irrorata Gund. Vinales.
nodulifera Torre. Vinales.
nubila Poey. Sierra de Paso Real.
poeyana Orb. Guyabal.
poeyana variegata Pfr. Matanzas.
propinqua Gundl. Vinales (First Mogote).
rugeli Shutt. Abra de Figueroa, Matanzas.
scalarina Shutt. Abra de Figueroa, Matanzas.
strangulata Poey. Guines.
vignalensis (Wright) Pfr. Vinales.
vignalensis obscura Torre. Vinales.
Varicella acuticostata Orb. Guyabal.
gracillima Pfr. Matanzas.
pritchardi Arango. Caves near Mendoza.

NOTES ON THE NAIADES OF LONG ISLAND: II. ANODONTA CATARACTA ON LONG ISLAND

BY N. M. GRIER
Des Moines University

Anodonta cataracta Say has been previously reported on Long Island from Kissena Park Lake, Flushing, (1), Lake Ronkonkema, (2), and from Prospect Park, Brooklyn, (3). The closely related if not identical species, *Anodonta implicata* Say, is also known from Prospect Park and from Baisley's Lake, Jamaica, (1, 3). In August, 1926, I observed an abundance of dead shells of *Anodonta cataracta* in the Nissequoque river at Smithtown, L. I., and at the Hempstead reservoir near Hempstead. This species does not seem to have been reported previously from either of these localities. Additionally, *Elliptio complanatus* Dillwyn is described as being moderately abundant at Riverhead, L. I. (4). All these species are members of the depauperate Atlantic coast fauna, having been reported from New England by Johnson, (5), while they are also found further south. Earlier, (2) I suggested the fair probability of their introduction on Long Island through the agency of birds,

and of course most likely from localities on the Atlantic coastal plain. It was also pointed out that the characteristic thinness and softness of the shells of these species indicated a natural adaptation of them to the practically lime-free waters of Long Island. It is possible also that other species are transported similarly, but survive only in a given area under favorable conditions.

A glance at the map of Long Island will show that a number of the localities mentioned are in a line such as aquatic birds might follow in flying from one body of water to another. Such a line connects Riverhead at the east end of the island with Lake Ronkonkema, Nissequoque River, Hempstead reservoir, Jamaica and Prospect Park, Brooklyn. Since birds are the most conceivable agency explaining the presence of fresh water mussels on Long Island, it may well be that such a path of migratory birds, passing northeast or southwest through the island, may account for the distribution of *Anodonta cataracta* which has been indicated.

I was lead to seek further support for these conjectures from the available records of the local movements of birds. Unfortunately, the United States Bureau of Biological Survey had no data for the region, while the most comprehensive and available publication on the birds of the vicinity (The Birds of the New York City Region, 6) mentioned but three species of aquatic birds which had been observed at any of the localities at which mussels had been collected. These were the Hooded Merganser (*Lophodytos cucullatus*), observed at Hempstead and Prospect Park, and recorded also from New Jersey; the Little Black Rail (*Creciscus jamaicensis*), known only from Long Island in the region and at Jamaica; and possibly the water thrush (*Seiurus noveboracensis noveboracensis*), from Prospect Park, Brooklyn.

The cooperative attitude of the Bureau of Biological Survey toward problems of this type is brought out in their letter of August 21st to the writer:

"Your suggestion—that bird banding coöperators maintain a watch for young mussels that might be attached to the feet or other parts of birds, is of much interest. We appreciate the information that might be obtained in this manner and will be

glad to see that the matter is brought to their
the medium of Bird Banding Notes."

It is urged that readers of this note endeavc
in this matter on the part of bird banders c
region.

LITERATURE CITED

1. NAUTILUS, 16, 1902.
2. Amer. Mid. Nat., 8, 1923.
3. Brooklyn Conch. Club Bull., 1, 1907.
4. Annals Lyceum Nat. Hist., N. Y., 187C
5. Fauna of New England, Part 13, List c
   Soc. Nat. Hist., 1915.
6. Amer. Mus. Nat. Hist., Handbook Serie

HELIX NEMORALIS IN MASSACHUS

BY CHARLES W. JOHNSON

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It is urged that readers of this note endeavor to enlist interest in this matter on the part of bird banders operating in their region.

LITERATURE CITED

1. NAUTILUS, 16, 1902.
2. Amer. Mid. Nat., 8, 1923.
3. Brooklyn Conch. Club Bull., 1, 1907.
4. Annals Lyceum Nat. Hist., N. Y., 1870.
5. Fauna of New England, Part 13, List of Mollusca, Bost. Soc. Nat. Hist., 1915.
6. Amer. Mus. Nat. Hist., Handbook Series, No. 9.

HELIX NEMORALIS IN MASSACHUSETTS

BY CHARLES W. JOHNSON

When a species is deliberately introduced and becomes established, the interest attached to it is slight in comparison with an introduction that has been accidental and which when discovered has assumed the proportions of a large and flourishing colony.

Through the kindness of Mr. Albert P. Morse, I received an interesting series of *Helix nemoralis* Linn., collected by Miss Marion F. Lewis at Marion, Mass., October 10, 1926. Miss Lewis found them in one place along a stone wall beneath some nasturtium plants. She was unable to ascertain when they were first observed, or the extent of their distribution. The collection of 31 specimens comprises 18 of the yellow form var. *libellula* and 13 of the dark reddish-pink form var. *rubella*, which show the following banding:

Var. *libellula*

1. 12345.
1. 123(45).
3. 00345.
6. 00300.
7. 00000.