en was found near Cave Spring, Floyd
; N. E. of the Alabama locality. Types
)n. Paratypes in collections of Academy
ıia, Alabama Museum of Natural Hist.,
ant Walker.

rokeensis and *cohuttensis* form an interest-
)up, differing from *stenotrema*, *hirsuta* and
inuous free lip and the shape of the lip
ı characters are the fine, closely-set hairs
ıded body whorl. The fulcrum is long.
are all in the southern extension of the
range, from N. W. Georgia to central
pecies occur in wooded but rather dry
ides, and they commonly conceal them-
ıe lower sides of stones. *Polygyra brevi-*
such a ravine, about 2000 ft. above sea
)ut 1500 ft. ; and *cherokeensis* at 1200 ft.

S IN WESTERN PENNSYLVANIA.

BY H. A. PILSBRY.

ANICA n. sp.

conic, rather solid, smooth ; periostracum
, of a buffy citrine color. The spire is
r slightly convex outlines, and is more or
n beginning at an early age. The young
ıt 6 or 7 mm. are acutely carinate periph-
aring as a welt or seam immediately above
ire ; after which the periphery becomes
ıewhat flattened. The last whorl is large.
Aperture more than half the total length,
slightly sinuous, almost straight in pro-
ıllus rather thin.
10, length aperture 10 mm.
3.3, length aperture 9 mm.

Operculum with the nucleus at about the lower sixth of the total length.

Distribution.—Ohio river system in western Pennsylvania. Ohio River at Coraopolis (type locality; S. N. Rhoads, Sept. 1898); Neville Island, Allegheny Co.; Beaver River below Wampum (Rhoads); Allegheny River (E. A. Randall, 1868); Pittsburgh (H. S. Stupakoff, 1895). Type and cotypes No. 73954 A. N. S. P.

While related to *G. depygis* (Say) and *G. livescens* (Mke.), this species is readily known by its short spire, bright olivaceous yellow color and the strong, persistent cuticle. It was found in abundance by Mr. Rhoads, and was listed by him as *Goniobasis depygis* (NAUTILUS XII, April, 1899, p. 137). Though I have not seen the specimens, it is apparently what Dr. Ortmann catalogued as *Goniobasis translucens* Anth. (Proc. Amer. Philos. Soc., Vol. 52, 1913, p. 328). If so, it occurs as far upstream as Warren Co., Pa.

Some individuals have two rather wide carob-brown bands, occupying the middle of the spaces above and below the periphery. Sometimes there are narrow bands very near the suture and columella, the latter visible inside.

THE FRESH-WATER MOLLUSCA OF ONEIDA LAKE, NEW YORK.

BY FRANK C. BAKER.

Oneida Lake lies near the center of New York State in latitude 43° north and longitude 75° west. Oswego and Oneida counties border the lake on the north and Onondaga and Madison counties on the south. It is 27 miles southeast of Lake Ontario. The lake is oriented almost directly east and west, which is the longer axis, and is 21 miles in length by 5.50 miles in greatest width. The level of the lake is 369 feet above the sea or 124 feet above Lake Ontario. The greatest depth sounded is 55 feet, which occurs about one and a half miles southeast of Cleveland. The shores are relatively very low, as the lake is in the bed of an ancient glacial lake, lacking the

bold character of the land in the vicinity of the Finger Lake region farther south, where lakes Cayuga, Seneca, etc., lie in preglacial rock-cut valleys. The general depression of the country immediately surrounding the lake produces low, swampy shores on many parts of the lake, especially at the east and west ends. Large swamp areas occur in Big Bay, Maple Bay, west of Constantia, and at the east end where Fish Creek enters the lake.

Oneida Lake is the largest inland body of water in the State, having an approximate area of 80 square miles and a shore line of approximately 65 miles. The areas bordering the shore are always shallow and usually deepen rather abruptly, forming in many places submerged terraces of greater or less width. These terraces are either sandy or bouldery in character, usually the latter, the rough water washing out the fine particles and removing them to the quieter bays and protected areas near the points. For this reason the points are always stony and bouldery and the bays sandy. A notable fact is the almost total absence of mud on the shores of the west end of the lake, mud areas being confined to a few small spots, principally at the mouth of small creeks. The shallow zones bordering the shores, 6 feet or less in depth, are from 200 to 1600 feet in width, and the approximate area of shallow water within the 6-foot contour is estimated to be upwards of $6\frac{4}{5}$ square miles or 8 per cent. of the entire area. This is significant when it is remembered that this shallow zone is nearly all covered with vegetation and is the area which supports all of the animal life and affords breeding grounds for the majority of the fishes in the lake. If we include the bottom area enclosed by the 12-foot contour, below which little or no vegetation lives, we find the total approximate area to be 8366 square acres (13 square miles), which afford feeding grounds for fish and other aquatic animals. The west end of the lake, which is the only part at present investigated, is very shallow, scarcely exceeding 20 feet in depth beyond Frenchman Island.

The noteworthy species are *Physa ancillaria warreniana*, *Planorbis binneyi*, and *Lymnæa stagnalis lillianæ*, which appear to be new records for the State. These species are common in Toma-

hawk Lake, Wisconsin, where they occu
those in Oneida Lake. This is an interes
tion. *Acella haldemani*, *Bythinia tentacu*
tacoides add new localities to the State
Pisidia, 4 of which are still undetern
Margaritana had previously been report
and the record is now substantiated.
species are reported for the first time fro
No list of Oneida Lake mollusks is
Beauchamp, however, published an exc
lusca of Onondaga County, some years a
paper on the mollusks of this region
Further studies will doubtless raise the
species and races. Additions are to be
Sphærium, *Musculium*, *Amnicolidæ*, *Valva*

The studies from which this list ha
been carried on by the writer for the Ne
Forestry at Syracuse University under th
C. C. Adams, Forest Zoologist, for the
the relation of the molluscan fauna to
breeding grounds of the fish fauna of
food and game fish. Full information c
associations and economic value of the
be found in Technical Bulletin No. 4,
by the College of Forestry. The author
Pilsbry, Dr. V. Sterki, and Dr. Bryant
determining critical molluscan material.

CLASS PELECYPO

Family Unionida

Lampsilis luteola (Lam.)	*Anodon*
Lampsilis radiata (Gmelin)	*Anodon*
Lampsilis borealis (Gray)	*Anodon*
Lampsilis iris (Lea)	*Anodon*
Nephronajas ligamentina (Lam.)	*Anodon* Le
Strophitus edentulus (Say)	*Alasmic*
Strophitus undulatus (Say)	*Elliptio*

in the vicinity of the Finger Lake
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ı stagnalis lillianæ, which appear to be
. These species are common in Toma-

hawk Lake, Wisconsin, where they occupy habitats similar to those in Oneida Lake. This is an interesting case of distribution. *Acella haldemani*, *Bythinia tentaculata* and *Vivipara contectoides* add new localities to the State. The 10 species of Pisidia, 4 of which are still undetermined, is noteworthy. *Margaritana* had previously been reported from Oneida Lake and the record is now substantiated. A number of common species are reported for the first time from this general region. No list of Oneida Lake mollusks is known to the writer. Beauchamp, however, published an excellent list of the Mollusca of Onondaga County, some years ago, and this is the only paper on the mollusks of this region known to the writer. Further studies will doubtless raise the list to upwards of 100 species and races. Additions are to be expected in *Pisidium*, *Sphærium*, *Musculium*, *Amnicolidæ*, *Valvata*, *Physa*, and *Galba*.

The studies from which this list has been compiled have been carried on by the writer for the New York State College of Forestry at Syracuse University under the direction of Professor C. C. Adams, Forest Zoologist, for the purpose of ascertaining the relation of the molluscan fauna to the feeding habits and breeding grounds of the fish fauna of the lake, especially the food and game fish. Full information concerning the ecological associations and economic value of the mollusks recorded may be found in Technical Bulletin No. 4, now in press, published by the College of Forestry. The author is indebted to Dr. H. A. Pilsbry, Dr. V. Sterki, and Dr. Bryant Walker for assistance in determining critical molluscan material.

Class Pelecypoda

Family Unionidæ.

Lampsilis luteola (Lam.)
Lampsilis radiata (Gmelin)
Lampsilis borealis (Gray)
Lampsilis iris (Lea)
Nephronajas ligamentina (Lam.)
Strophitus edentulus (Say)
Strophitus undulatus (Say)
Anodonta cataracta Say.
Anodonta marginata Say.
Anodonta implicata Say.
Anodonta grandis Say.
Anodonta grandis footiana Lea.
Alasmidonta undulata (Say)
Elliptio complanatus (Dillwyn)

Family Margaritanidæ

Margaritana margaritifera (Linné)

Family Sphaeriidæ.

Sphærium striatinum (Lamarck)
Sphærium vermontanum Prime.
Musculium securis (Prime)
Musculium rosaceum (Prime)
Pisidium ferrugineum Prime.
Pisidium æquilaterale Prime.
Pisidium variabile Prime.
Pisidium compressum Prime.
Pisidium compressum lævigatum Sterki.
Pisidium henslowanum (Sheppard)
Pisidium, 4 undet. spp.

CLASS GASTROPODA.

Family Viviparidæ.

Vivipara contectoides W. G. Binney.
Campeloma decisum (Say)
Campeloma integrum (DeKay)

Family Amnicolidæ.

Amnicola limosa (Say)
Amnicola lustrica Pilsbry
Amnicola lustrica Pilsbry, variety
Somatogyrus subglobosus (Say)
Gillia altilis (Say)
Bythinia tentaculata (Linné)

Family Valvatidæ.

Valvata tricarinata (Say)
Valvata bicarinata normalis Walker

Family Pleuroceridæ.

Goniobasis livescens (Menke)

Family Physidæ.

Physa ancillaria warreniana (Lea)
Physa integra Haldeman.
Physa gyrina Say

Family Ancylidæ.

Ancylus tardus Say
Ancylus fuscus C. B. Adams.
Ancylus parallelus Haldeman.

Family Planorbidæ.

Planorbis trivolvis Say
Planorbis trivolvis Say, variety
Planorbis binneyi Tryon.
Planorbis antrosus Conrad.
Planorbis ca
Planorbis pa
Planorbis hi
Planorbis ex

Family Lymnaeidæ.

Lymnæa stagnalis lillianæ Baker.
Pseudosuccinea columella (Say)
Pseudosuccinea chalybea (Gould)
Acella halde
Galba palus
Galba catas
Galba emar

Family Succineidæ.

Succinea retusa Lea.
Succinea a

New York State College of Forestry, Syracuse University.

PUBLICATIONS RECEIVE

THE CRUISE OF THE TOMAS BARRERA SCIENTIFIC EXPEDITION TO WESTERN CUB REEFS, WITH OBSERVATIONS ON THE GEOL OF THE REGION. By John B. Henderso tive of a six weeks cruise during May an by the author with the advice of Dr. Carlo Other naturalists invited to join the par Clapp, Dr. Paul Bartsch, Mr. C. T. Simp and Victor J. Rodriguez. Preparators phibious *Patron* (Captain) and a crew party. The *Tomas Barrera* was 65-foo the route was to Cape San Antonio and land trips were made to Pan de Azuca Pan de Guajaibon and other places.

[1] Pp. 320; G. P. Putnam'

amily Margaritanidæ
ra (Linné)

Family Sphaeriidæ.

(La- *Pisidium variabile* Prime.
Pisidium compressum Prime.
anum *Pisidium compressum lævigatum* Sterki.
ie) *Pisidium henslowanum* (Sheppard)
ime) *Pisidium, 4 undet. spp.*
ime.
ime.

LASS GASTROPODA.

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V. G. *Campeloma decisum* (Say)
Campeloma integrum (DeKay)

mily Amnicolidæ.

Somatogyrus subglobosus (Say)
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lsbry, *Bythinia tentaculata* (Linné)

amily Valvatidæ.

Valvata bicarinata normalis Walker

nily Pleuroceridæ.
ke)

amily Physidæ.

iana *Physa integra* Haldeman.
Physa gyrina Say

mily Ancylidæ.

Ancylus parallelus Haldeman.
ns.

Family Planorbidæ.

Planorbis trivolvis Say
Planorbis trivolvis Say, variety
Planorbis binneyi Tryon.
Planorbis antrosus Conrad.
Planorbis campanulatus Say.
Planorbis parvus Say.
Planorbis hirsutus Gould.
Planorbis exacuous Say.

Family Lymnaeidæ.

Lymnæa stagnalis lillianæ Baker.
Pseudosuccinea columella (Say)
Pseudosuccinea chalybea (Gould)
Acella haldemani (Deshayes)
Galba palustris (Mueller)
Galba catascopium (Say)
Galba emarginata (Say)

Family Succineidæ.

Succinea retusa Lea.
Succinea avara Say.

New York State College of Forestry,
Syracuse University.

PUBLICATIONS RECEIVED.

THE CRUISE OF THE TOMAS BARRERA: THE NARRATIVE OF A SCIENTIFIC EXPEDITION TO WESTERN CUBA AND THE COLORADOS REEFS, WITH OBSERVATIONS ON THE GEOLOGY, FAUNA AND FLORA OF THE REGION. By John B. Henderson.[1]—This is the narrative of a six weeks cruise during May and June, 1914, planned by the author with the advice of Dr. Carlos de la Torre of Havana. Other naturalists invited to join the party were Mr. George H. Clapp, Dr. Paul Bartsch, Mr. C. T. Simpson, Sr. Manuel Lesmes and Victor J. Rodriguez. Preparators and assistants, an amphibious *Patron* (Captain) and a crew of seven completed the party. The *Tomas Barrera* was 65-foot fishing schooner, and the route was to Cape San Antonio and return to Havana. Inland trips were made to Pan de Azucar, the Sierra de Viñales, Pan de Guajaibon and other places.

[1] Pp. 320; G. P. Putnam's Sons.