

REPORT OF WORK DONE UNDER PERMIT NUMBER SCP-2023-100

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Summary

A survey of the freshwater snails in the Potomac River was carried out in the fall of 2023. *Elimia virginica* and *Leptoxis carinata* were the most commonly observed larger snail species. *Cincinnatia integra* was found in the Potomac River for the first time in nearly 100 years.

Results

The survey was carried out between September and the middle of November 2023. Most of the localities were accessed by kayak. Collections were done either by hand or by the use of a small strainer mounted on a long handle. At some localities the species present were noted but no specimens were taken. At localities along private land, observations and collections from within the river were done without leaving the kayak.

The following snail species were recorded at the indicated localities.

Campeloma decisum

Cox Island, shore facing VA (39.2310 N, 77.4628 W), 11 Sep 2023; mouth of stream at MD shore, Point of Rocks (39.2714 N, 77.5363 W), 20 Sep 2023; Heaters Island, SW shore (39.2685 N, 77.5395 W), 20 Sep 2023; unnamed island, S of Landers boat ramp (39.2979 N, 77.5604 W), 5 Oct 2023; small island adjacent to MD shore, S of Brunswick (39.3112 N, 77.6352 W), 9 Nov 2023; small island adjacent to VA shore, SW of Brunswick (39.3098 N, 77.6458 W), 9 Nov 2023; Paradise Island (39.2433 N, 77.4778 W), 17 Nov 2023; VA shore facing Cox Island (39.2335 N, 77.4694 W), 17 Nov 2023.

Cincinnatia integra

Very small island, Point of Rocks (39.2708 N, 77.5349 W), 20 Sep 2023; unnamed island, shore facing MD, S of Landers boat ramp (39.2979 N, 77.5604 W), 5 Oct 2023; very small island, S of Landers boat ramp (39.2922 N, 77.5612 W), 5 Oct 2023.

Elimia virginica

Cox Island, shore facing VA (39.2310 N, 77.4628 W), 11 Sep 2023; mouth of stream at MD shore, Point of Rocks (39.2714 N, 77.5363 W), 20 Sep 2023; Heaters Island, SW shore (39.2685 N, 77.5395 W), 20 Sep 2023; VA shore facing Noland's Island (39.2495 N, 77.4918 W), 1 Oct 2023; small island next to Mason Island (39.2520 N, 77.4988 W), 1 Oct 2023; Noland's Ferry boat ramp (39.2481 N, 77.4811 W), 1 Oct 2023; NW tip of Van Deventer Island (39.0729 N, 77.4294 W), 3 Oct 2023; submerged landing, VA shore (39.0678 N, 77.4270 W), 3 Oct 2023; very small island near Van Deventer Island (39.0676 N, 77.4200 W), 3 Oct 2023; Sycamore landing, (39.0743 N, 77.4204 W), 3 Oct 2023; unnamed island, shore facing MD, S of Landers boat ramp (39.2979 N, 77.5604 W), 5 Oct 2023; very small island, S of Landers boat ramp (39.2922 N, 77.5612 W), 5 Oct 2023; rocks in Potomac River (39.2969 N, 77.5622 W), 5 Oct 2023; island adjacent to VA shore facing Heaters Island (39.2645 N, 77.5379 W), 6 Nov 2023; small island adjacent to MD shore, S of Brunswick (39.3112 N, 77.6352 W), 9 Nov 2023;

small island adjacent to VA shore, SW of Brunswick (39.3098 N, 77.6458 W), 9 Nov 2023; Paradise Island (39.2433 N, 77.4778 W), 17 Nov 2023.

Ferrissia rivularis

Unnamed island, S of Landers boat ramp (39.2979 N, 77.5604 W), 5 Oct 2023; very small island, S of Landers boat ramp (39.2922 N, 77.5612 W), 5 Oct 2023; island adjacent to VA shore facing Heaters Island (39.2645 N, 77.5379 W), 6 Nov 2023; VA shore facing Cox Island (39.2335 N, 77.4694 W), 17 Nov 2023.

Galba parva

Mouth of stream at MD shore, Point of Rocks (39.2714 N, 77.5363 W), 20 Sep 2023.

Gyraulus parvus

Unnamed island, S of Landers boat ramp (39.2979 N, 77.5604 W), 5 Oct 2023.

Leptoxis carinata

Mouth of stream at MD shore, Point of Rocks (39.2714 N, 77.5363 W), 20 Sep 2023; very small island, Point of Rocks (39.2708 N, 77.5349 W), 20 Sep 2023; Heaters Island, SW shore (39.2685 N, 77.5395 W), 20 Sep 2023; small island between Noland's Island and VA shore (39.2486 N, 77.4863 W), 1 Oct 2023; unnamed island, S of Landers boat ramp (39.2979 N, 77.5604 W), 5 Oct 2023; very small island, S of Landers boat ramp (39.2922 N, 77.5612 W), 5 Oct 2023; rocks in Potomac River (39.2970 N, 77.5595 W), 5 Oct 2023; rock in Potomac River (39.2959 N, 77.5622 W), 5 Oct 2023; Heaters Island, N shore (39.2685 N, 77.52935 W), 6 Nov 2023; rock in Potomac River (39.2617 N, 77.5303 W), 6 Nov 2023; rocks in Potomac River (39.3105 N, 77.6404 W), 9 Nov 2023; small island adjacent to MD shore, S of Brunswick (39.3112 N, 77.6352 W), 9 Nov 2023; small island adjacent to VA shore, SW of Brunswick (39.3098 N, 77.6458 W), 9 Nov 2023; bottom of Potomac River near Noland's Ferry (39.2410 N, 77.4758 W), 17 Nov 2023; bottom of Potomac River between Cox Island and VA shore (39.2319 N, 77.4655 W), 17 Nov 2023.

Physa acuta

Mouth of stream at MD shore, Point of Rocks (39.2714 N, 77.5363 W), 20 Sep 2023; very small island, Point of Rocks (39.2708 N, 77.5349 W), 20 Sep 2023; small island next to Mason Island (39.2520 N, 77.4988 W), 1 Oct 2023; unnamed island, S of Landers boat ramp (39.2979 N, 77.5604 W), 5 Oct 2023; small island adjacent to MD shore, S of Brunswick (39.3112 N, 77.6352 W), 9 Nov 2023; Paradise Island (39.2433 N, 77.4778 W), 17 Nov 2023; VA shore facing Cox Island (39.2335 N, 77.4694 W), 17 Nov 2023.

Planorbella trivolvis

Cox Island, shore facing VA (39.2310 N, 77.4628 W), 11 Sep 2023; mouth of stream at MD shore, Point of Rocks (39.2714 N, 77.5363 W), 20 Sep 2023; small island next to Mason Island (39.2520 N, 77.4988 W), 1 Oct 2023; Noland's Ferry boat ramp (39.2481 N, 77.4811 W), 1 Oct 2023; submerged landing, VA shore (39.0678 N, 77.4270 W), 3 Oct 2023; unnamed island, S of Landers boat ramp (39.2979 N, 77.5604 W), 5 Oct 2023; very small island, S of Landers boat ramp (39.2922 N, 77.5612 W), 5 Oct 2023; small island adjacent to MD shore, S of Brunswick

(39.3112 N, 77.6352 W), 9 Nov 2023; VA shore facing Cox Island (39.2335 N, 77.4694 W), 17 Nov 2023.

Elimia virginica and *Leptoxis carinata* were the most commonly observed larger snail species. Robert Dillon has noted the absence of any recent Atlantic-drainage records of the hydrobiid *Cincinnatia integra* (FWGNA, 2023). The only Maryland record Hershler & Thompson (1996) gave for this species was from Havre de Grace collected in 1933 (ANSP 161337). However, the University of Michigan Museum of Zoology has one lot of the same species (UMMZ 160698) that was collected by John Henderson (1870-1923) from "Potomac River, Washington D.C." Therefore, our finding of *Cincinnatia integra* (Figure 1) is the first record of the species in the Potomac River in perhaps more than 100 years. We have so far found only empty shells of *Cincinnatia integra* in the vicinity of Point of Rocks.

Live collected species are as follows: *Campeloma decisum* 1 specimen, *Ferrissia rivularis* 5 specimens, *Galba parva* 2 specimens, *Leptoxis carinata* 2 specimens, *Planorbella trivolvis* 1 specimen.

The catalogue numbers of empty shells that have been deposited in the Carnegie Museum of Natural History, Pittsburgh, PA are as follows.

<i>Campeloma decisum</i>	CM184320
<i>Cincinnatia integra</i>	CM 184319
<i>Elimia virginica</i>	CM 184321, 184330
<i>Ferrissia rivularis</i>	CM 184325, 184329
<i>Gyraulus parvus</i>	CM 184326
<i>Leptoxis carinata</i>	CM 184323
<i>Physa acuta</i>	CM 184322, 184324, 184327
<i>Planorbella trivolvis</i>	CM 184328



Figure 1. Representative shells of *Cincinnatia integra* from the Potomac River.

References

Dillon, R. 2023. Freshwater Gastropods of North America Project.

https://www.fwgna.org/species/hydrobiidae/c_integra.html

Hershler, R. & Thompson, F.G. 1996. Redescription of *Paludina integra* Say, 1821, type species of genus *Cincinnatia* (Gastropoda: Hydrobiidae). *Journal of Molluscan Studies* 62: 33–55.