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New and Updated Records of Terrestrial and Freshwater Gastropod Molluscs for Tobago, West Indies

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New and Updated Records of Terrestrial and Freshwater Gastropod Molluscs for Tobago, West Indies

In June 2012 and March 2013 fieldwork in Tobago was conducted, investigating the presence and distribution of terrestrial and freshwater molluscs. During these visits several species that have not been previously recorded from the island were observed and one species that has not been recorded within at least the last three decades was observed. Tobago has a fairly depauperate gastropod molluscan fauna when it comes to the land and freshwater ecosystems with approximately nineteen species from ten families for the terrestrial snails (Robinson *et al.* 2004) and ten species from seven families for the freshwater species (Bass 2003). In this note we report on six new records representing five new species (Figure) and two new families.

The Helicinidae snail *Helicina nemoralis* Guppy, 1866 is known from Trinidad and northern Venezuela but is rarely encountered as it is thought to be arboreal (Guppy 1864, 1866, 1893; Robinson *et al.* 2004). A single live specimen was found on low vegetation beside the Doctor's River, Speyside, in the north-east of Tobago (N 11.30221°, W -60.53514°, Elevation 5 m) on 18 June, 2012. The specimen was added to The University of the West Indies Zoology Museum (UWIZM) and accessioned under the number UWIZM.2012.33.21.

The Helicarionidae snail *Ovachlamys fulgens* (Gude 1900) is from south-east Asia and has spread to the Neotropics through the horticultural trade, in particular the trade in orchids upon which it is a pest (Robinson 2003). Nine live specimens were found in leaf litter beside the Doctor's River in the north-east of Tobago (N 11.30401°, W -60.53658°, Elevation 15 m) on 18 June, 2012. A single live specimen was also found in an area of secondary forest and crops on a tree trunk on the lower slopes of Flagstaff Hill, Charlotteville (N 11.32508°, W -60.54432°, Elevation 137 m) on 19 June, 2012. This is the first record for Tobago for this family but the species has been known from Trinidad from at least 2004 (Robinson *et al.* 2004). The specimens were accessioned under the numbers UWIZM.2012.33.5 and UWIZM.2012.33.10.

The Neocyclotidae snail *Austrocyclotus rugatus* (Guppy 1864) has been previously recorded only in the north of Trinidad (Guppy 1864, 1893; Robinson *et al.* 2004). A single live specimen was found under a rotting log at the edge of secondary forest near the Hillsborough Reservoir in central Tobago (N 11.21941°, W -60.67224° Elevation 220 m) on 26 June, 2012. This is the first record for this family from Tobago. The specimen was accessioned under the number UWIZM.2012.33.40.

The exotic Ampullaridae freshwater snail *Pomacea diffusa* Blume, 1957 was only recently reported from Trinidad (Mohammed and Rutherford 2012). Many live snails were found in the ditches alongside James Road, Bon Accord (N 11.16189°, W -60.82803°, Elevation 5 m) on 29 June, 2012. A substantial number of the snails were laying eggs on the concrete sides of the ditches indicating the potential for a quick rise in population densities. It is unknown if the presence of this exotic species will have a negative impact on the flora and fauna of the local ecosystems and further monitoring should be undertaken. A specimen was taken and accessioned under number UWIZM.2012.33.67.

A second survey of the southern portion of the island in March 2013 revealed a high density population (>40 m^{-2}) on Canoe Bay Road leading into the Cove Eco-Industrial Park (N 11.15068, W -60.79342, Elevation 20 m). Isolated adults were observed at the Bon Accord freshwater wetlands (N 11.15962°, W -60.83006°, Elevation 5 m) and Mc Knight Road (N 11.15382°, W -60.81541°, Elevation 9 m) but no evidence of egg cases noted.

Evidence of a second Ampullaridae freshwater snail *Pomacea urceus* Müller, 1774, commonly known as the Black River Conch, was observed at four sites. Although this species has been recorded from Tobago before (Bland 1861), there have not been any recent records in the literature. Firstly at Mc Knight Road (same as above mentioned site) three living individuals were noted and approximately 200 shells observed within 50 m of drainage. Along the driveway leading into the Seeram Brothers' Ltd. gravel refining compound, ten shells were noted in 200 m of dry river bed (N 11.15491°, W -60.80768°, Elevation 20 m). The third population was noted at a severely dried wetland along Canoe Bay Road (N 11.14911°, W -60.78999°). At this site approximately 200 shells were noted above soil within the dried wetland (≈1m^{-2}). This site is similar to the site at Seeram Brothers and has a drainage connection to a freshwater pond. Only one live individual was noted (seemed to be aestivating, but not within a burrow). The last site, also on the Cove Road, was located at the bridge crossing. Here the drainage was converted to a shallow pool (same as the above mentioned site with *P. diffusa*). Approximately 100 adults had recently died (operculum present) and no signs of aestivation burrows were noted on the soft mud substrate. However, the *P. diffusa* were alive and seemed unaffected by the harsh environment. Juvenile shells were noted at all sites mentioned indicating the population is reproducing although potentially threatened by harvesting (for food), anthropogenic impacts such as

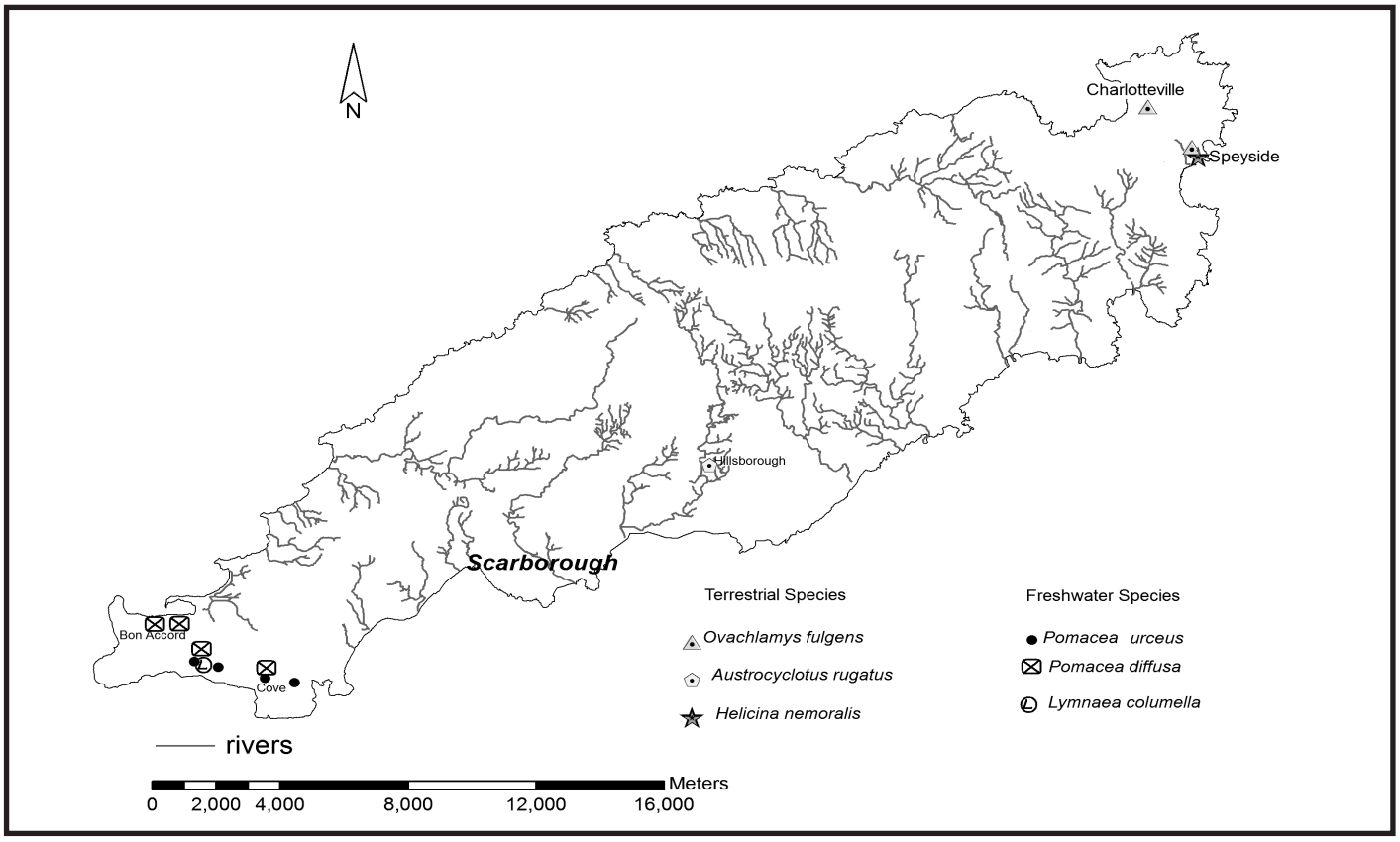

Figure. Locations of six new gastropod records for Tobago, W.I., June 2012 - March 2013.

urban, commercial and industrial development and a harsh dry season.

The Pseudosuccinea*, Lymnaea columella* Say, 1817 was recently reported at a single site in Trinidad (Mohammed and Rutherford 2012). A lone individual was also observed at the above mentioned Mc Knight Road site within a shallow pool along the roadside drain.

More research is currently being conducted on the molluscan fauna of Tobago and it is quite certain that new records for the island and potentially species new to science will come to light.

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