

LIVING WORLD

Journal of the Trinidad and Tobago
Field Naturalists' Club

admin@tffnc.org

ISSN 1029-3299



New Locality Records for the Holothurians

Parathyone suspecta and *Holothuria cubana*

in Trinidad, West Indies

Mike G. Rutherford and Mark N.S. Charran

Rutherford, M.G., and Charran, M.N.S. 2012. New Locality Records for the Holothurians *Parathyone suspecta* and *Holothuria cubana* in Trinidad, West Indies. *Living World, Journal of The Trinidad and Tobago Field Naturalists' Club*, 2012, 82-83.

New Locality Records for the Holothurians *Parathyone suspecta* and *Holothuria cubana* in Trinidad, West Indies

The holothurian taxa of the Caribbean is well known at a regional level with 63 species recorded (Alvarado 2010). Of these, 18 species have been recorded from Trinidad and Tobago (Deichmann 1963; Tikasingh 1963, 1973; Hendler *et al.* 1995) and of the 18, only seven have been recorded from Trinidad: *Chiridota rotifera* (Pourtales), *Holothuria glaberrima* (Selenka), *Holothuria grisea* Selenka, *Holothuria surinamensis* Ludwig, *Isostichopus badiotus* (Selenka), *Pentacta pygmaea* (Theel) and *Pseudothyone belli* (Ludwig).

The holothurian specimens held in the University of the West Indies Zoology Museum (UWIZM) were investigated in October, 2011 as part of a student project. The majority of these specimens, collected over the past 30 years, were unidentified and many had very little locality or collector information. The specimens were identified by the authors by examination of the gross anatomy and microscopic examination of spicules. Of the species identified, two of them had not been recorded before

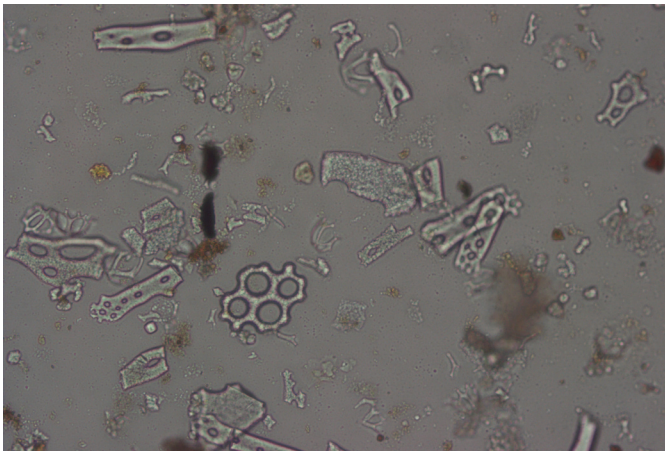


Fig. 1. Spicules of *Parathyone suspecta*.

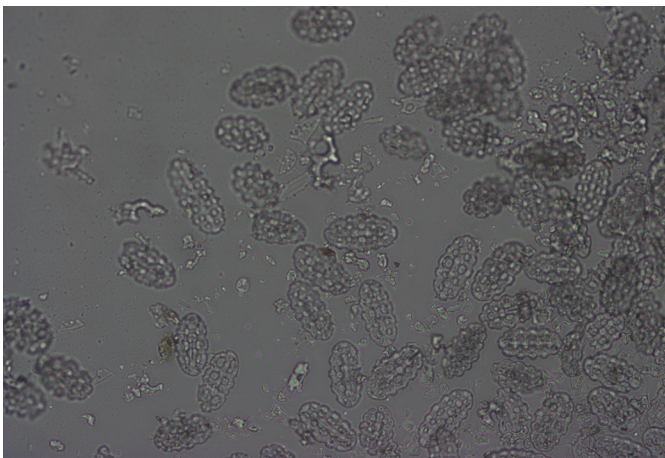


Fig. 2. Spicules of *Holothuria cubana*.

from Trinidad - *Parathyone suspecta* (Ludwig) (Fig.1) and *Holothuria cubana* Ludwig (Fig. 2).

Three *P. suspecta* were collected from the waters off Cocorite in north-west Trinidad by Pooran Badal on 14th April, 1986 (UWIZM.2011.21.14). The preferred habitat for *P. suspecta* is amongst rocks in the intertidal zone and sea grass beds (Hendler *et al.* 1995) and off Cocorite this is exactly the kind of habitat found. Previous known distribution of *P. suspecta* includes the Lesser Antilles and Colombia (Hendler *et al.* 1995).

Two *H. cubana* were collected from William's Bay, north-west Trinidad by one of us (M.N.S.C.) on 15th September, 2011 (UWIZM.2011.21.11) and one more was collected from the same site by one of us (M.G.R.) on 14th October, 2011 (UWIZM.2011.21.17). All specimens were found during the day sheltering under rocks at about one metre deep in an area with a mix of sand, rocks and sea grass.

H. cubana is often hard to find due to its habit of clinging to the underside of rocks or rubble and burrowing into sand. It is also often covered in a layer of sand and other detritus which helps camouflage it (Fig. 3). The known distribution of *H. cubana* includes Barbados and Venezuela (Hendler *et al.* 1995) so it is not surprising to find this species in Trinidad positioned as it is in between these two countries.

The lower numbers of holothurian species recorded for Trinidad compared with Venezuela and Tobago may be due to the lack of suitable habitat off the coast of Trinidad, in particular the effect of the large volume of fresh water coming from the Orinoco River in Venezuela into the Gulf of Paria could limit numbers. However, a more important factor may be that so little work has been done on holothurians in this country. It is possible that further



Fig. 3. *Holothuria cubana* in sand and sea grass.

investigation of certain habitats could reveal more species.

In many parts of the Caribbean, including Mexico, Nicaragua and Panama, several species of sea cucumber are harvested for commercial use. In most cases, very little is known about the sustainability of the fisheries (Toral-Granda 2008). As there is the possibility of commercial exploitation in Trinidad in the not too distant future to feed foreign markets mainly in south-east Asia, it is very important that comprehensive surveys are conducted sooner rather than later so that the fishery can be managed in a sustainable way.

REFERENCES

- Alvarado, J. J.** 2010. Echinoderm diversity in the Caribbean Sea. *Marine Biodiversity*, 41: 261-285.
- Deichmann, E.** 1963. Shallow water Holothurians known from the Caribbean waters. *Studies on the Fauna of Curaçao and other Caribbean Islands*, 14: 100-118.
- Hendler, G., Miller, J. E., Pawson, D. L. and Kier, P. M.** 1995. Echinoderms of Florida and the Caribbean: Sea Stars, Sea Urchins and Allies. Washington, D.C. Smithsonian Institution Press.
- Tikasingh, E. S.** 1963. The shallow water holothurians of Curaçao, Aruba and Bonaire. *Studies on the Fauna of Curaçao and other Caribbean Islands*, 14: 77-99.
- Tikasingh, E. S.** 1973. New locality records for the holothurian *Selenkothuria glaberrima* (Selenka). *Journal of The Trinidad Field Naturalists' Club*, 1973: 42.
- Toral-Granda, V.** 2008. Population status, fisheries and trade of sea cucumbers in Latin America and the Caribbean. pp. 213-229. In **V. Toral-Granda, A. Lovatelli and M. Vasconcellos**, eds. Sea cucumbers. A global review of fisheries and trade. *FAO Fisheries and Aquaculture Technical Paper*. No. 516.

Mike G. Rutherford

University of the West Indies Zoology Museum,
Department of Life Sciences,
The University of the West Indies,
St. Augustine, Trinidad, W.I.
mike.rutherford@sta.uwi.edu

Mark N. S. Charran

markcharran@yahoo.com

Observation of Apparent “Parental Care” of Eggs by a Juvenile *Azilia vachoni* (Araneae: Tetragnathidae)

Spiders exhibit varying degrees of parental care of immatures, varying from none (most species) to third instar spiderlings occupying their maternal web which is seen in the semi-social tarantula *Ischnothele caudata* of the family Dipluridae (Simon) (Jantschke and Nentwig 2001), to the most social spider species *Anelosimus eximius* (Keyserling). Here I report observations on retreats of the northern South American tetragnathid *Azilia vachoni* (Caporiacco) containing eggs and an individual in its second or third instar.

The favoured microhabitat occupied by adult and semi-adult *A. vachoni* is the semi-open space found between buttress roots (Sewlal 2009). Other favoured microhabitats observed for this species include between the forest floor and fallen logs or tree hollows (Sewlal, pers. obs.).

These observations were carried out in the Arena Forest Reserve, Trinidad, West Indies (10°34'N, 61°14'W).

Observations were made on 13 individuals, whose orb webs were orientated either vertically (85%) or horizontally (15%) between the leaves of *Philodendron* sp. vines ascending two tree trunks. However, the hubs were suspended from retreats giving the webs a conical appearance.

The retreats were also conical in shape and were made of loose granular debris.

Webs of this form were observed on two trees. The trunk of the first tree was occupied by 38 retreats starting at approximately 0.3 m above ground level and covering a vertical distance of one metre up the trunk, while the second tree had 13 retreats starting at 0.6 m from ground level and covering over about two metres. Further webs and retreats were noticed higher up. However, not all webs and retreats were recorded as they were too high for all of the details to be accurately described by the collector.

Out of a total of 13 webs sampled, in all except two webs, spiders occupied the retreat. Four retreats were collected and placed in vials containing 70% alcohol. Dissection of these retreats revealed them to contain between six to 11 eggs. The retreats also contained a female which was either a second or third instar. The female appeared not to be the mother of the eggs and it is not obvious if it is an older sister of those eggs or an individual that wandered into the retreat.

Many spider species perform a pattern of maternal behaviour referred to as “egg sac guarding” which consists of the females staying close to the egg sac during its