
None  
Cestoda  
None  
Nematoda  
*Spiroxys* sp.  
Acanthocephala  
*Pomphorhynchus bulbocolli* Linkins 1919
- Minytrema melanops* (Rafinesque)—spotted sucker  
Trematoda  
None  
Cestoda  
None  
Nematoda  
*Rhabdochona* sp.  
*Habronema* sp.  
Acanthocephala  
None

*Moxostoma poecilurum* (Jordan)—blacktail redborse

Trematoda  
None  
Cestoda  
None  
Nematoda  
*Agamonema* sp.  
Acanthocephala  
None

Ictaluridae — Freshwater Catfishes

*Ictalurus furcatus* (LeSueur)—blue catfish

Trematoda  
*Posthodiplostomum minimum* (MacCallum 1921)  
Cestoda  
None  
Nematoda  
*Contracaecum spiculigerum* (Rudolphi 1809)  
Acanthocephala  
None

*Ictalurus melas* (Rafinesque)—black bullhead

Trematoda  
None  
Cestoda  
*Corallobothrium* sp.  
Nematoda  
*Contracaecum* sp.  
Acanthocephala  
None

*Ictalurus natalis* (LeSueur)—yellow bullhead

**Trematoda**  
*Alloglossidium corti* (Lamont 1921)  
Cestoda  
*Corallobothrium fimbriatum* Essex 1928  
*Proteocephalus* sp.  
Nematoda  
*Contracaecum spiculigerum* (Rudolphi 1809)  
Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)

*Ictalurus punctatus* (Rafinesque)—channel catfish

Trematoda  
*Posthodiplostomum minimum* (MacCallum 1921)  
*Lepidauchen ictaluri* Pearse 1924  
Cestoda  
*Corallobothrium* sp.  
*Proteocephalus* sp.  
Nematoda  
*Dacnitoides robusta* Van Cleave and Mueller 1932  
*Spinitectus gracilis* Ward and Magath 1917  
Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)

*Pylodictis olivaris* (Rafinesque)—flathead catfish

Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None

Anguillidae — Freshwater Eels

*Anguilla rostrata* (LeSueur)—American eel

Trematoda  
None

- Cestoda  
None  
Nematoda  
None  
Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)
- Cyprinodontidae — Killifishes  
*Fundulus chrysotus* (Gunther)—golden topminnow  
Trematoda  
None  
Cestoda  
None  
Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
Acanthocephala  
*Neoechinorhynchus cylindratus* (Van Cleave 1913)  
*Lucania Parva* (Baird and Girard)—rainwater killfish  
Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None
- Poeciliidae — Livebearers  
*Gambusia affinis* (Baird and Girard)—mosquito fish  
Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
*Neoechinorhynchus* sp.  
*Mollienesia latipinna* (LeSueur)—sailfin molly  
Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
*Neoechinorhynchus cylindratus* (Van Cleave 1913)
- Serranidae — Sea Basses  
*Roccus chrysops* (Rafinesque)—white bass  
Trematoda  
None  
Cestoda  
*Proteocephalus ambloplitis* (Leidy 1887)  
Nematoda  
None  
Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)  
*Roccus mississippiensis* (Jordan and Eigenmann)—yellow bass  
Trematoda  
*Allacanthochasmus artus* Mueller and Van Cleave 1932  
*Allacanthochasmus varius* Van Cleave 1922  
*Neochasmus umbellus* Van Cleave and Mueller 1932  
*Azygia angusticauda* (Stafford 1904)  
*Posthodiplostomum minimum* (MacCallum 1921)

- Cestoda  
*Proteocephalus ambloplites* (Leidy 1887)
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Contracaecum spiculigerum* (Rudolphi 1809)  
*Contracaecum* sp.  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)
- Centrarchidae — Sunfishes
- Centrarchus macropterus* (Lacepede)—flier
- Trematoda  
*Phyllidostomum pearsei* Holl 1929  
*Posthodiplostomum minimum* (MacCallum 1921)
- Cestoda  
*Proteocephalus* sp.
- Nematoda  
*Spiroxys* sp.  
*Agamonema* sp.
- Acanthocephala  
 None
- Chaenobryttus gulosus* (Cuvier)—warmouth
- Trematoda  
*Allacanthocephalus varius* Van Cleave 1922  
*Homalometron pearsei* (Hunter and Bangham 1932)  
*Crepidostomum cornutum* (Osborn 1903)  
*Pisciamphistoma stunkardi* (Holl 1929)  
*Posthodiplostomum minimum* (MacCallum 1921)
- Cestoda  
*Proteocephalus* sp.
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Capillaria catenata* Van Cleave and Mueller 1932  
*Contracaecum spiculigerum* (Rudolphi 1809)  
*Contracaecum* sp.  
*Spinitectus carolini* Holl 1928  
*Spinitectus gracilis* Ward and Magath 1917  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)  
*Neoechinorhynchus cylindratus* (Van Cleave 1913)  
*Palliscntis* sp.
- Lepomis cyanellus* (Rafinesque)—green sunfish
- Trematoda  
*Posthodiplostomum minimum* (MacCallum 1921)
- Cestoda  
 None
- Nematoda  
*Capillaria catenata* Van Cleave and Mueller 1932  
*Contracaecum Spiculigerum* (Rudolphi 1809)  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)  
*Neoechinorhynchus cylindratus* (Van Cleave 1913)
- Lepomis macrochirus* Rafinesque — bluegill
- Trematoda  
*Azygia angusticauda* (Stafford 1904)  
*Allocreadium* sp.  
*Crepidostomum cooperi* Hopkins 1931  
*Homalometron pearsei* (Hunter and Bangham 1932)  
*Pisciamphistoma stunkardi* (Holl 1929)  
*Phyllidostomum pearsei* Holl 1929  
*Posthodiplostomum minimum* (MacCallum 1921)

- Crepidostomum cornutum* (Osborn 1903)  
*Allacanthochoasmus artus* Mueller and Van Cleave 1932
- Cestoda  
*Proteocephalus* sp.  
*Haplobothrium globuliforme* Cooper 1914  
*Bothriocephalus* sp.  
*Corallobothrium* sp.
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Contracaecum spiculigerum* (Rudolphi 1809)  
*Contracaecum* sp.  
*Philometra nodulosa* Thomas 1929  
*Spinitectus carolini* Holl 1928  
*Spiroxys* sp.  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)  
*Eocollis arcanus* Van Cleave 1947  
*Acanthocephalus dirus* (Van Cleave 1931)  
*Polymorphus* sp.  
*Neoechinorhynchus cylindricus* (Van Cleave 1913)  
*Neoechinorhynchus cristatus* — Lynch 1936
- Lepomis megalotis* (Rafinesque)—longear sunfish
- Trematoda  
*Homalometron pearsei* (Hunter and Bangham 1932)  
*Pisciamphistoma stunkardi* (Holl 1929)  
*Posthodiplostomum minimum* (MacCallum 1921)
- Cestoda  
*Bothriocephalus* sp.
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)  
*Acanthocephalus* sp.
- Lepomis microlophus* (Gunther)—redeer sunfish
- Trematoda  
*Homalometron pearsei* (Hunter and Bangham 1932)  
*Pisciamphistoma stunkardi* (Holl 1929)  
*Posthodiplostomum minimum* (MacCallum 1921)
- Cestoda  
*Proteocephalus* sp.  
*Haplobothrium* sp.  
*Corallobothrium* sp.  
*Bothriocephalus* sp.
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Contracaecum spiculigerum* (Rudolphi 1809)  
*Contracaecum* sp.  
*Dacnitoides cotylophora* Ward and Magath 1917  
*Spinitectus carolini* Holl 1928
- Acanthocephala  
*Acanthocephalus dirus* (Van Cleave and Mueller 1931)  
*Leptorhynchoides thecatus* (Linton 1891)  
*Pallisentis* sp.  
*Neoechinorhynchus* sp.  
*Acanthocephalus* sp.
- Lepomis punctatus* (Valenciennes)—spotted sunfish
- Trematoda  
*Homalometron* sp.  
*Allacanthochoasmus varius* Van Cleave 1922  
*Pisciamphistoma stunkardi* (Holl 1929)  
*Posthodiplostomum minimum* (MacCallum 1921)
- Cestoda  
*Bothriocephalus* sp.



- Proteocephalus* sp.  
*Haplobothrium globuliforme* Cooper 1914
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Contracaecum spiculigerum* (Rudolphi 1809)  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)  
*Neoechinorhynchus cylindratus* Van Cleave 1913
- Lepomis humilis* (Girard) orangespotted sunfish
- Trematoda  
*Posthodiplostomum minimum* (MacCallum 1921)
- Cestoda  
None
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Spinitectus carolini* Holl 1928  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)  
*Neoechinorhynchus cylindratus* (Van Cleave 1913)
- Lepomis* spp.—sunfish
- Trematoda  
None
- Cestoda  
None
- Nematoda  
None
- Acanthocephala  
None
- Micropterus salmoides* (Lacepede)—largemouth bass
- Trematoda  
*Caecicola parvulus* Marshall and Gilbert 1905  
*Cryptogonimus chyli* Osborn 1903  
*Crepidostomum cooperi* Hopkins 1931  
*Pisciamphistoma stunkardi* (Holl 1929)  
*Phyllostomum superbum* Stafford 1904  
*Posthodiplostomum minimum* (MacCallum 1921)
- Cestoda  
*Proteocephalus ambloplitis* (Leidy 1887)  
*Bothriocephalus* sp.  
*Proteocephalus* sp.
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Contracaecum spiculigerum* (Rudolphi 1809)  
*Spinitectus carolini* Holl 1928  
*Philometra nodulosa* Thomas 1929  
*Spiroxys* sp.  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)  
*Neoechinorhynchus cylindratus* (Van Cleave 1913)  
*Pallisentis* sp.  
*Neoechinorhynchus cristatus* Lynch 1936
- Pomoxis annularis* Rafinesque — white crappie
- Trematoda  
*Caecicola parvulus* Marshall and Gilbert 1905  
*Cryptogonimus chyli* Osborn 1903  
*Pisciamphistoma stunkardi* (Holl 1929)  
*Crepidostomum cornutum* (Osborn 1903)  
*Posthodiplostomum minimum* (MacCallum 1921)  
*Allacanthocephalus artus* Mueller and Van Cleave 1932
- Cestoda  
*Proteocephalus* sp.

- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Contracaecum spiculigerum* (Rudolphi 1809)  
*Philometra cylindracea* (Ward and Magath 1917)  
*Agamonema* sp.  
*Contracaecum* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)
- Pomoxis nigromaculatus* (LeSueur)—black crappie
- Trematoda  
*Azygia angusticaude* (Stafford 1904)  
*Cryptogonimus chyli* Osborn 1903  
*Phyllodistomum* sp.  
*Posthodiplostomum minimum* (MacCallum 1921)  
*Pisciamphistoma* sp.
- Cestoda  
*Haplobothrium* sp.  
*Proteocephalus* sp.
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Contracaecum spiculigerum* (Rudolphi 1809)  
*Contracaecum* sp.  
*Eustrongylides wenrichi* Canavan 1929  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)
- Sciaenidae — Drums
- Aplodinotus grunniens* Rafinesque — freshwater drum
- Trematoda  
*Posthodiplostimum minimum* (MacCallum 1921)
- Cestoda  
 None
- Nematoda  
*Camallanus oxycephalus* Ward and Magath 1917  
*Contracaecum* sp.  
*Agamonema* sp.
- Acanthocephala  
*Leptorhynchoides thecatus* (Linton 1891)
- Cynoscion arenarius* (Ginsburg)—sand seatrout
- Trematoda  
*Posthodiplostimum minimum* (MacCallum 1921)
- Cestoda  
 None
- Nematoda  
*Agamonema* sp.
- Acanthocephala  
 None
- Micropogon undulatus* (Linnaeus)—Atlantic croaker
- Trematoda  
*Vietosoma parvum* Van Cleave and Mueller 1932
- Cestoda  
 None
- Nematoda  
*Contracaecum* sp.  
*Camallanus oxycephalus* Ward and Magath 1917
- Acanthocephala  
*Telosentis tenuicornis* Van Cleave 1947
- Cichlidae — Cichlids
- Tilapia mossambica* Peters — Java Tilapia
- Trematoda  
*Posthodiplostimum minimum* (MacCallum 1921)
- Cestoda  
 None

- Nematoda  
None  
Acanthocephala  
None
- Mugilidae — Mulletts  
*Mugil cephalus* Linnaeus — striped mullet  
Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
None
- Atherinidae — Silversides  
*Labidesthes sicculus* (Cope) — brook silverside  
Trematoda  
*Homalometron pearsei* (Hunter and Bangham 1932)  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
*Pallisentis* sp.
- Bothidae — Lefteye Flounders  
*Paralichthys lethostigma* Jordan and Gilbert — Southern flounder  
Trematoda  
None  
Cestoda  
None  
Nematoda  
None  
Acanthocephala  
*Pomphorhynchus bulbocolli* Linkins 1919

#### ACKNOWLEDGMENTS

This investigation was supported by Public Health Service Research Grant 7686 from the National Institute of General Medical Sciences and in part by the Special Academic Grant Fund of Loyola University.

#### SUMMARY

This parasitic check list presented in this paper is the result of a survey of the parasites of the freshwater fishes of Louisiana undertaken in 1960. This survey was reported by Arnold, et al., in 1967.

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## FOOD HABITS OF YOUNG LARGEMOUTH BASS (*Micropterus salmoides*) IN HATCHERY PONDS <sup>1</sup>

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### ABSTRACT

The stomachs of 525 largemouth bass fry and fingerlings were examined and the food organisms identified to genus when possible. Length and width measurements were made on the food organisms to determine area and then the area was used as an index to volume. The most important food organisms were copepods, cladocerans, and midges. There was a size relationship between fish and food item with the larger fish taking a larger food item. Fish smaller than 15 millimeters in length ate copepods and cladocerans primarily while larger fish ate mostly midges. No cannibalism was detected in the fish examined.

<sup>1</sup> This work was done while the author was employed as a fishery biologist at the Marion, Alabama, National Fish Hatchery.