

The Newsletter of the IUCN/SSC Mollusc Specialist Group
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TENTACLE



UNITAS MALACOLOGICA

Editor – Robert H. Cowie



EDITORIAL

At the end of August an important meeting, the first of its kind, took place in Tahiti. The meeting brought together representatives of almost all the countries and territories of the Pacific islands to focus on conservation of threatened land snails, and of course there is essentially nowhere in the Pacific where land snails are not threatened. Participants saw captive-bred *Partula* species released on the iconic island of Moorea, and learned about the breeding programmes not only of partulids from French Polynesia but also of achatinellids and other species from Hawaii, and even though not in the Pacific, captive breeding of highly threatened *Poecilozonites* species from Bermuda. Notably absent, were representatives from the Ogasawara Islands of Japan. Most participants were not aware of the highly endangered status of the endemic land snail radiations on these islands, nor of the efforts to save them.

However, some time prior to the Tahiti meeting and independently of it, I had been invited to go to Ogasawara to discuss their captive breeding programme for species of *Mandarina* and other groups. And in mid-October I travelled to the islands, 1,000 km by ship from Tokyo, a 24 hour journey. The Ogasawara Islands were established as a UNESCO World Heritage Site in 2011, in part on the basis of their endemic land snail radiations. As a result, they have been able to construct a state-of-the-art conservation centre that includes a public exhibit area, a series of quarantine rooms, a veterinary facility and the main component, a large captive breeding area where a dedicated team maintains the snail cultures. It is important that these snail conservationists in Ogasawara be recognised and included in the island land snail conservation community as they are doing important work.

Reports on both the Tahiti meeting and the Ogasawara land snail conservation programme can be found in the Pacific Island Land Snail section of this issue of [Tentacle](#).

Robert H. Cowie

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NEWS

The Tony Whitten Conservation Prize - malacologists feature strongly in the inaugural 2019 Prize

From David Allen, IUCN, Cambridge, UK

Tony Whitten (1953-2017) was an inspirational conservationist who championed biodiversity across Asia and beyond. He was Senior Advisor at Fauna and Flora International (serving as Director of its Asia-Pacific programme), and before that, Senior Biodiversity Specialist at the World Bank. Alongside helping to run conservation projects across Asia, Tony undertook world-class work on the discovery and conservation of limestone cave invertebrates, saving many species from obliteration by the region's rapidly expanding cement industry, and having at least 13 new species named in his honour. He also established the [IUCN SSC Cave Invertebrate Specialist Group](#).

As a tribute to Tony and his work, the Cambridge Conservation Initiative, of which IUCN is a member, hosts the Tony Whitten Conservation Prize for early-career conservationists and biodiversity researchers from East and Southeast Asia. The prize is open to those under the age of 35 involved in any area of conservation or field biology in the region. Prizes are awarded by a panel selected by Tony's family. The panel is especially interested in hearing about work on the overlooked species and habitats that Tony was most passionate about – such as caves and karst ecosystems, and understudied invertebrates and fishes.

The judges for the first year of this prize were astonished by the quality and number of applications that they received. Of the six 2019 winners, the work of three focused specifically on molluscs.

Ayu Savitri Nurinsiyah, for her work on the land snails of Java.



Ayu Savitri Nurinsiyah

Ayu explores the diversity of land snails and has been involved in the discovery of a number of new species, including *Landouria tonywhitteni*, named in honour of Tony Whitten (Fig. 1). This species is endemic to Sukolilo karst, an area where there are conflicts between the cement industry and local people.

Nurinsiyah, A.S., Neiber, M.T. & Hausdorf, B. 2019.

Revision of the land snail genus *Landouria* Godwin-Austen, 1918 (Gastropoda, Camaenidae) from Java. [European Journal of Taxonomy](#) 526: 1-73.

Fig. 1. *Landouria tonywhitteni*, described and named by Ayu Savitri Nurinsiyah in honour of Tony Whitten (Nurinsiyah *et al.*, 2019).



Junn Kitt Foon, for his work on conserving and taxonomically reviewing land snails in Malaysia.

Junn was inspired to pursue a conservation career by Tony Whitten's books and his passion for limestone biodiversity. Working alongside Tony taught him about the need to engage with and understand stakeholders, including communities, government, conservationists and extractive companies, when undertaking conservation work.



Junn Kitt Foon

Nattawadee Nantarat, for her work on land snails in Thailand and Southeast Asia.

Nattawadee analyses the biodiversity and evolutionary relationships of land snails in Thailand and Southeast Asia to help support programmes for karst conservation. She has a particular interest in terrestrial operculate snails of the genus *Cyclophorus*.

Applications for the 2020 Tony Whitten Conservation Prize will open later in 2020 and this will be announced on the [Cambridge Conservation Initiative](#) website. Early-career malacologists from across the East and Southeast Asia

regions are encouraged to apply. Applicants should be nationals of Brunei, Cambodia, China, Indonesia, Laos, Malaysia, Mongolia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste or Viet Nam.



Nattawadee Nantarat

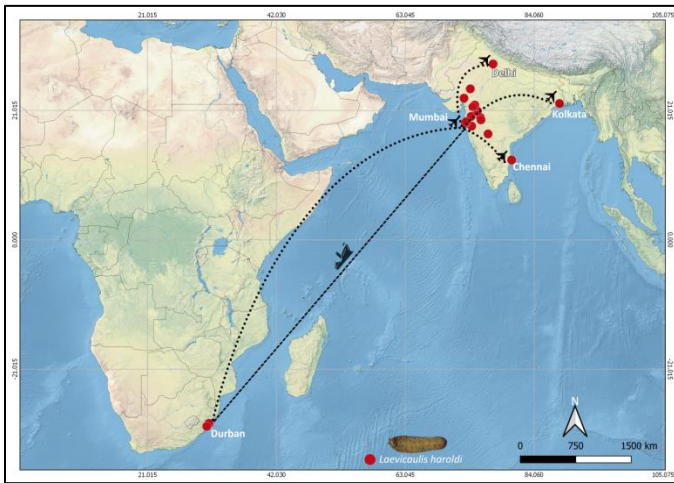


Fig. 2. The possible dispersal route of the alien caterpillar slug *L. haroldi* from Natal to Kolkata and elsewhere in India.

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POTAMOLITHUS SPP. IN THE ARGENTINE PAMPAS

By Micaela de Lucía & Diego E. Gutiérrez Gregoric

The genus *Potamolithus* is the only native representative of the family Tateidae in South America. It includes small gastropods (up to 7 mm) that inhabit rivers and streams of the Southern Cone of South America (López Armengol, 1996). Most of the species of *Potamolithus* are known only from their shells; only a few have anatomical and molecular information. In Argentina, nine species (out of the 24 present) have anatomical descriptions that include pallial organs, radula, reproductive system and external characters of the soft parts (Pilsbry, 1911; López Armengol, 1996; Miquel, 1998; Núñez, 2016; de Lucía & Gutiérrez Gregoric, 2017a, b). From the genetic point of view, only four species have information available in GenBank. There have been no studies of population level aspects in the genus.

In the [IUCN Red List](#) seven species of *Potamolithus* have been evaluated, all by G. Pastorino and G. Darrigran; four of them were classified as Least Concern and three as Data Deficient. The Argentinean coasts of the Río de la Plata are used for different purposes (port, recreation, source of drinking water and wastewater, for dumping of waste and industrial effluents, sport and commercial fishing, water sports), which could affect species of *Potamolithus*; however, the actual impact of these threats is unknown (Darrigran, 1999). Six species of *Potamolithus* have been recorded from Buenos Aires province: *P. agapetus* Pilsbry, 1911; *P. bisinuatus* Pilsbry, 1896; *P. buschii* (Frauenfeld, 1865); *P. lapidum* (d'Orbigny, 1835); *P. petitianus* d'Orbigny, 1840 and *P. orbignyi* Pilsbry, 1896 (López Armengol & Darrigran, 1998). These records are based on data from malacological collections and sampling carried out in the 1980s. It is noteworthy that in 1991 the presence of the invasive mussel



Fig. 1. Martín García Island, Buenos Aires province, Argentina. *Potamolithus* sp. and *Chilina* sp. in yellow box.

Limnoperna fortunei (Dunker, 1857) (Pastorino *et al.*, 1993) was recorded in the Río de la Plata. This species is considered an ecosystem engineer for its ability to transform the environment it colonises (Darrigran & Damborenea, 2011). The presence and abundance of the golden mussel have led to a decrease of native gastropods, displacing local populations of *Chilina fluminea* (Maton, 1809) and *Uncancylus concentricus* (d'Orbigny, 1835) on the Argentinean coasts of the Río de la Plata (Darrigran *et al.*, 1998).

The objective of this project is to know the conservation status of the genus *Potamolithus* on the Pampean region along the coast of the Río de la Plata. For this, seasonal sampling is being carried out at sites with historical records, providing the first population studies (growth and recruitment) of species in this genus and completing anatomical and molecular descriptions. These studies are part of the doctoral thesis of the first author at the Facultad de Ciencias Naturales y Museo, Universidad Nacional de La Plata.

Samples were taken along the coast from Martín García Island (IMG), which is a protected area (34°11' S, 58°14' W) (Fig. 1), to Atalaya Beach (35°00' S, 57°32' W), during 2018 and 2019. The Argentinean coast of the Río de la Plata has been greatly altered by people and the invasion of *Limnoperna fortunei* (Fig. 2) in recent years, which has made it difficult to find specimens of *Potamolithus*. On IMG, specimens have been observed at various sites, and growth experiments are being carried out both in situ and in the laboratory. The first observations indicate that they reach sexual maturity at 157 days after hatching, as evidenced by a complete peristoma.

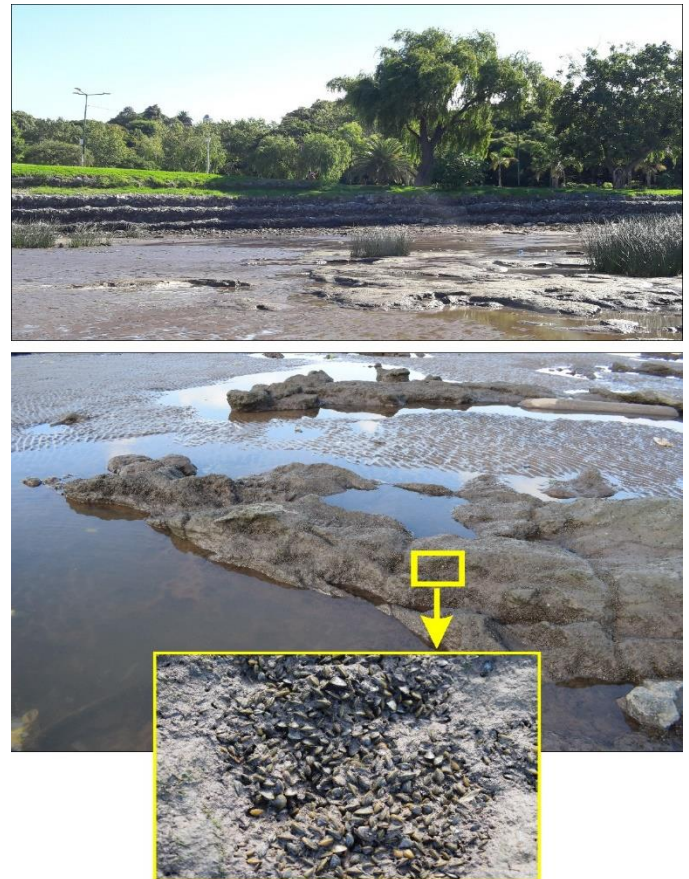


Fig. 2. Anchorena Beach (San Isidro), Buenos Aires province, Argentina. *Limnoperna fortunei* in yellow box.

As a result of the conchological, anatomical and genetic analyses, five taxonomic entities are distinguished: 1) two entities correspond to species already recorded on IMG, and both now have anatomical and molecular descriptions (*P. agapetus* and *P. buschii*); 2) one entity corresponds, based on shell characters, to *P. bisinuatus*, previously recorded on IMG but for which only conchological data are as yet available; and 3) two entities that do not correspond to any of the species recorded on IMG.

We are grateful to the ASAM (Argentine Association of Malacology) and the COA (Conchologists of America) for the awards given to the first author, which covered part of the costs of carrying out these analyses. We thank the IMG ranger staff for help with logistics and for support during the sampling, and A. Zivano for collaboration in the sampling. The first author's doctoral thesis is undertaken with the support of a doctoral grant from the Comisión de Investigaciones Científicas of Buenos Aires province.

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FURTHER SPREAD OF THE ALIEN GASTROPOD *OTALA PUNCTATA* (MÜLLER, 1774) IN MALTA

Justin Camilleri, Louis F. Cassar & Patrick J. Schembri

The helicid *Otala punctata* (Müller, 1774), native to the western Mediterranean (Martinez-Ortú & Robles, 2001), was introduced into a plant nursery near Mosta, in central Malta, with imported horticultural material sometime around 2003 (Mifsud *et al.*, 2003). From here it dispersed to establish a breeding population in the area surrounding the nursery (Barbara & Schembri, 2008, 2010)

A second population of *Otala punctata* (Fig. 1) subsequently established itself at Bahrija, a rural agricultural area, some 7 km distant from the original site of introduction. The authors investigated the distribution and abundance of *Otala punctata* at the Bahrija site, as well as that of the native helicid *Eobania vermiculata* (Müller, 1774), which has a similar ecology to that of the alien species under study and which, therefore, may be negatively affected by the introduction.



Fig. 1. *Otala punctata* from Bahrija, Malta. Scale bar 10 mm. (Photo: S. Camilleri)

Otala punctata was noted to have colonised three sectors along the Bahrija valley system, and, at the time of survey, the species occupied an overall area of approximately 0.6 km², with a mean abundance of 0.4 individuals per m². It now appears that the alien helicid has not, thus far, affected the population of *Eobania vermiculata*, as the population density of the native species remained more or less constant within the plots investigated along the valley watercourse (seasonal run-off conduit), regardless of incidence and abundance of the alien species. The density of *Otala punctata* was highest (1.98 individuals per m²), close to the presumed site of initial introduction at Bahrija (35°53'28"N, 14°20'40"E), where the first individuals were recorded (Cilia, 2012). We estimate that the yearly rate of expansion of the area of occupation of *Otala punctata* at Bahrija is 0.075 km² per year. This was calculated in terms of area at the end of a time period (T) divided by the number of years since its first occurrence (Y); therefore, T/Y = rate of expansion per year.

Otala punctata was most abundant in low virescent vegetation. In contrast, *Eobania vermiculata* was most abundant in areas where dry vegetation, mostly grasses, were predominant. This suggests a degree of habitat segregation between the alien and native snails. *Otala punctata* also showed a preference for aestivating attached to tree stumps (Fig. 2) and trunks, as well as to vines (*Vitis vinifera*), presumably to avoid predation and to evade the scorching heat at ground level (Albrecht, 2001; Herbert, 2010).

Shell measurements indicated a higher abundance of juvenile *Otala punctata* at the extremities of its distribution at Bahrija. This could indicate that the snails are actively dispersing outwards, possibly as population density increases and therefore intraspecific competition increases at the centre of the area of occurrence. The outward expansion of the *Otala punctata* population also appears to have been hindered by physical barriers, including steep escarpments, country roads, fallow or abandoned agricultural land where extensive tracts of xerophytic vegetation occur and built-up areas. It was further noted that vegetables grown at Bahrija for the local market, including cabbage (*Brassica oleracea* var. *capitata*) and broccoli (*Brassica oleracea* var. *botrytis*), often had juvenile *Otala punctata* attached. This suggests that the alien stands a good chance of being transported with agricultural produce from Bahrija to markets elsewhere, and therefore there is a high potential for the alien species to colonise new areas in the Maltese Islands.