

Pleasant Valley Branch (WBIC 908500)
New Zealand Mudsnail
Potamopyrgus antipodarum (Gray, 1853)
Occurrence Reporting

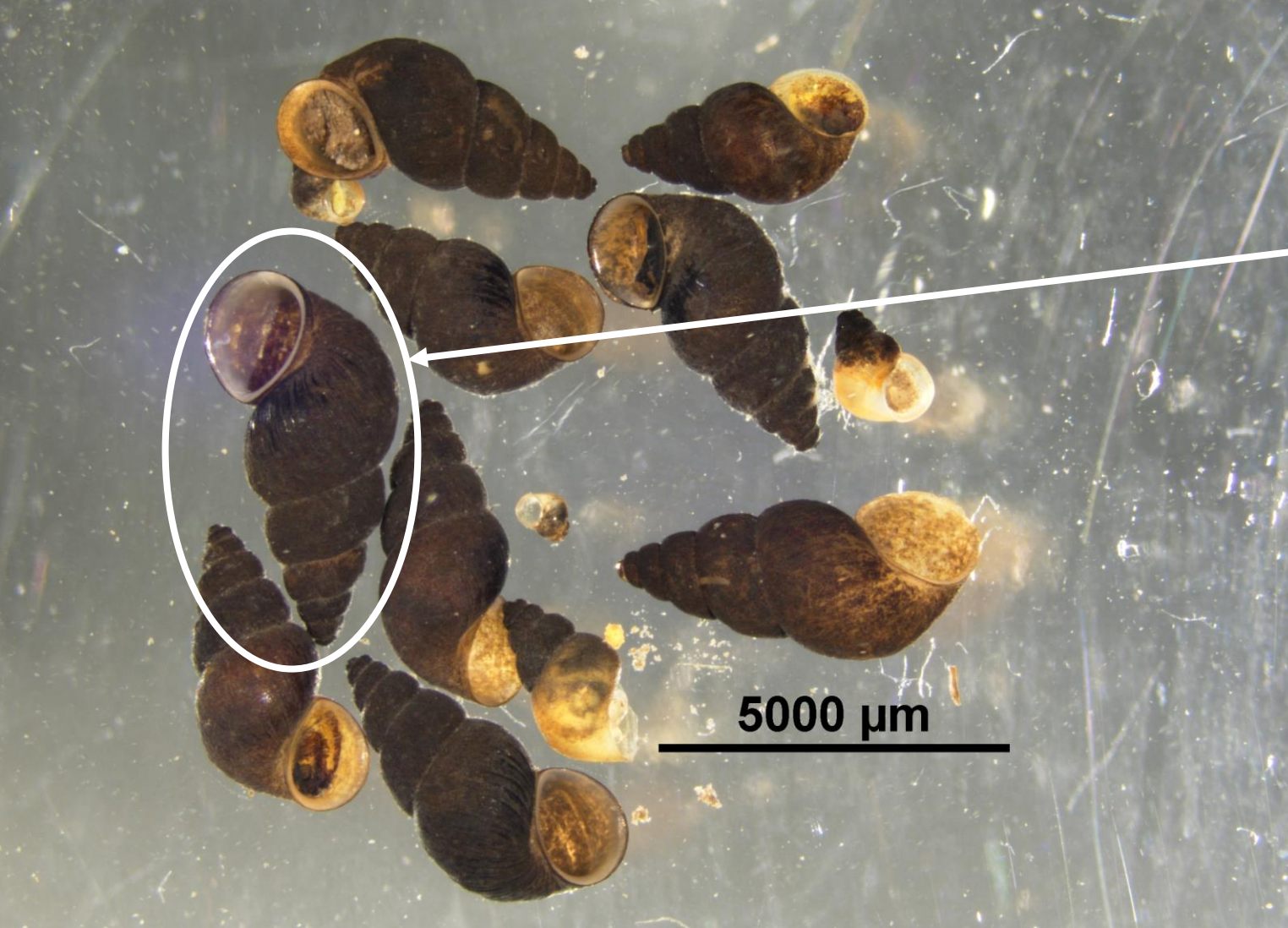
presentation by

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The Aquatic Biomonitoring Laboratory located at the University of Wisconsin – Stevens Point encountered 70 New Zealand mudsnails *Potamopyrgus antipodarum* (Gray, 1853) during laboratory processing of a Wisconsin Department of Natural Resources wadeable macroinvertebrate sample collected 25 September 2024 from Pleasant Valley Branch (WBIC 908500, SWIMS Station ID 10009462, Database Key 358757246). These specimens may represent the first reported occurrence of this species in this waterbody if this list is current- (https://apps.dnr.wi.gov/lakes/invasives/AISLists.aspx?species=NZ_MUDSNAIL , accessed 10 October 2025).

The sample (Database Key 358757246) was processed in its entirety; the 70 New Zealand mudsnails represented the total count from the sample. There were five other wadeable macroinvertebrate samples collected for the Pleasant and Kittleson Valley 10 Year Follow Up – 2024 project. None of the laboratory subsamples developed from the other five samples presented New Zealand mudsnails.

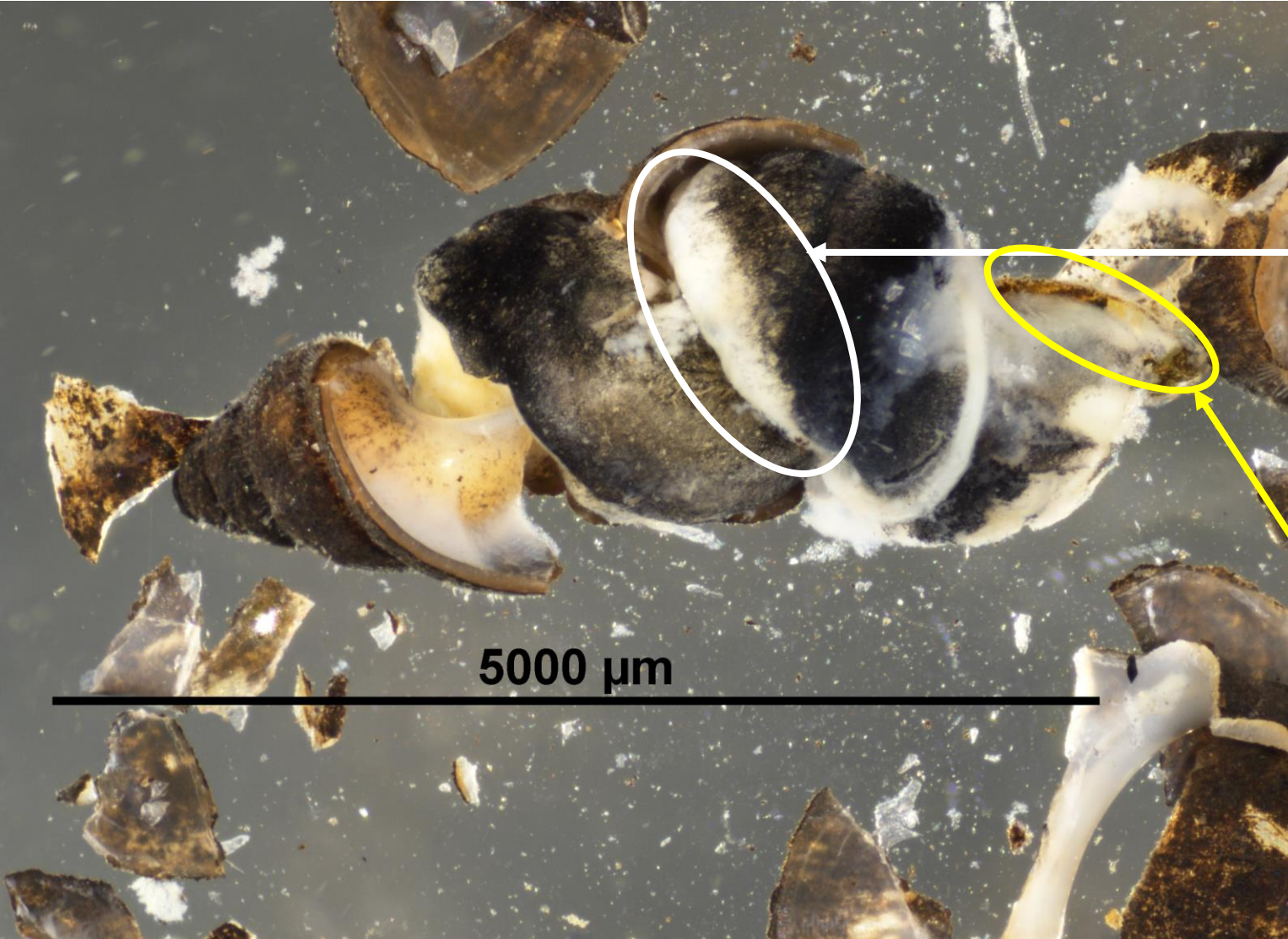
Collection details for these snails –
WI, Dane County
Pleasant Valley Branch
Kittleson Road, upstream ~160 m
N42.87709°, -89.78574°
2024-IX-25 C. Bruhn, WDNR



Pleasant Valley Branch *Potamopyrgus antipodarum*. Image depicts thirteen of the 70 specimens collected from the sample.

Future slides will focus on this specimen.

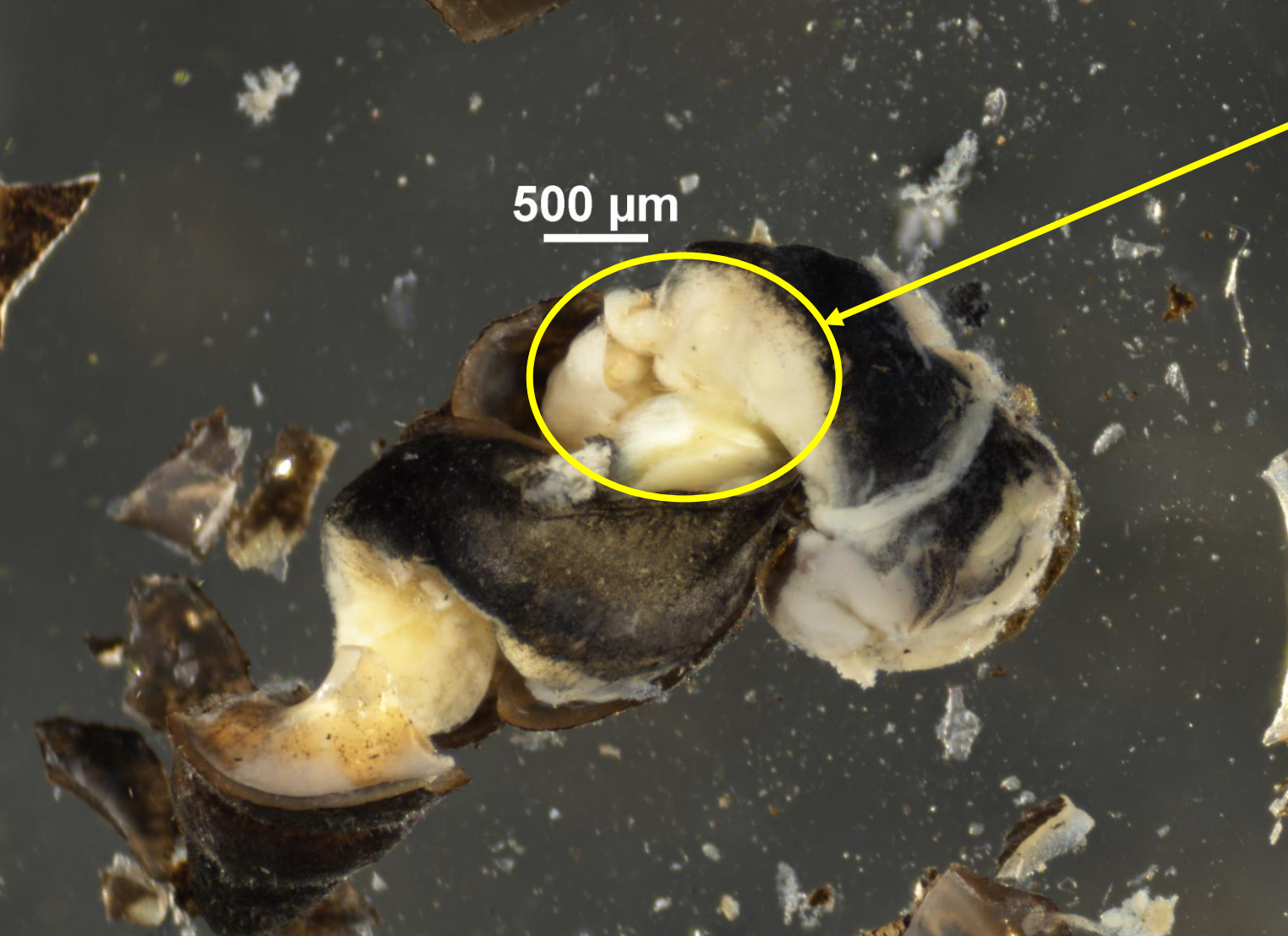
All specimens presented size, whorl count, overall shell shape, and dextral (right-hand) coiling consistent with New Zealand mudsnails. The larger specimens presented the slight outturning/thickening of the aperture (shell opening) margin suggestive of New Zealand mudsnails. Definitive physical characters to attain final taxonomy would present inside the shell. The shell needed to be cracked and removed from the specimen to access the pallial oviduct and operculum.



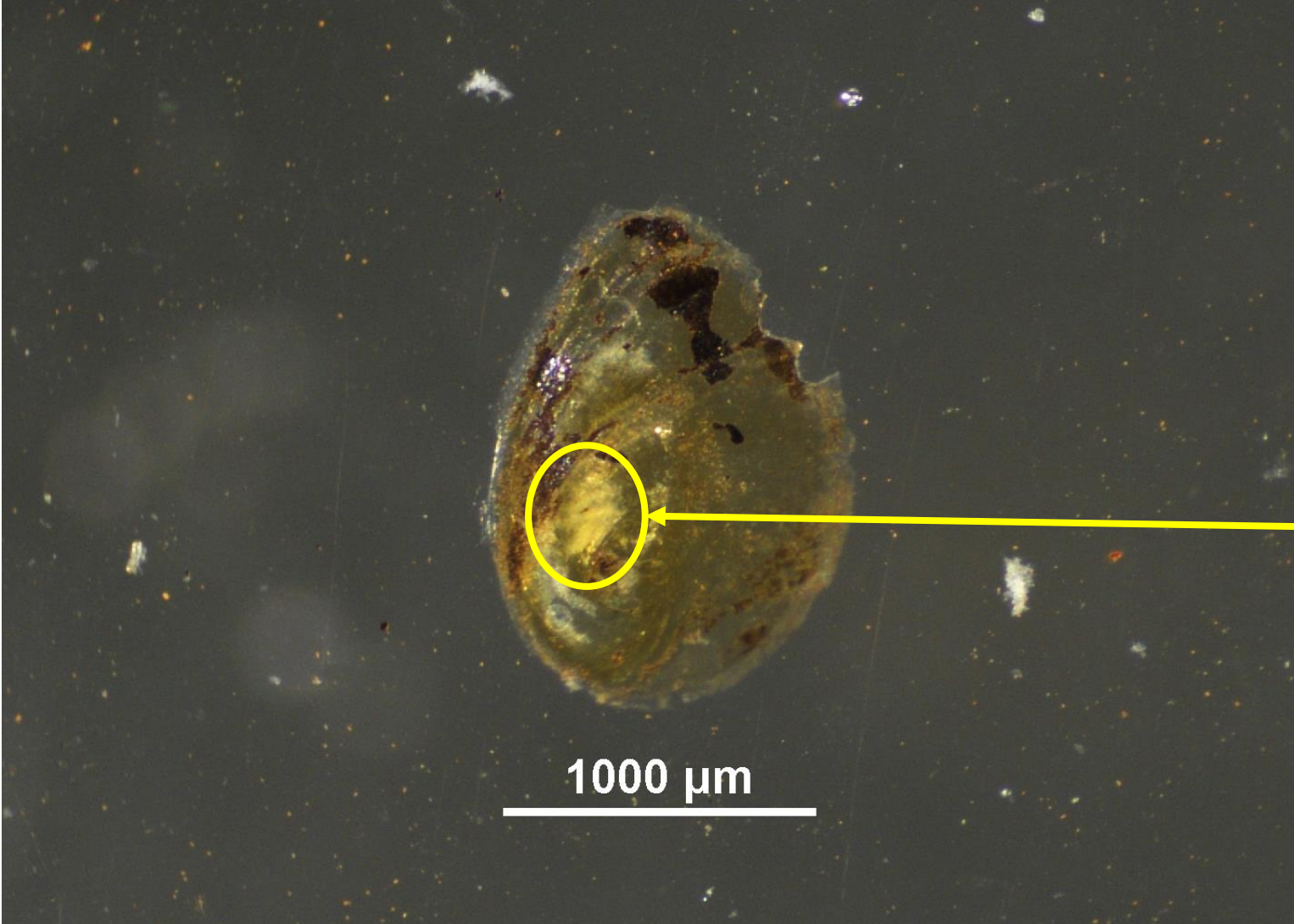
Initial specimen crack. Specimen was relatively stout; shell yielded grudgingly to crack procedure.

The pallial oviduct, visible in part as the whitish area within the oval, needed to be dissected and examined for developing embryos. I saw strong suggestions of white spherical shapes under the outer layers of the oviduct. These could be developing embryos.

The operculum also needed to be removed and cleaned to allow viewing of its structure. The operculum's edge is barely visible in this view.



Outer layers of pallial oviduct were disrupted. Eight embryos are visible as lustrous whitish objects within the yellow oval. Several of these embryos are obscured by the outer layers of the pallial oviduct. Depending on their orientation, some display tiny black eyespots and others display spiral shell structure. Presence of developing embryos in the pallial oviduct was the historic definitive character used to attain *Potamopyrgus antipodarum*.



Operculum, partially cleaned. Thorp and Rogers (2016) used paucispiral operculum with white calcareous smear as the final physical characteristic to determine *Potamopyrgus antipodarum*.

Paucispiral means spiral structure “fanning out” away from a central nucleus. Spiral structure displayed in clockwise fashion.

White calcareous smear.

Operculum was not completely cleaned. Cleaning involved debridement of debris with various tools. A round toothpick is the most suitable tool I have found to date. This operculum was firmly encrusted. Note the slight damage from cleaning including two marginal nicks at operculum 2:00 position. Further cleaning attempts would have increased these damages.