Journal of the Minnesota Academy of Science

Volume 27 | Number 1 Article 30

1959

Aquatic Fauna of Fish Lake, Cedar Creek Forest, Anoka County, Minnesota

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THE MINNESOTA ACADEMY OF SCIENCE

ZOOLOGY

AQUATIC FAUNA OF FISH LAKE, CEDAR CREEK FOREST
ANOKA COUNTY, MINNESOTA

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PURPOSE:

The purpose of this project was to survey the aquatic fauna, with the exception of arthropods and snails, from Fish Lake, Cedar Creek Forest Preserve, Anoka County, Minnesota. The value of such a survey to future investigators lies in the fact that this relatively undisturbed lake is near Minneapolis (thirty miles) and that it is part of the University of Minnesota biological station at Cedar Creek Forest.

COLLECTION AND EXAMINATION OF MATERIALS:

Five trips were made between June and September of 1958 and several dozen samples were collected. Samples of mud, sand, debris, plant washings, and pieces of fresh vegetation were taken from the north and south shores. On other occasions water was simply scooped up in bottles. On two occasions an effort was made to concentrate samples by straining them through a fine screen.

The materials were examined live under a dissecting and a compound microscope. Samples were examined at the time of collection and at various periods of time after collecting. Pennak (1953) was used extensively for identifications to genus.

ECOLOGICAL CONDITIONS:

The lake is located in the Anoka sand plain and the land surrounding the lake is very sandy.

The areas where collections were made represent two major types of conditions found along the shore. The first area, which was at the north end, had a muddy bottom which was covered by much decaying debris. The prevailing winds are towards that end of the lake, which accounts for much of the debris. There were algae, numerous cattails and lilypads, elodea, and dense floating debris. The water was cloudy and had a foul odor. The other area, which was at the south end, was characterized by a sandy, firm, and generally clear bottom. Plants were more sparse, although there were some bull-

rushes and a few other higher plants. Algae in a gelatinous matrix were common both floating and attached. The water was much clearer and had a yellowish color.

CHECKLIST OF GENERA AND SPECIES:

PROTOZOA:

Class: Mastigophora Sub-class: Phytomastigina

Order: Cryptomonadina

Chilomonas app.—Numerous

Order: Phytomonadina

Volvox globator Linnaeus—Very abundant in spring

Gonium pectorale Müller—Common

Order: Euglenoidina

Euglena spp.

Khawkinea sp.

Phacus longicaudus (Ehrenberg)

Trachelomonas spp.

Several specimens strongly resembling *T. baikovii* Skvortzow (1925) were observed. These specimens were also like *T. speciosa* Deflandre (1926). S. Eddy believes that both species are probably growth forms of *T. caudata* (Ehr.)

Astasia sp.

Peranema sp.

Petalomonas sp.

Menoidium sp.

Scytomonas sp.

Order: Dinoflagellata

Gymnodinium spp.

Class: Sarcodina

Sub-class: Rhizopoda

Order: Amoebina

Dimastigamoeba sp. Fairly common

Amoeba spp. All the specimens observed were less than 100μ.

Order: Testacea

Arcella vulgaris Ehr.

Arcella dentata Ehr. There were many shells of both species but only a few live animals.

Sub-class: Actinopoda

Order: Heliozoa

Actinophrys sol Ehr.

Class: Ciliata

Order: Holotricha

Coleps spp.

Dileptus sp.

Loxodes spp. Several species of Loxodes ranging from 100-700μ were observed.

Paramecium spp.
Dichilium sp. Frequently found among dense concentrations of Chilomonas and bacteria.

Order: Spirotricha

Spirostomum spp.
Stentor spp. Five or six species were observed.
The brown stentors, *S. Niger* Ehr., are very numerous in the spring. Green forms of this species were also observed. These green forms were also noted by Ehrenberg (1938) but are not mentioned by most later commentators on stentors.
Halteria grandinella (Müller) Common. They can easily be recognized as halteria by their typical jumpy motion.
Kerona polyporum Ehr. Commensal on hydras
Gastrostyla sp.

Order: Peritricha

Scyphidia sp.
Epistylis sp. This form, which is typical of polluted water, was found in an old sample in which a snail had died.
Vorticella spp. Very common. A wide variety of types.
Rhabdostyla sp.
Carchesium sp.
Zoothamnium sp. Large colonies up to five mm. across were seen on plant stems.
Vaginicola sp.

PLATYHELMINTHES:

Class: Turbellaria

Order: Tricladida

Curtisia foremani (Girrard)

Order: Rhabdocoelida

Stenostomum sp.
Microstomum sp.
Gyratrix hermaphroditus Ehr.

GASTROTRICHA:

Order: Chaetonotidea

Family: Chaetonotidae

Chaetonotus spp.

Family: Daydytidae

Dasydytes goniathrix Gosse. Many specimens strongly resembling D. goniathrix (Remane 1935) were observed in early summer.

ROTATORIA: Classification according to Remane (1929-33)

Class: Digononta

Order: Bdelloidea

The bdelloids in this lake seem to be less frequent than the ploimate rotifers and as many floscullariaceas and collethecas were observed as bdelloids. Only one genus of bdelloids was found.

Rotatoria sp.

Class: Monogononta

Order: Floscullariacea

Floscularia sp.
Ptygura spp.
Conochiloides sp.
Testundinella sp.

Order: Collotheca

Collotheca spp. All the collothecas observed had five lobes. One specimen had a single long antenna. This un-collothecan feature is called an abnormal dorsal antenna by Edmondson (1940). Frequently the collothecas had eggs attached to their stalks.

Order: Ploima

Cephalodella sp.
Harringia sp.
Eudactylota eudactylota Remane. This species was observed both in a fresh sample and a very old one (six weeks).
Brachionus sp.
Platyias patulus (Müller). Very common in spring. It was often seen with developing eggs.
Platyias quadricornis (Ehr.)
Lepadella sp.
Lecane spp.
Monostyla spp. Common

TARDIGRADA:

Order: Macrobiotoidea

Hypsibius sp. About two dozen specimens were collected from a natural hole through the ice in mid April. Several exoskeletons filled with slightly sculptured eggs were seen.

ANNELIDA:

Class: Oligochaeta

Order: Plesiopora

Aeolosoma quarternarium Ehr.
Aeolosoma heprichi Ehr.

Dero limnosa Leidy. The posterior end is an excellent means of identification.
Stylaria proboscidea (O.F.M.)
Nais sp.

Class: Hirudinea

Order: Rhyncobdella

Placobdella spp.
Theromyzon occidentale (Verill)

Order: Arhyncobdella

Macrobdella decora (Say). Common. One specimen was eight (8) inches long.
Several other species of leeches were observed but not identified.

ARTHROPODA:

Class: Insecta

Order: Hemiptera

Ranatra sp.
Abdeus sp. Common. Several males with eggs on their backs were observed in late July.

Order: Coleoptera

Dytiscid spp. Common.

CONCLUSION:

The microscopic fauna is very abundant and represents many types. Although the writer did not study the larger fauna extensively, it is quite obvious that it also is rich and varied. Much work still needs to be done to adequately characterize the fauna of this lake. Crustacea and snails, of which there are no shortages, have not been studied at all nor have any samples been collected from the middle of the lake.

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