

## First Records of the Terrestrial Nemertean *Geonemertes pelaensis* (Hoploneurata; Prosorhochmidae) in Trinidad, W.I.

The terrestrial nemerteans are an unfamiliar group of animals to most people, the authors included. At first sighting they are often mistaken for terrestrial planarians or flatworms. Nemerteans are a relatively small phylum with approximately 1149 species known worldwide (Gibson 1995), of these the vast majority are aquatic and only a handful are terrestrial.

This note is an account of the first reports of *Geonemertes pelaensis* Semper, 1863 from the island of Trinidad. The first sighting was by HA when on a night walk to the Double River Waterfall, Madamas Road, Brasso Seco on 21 June 2020 at 02:57h. What was initially thought to be a single worm was observed on the rocks surrounding the top of a small 2m high waterfall (approximate location UTM 693990E, 693990N, 174m elevation). The rocks were wet and covered in moss and lichen. An estimate of length of the worm suggested that it was more likely to have been two individuals intertwined, each one approximately 6cm long. One worm moved its upper body very slowly during the period that it was observed. The sighting was added to iNaturalist (<https://www.inaturalist.org/observations/58937963>).

The second sighting was by RND in the forests of Moruga in the Iniss Oilfields (approximate location UTM 693990E, 693990N, 37m elevation) during fieldwork on 6 September 2020 at 20:48h. The specimen measured approximately 8cm long, although it could have been shorter. It was found on the leaf of a *Heliconia* sp. about 1.5m off the ground. It remained motionless for the period that it was observed. It was noted that the leaf of the *Heliconia* had tiny water droplets due to the high levels of moisture in the air. The sighting was added to iNaturalist (<https://www.inaturalist.org/observations/58838224>).

Although the worms were not collected for closer examination, *G. pelaensis* is a distinctive looking species and can be identified from photographs according to nemertean expert Leigh Winsor, who made the first identifications for both records on iNaturalist.

According to Moore (1985) this species is Indo-Pacific in origin but it has spread throughout the tropics. Records for the Caribbean region include Cuba (Morffe *et al.* 2020), Dominica (Moore and Moore 1982), Jamaica (Moore and Gibson, 1986), Guadeloupe and Martinique (L. Winsor, per comm.). These two observations of *Geonemertes pelaensis* were both in fairly remote areas of forest some distance from human habitation. This could be thought to be unusual for an introduced species but given Trinidad's past agricultural history and the wide range of plant species that have been brought to the island over hundreds of years there would



**Fig. 1** Possibly two *Geonemertes pelaensis*, Double River Waterfall, Brasso Seco



**Fig. 2** *Geonemertes pelaensis*, Iniss Oilfields, Moruga

have been ample time for the worms to distribute widely.

The fact that this species could easily have been mistaken for terrestrial Platyhelminthes may have contributed to the reason that it has not been recorded from Trinidad previously.

The first sighting in Trinidad was in montane forest and the second in semi-evergreen seasonal forest (Helmer *et*

al. 2012), compared with the records from Cuba where the specimens were collected in a garden on the outskirts of a city and in semi-deciduous forest (Morffe *et al.* 2020); it shows that *G. pelaensis* is a very adaptable species able to survive in many habitats. Both sightings were made at night-time, which is when this species is known to be active (Gerlach 1998).

*G. pelaensis* is a hermaphrodite, a characteristic that makes dispersal much easier (Moore *et al.* 2001), and which makes the first record mentioned here of two specimens together all the more interesting.

To encourage further observations, it is important that people can differentiate between terrestrial planarians and nemerteans. Leigh Winsor provided us with following guide: "Terrestrial nemerteans tend to move relatively slowly, with the anterior end "nodding" from side to side compared to the more extensible active vibratory tactile movement seen in most land planarians, and if you gently prod a specimen, the nemertean generally everts its proboscis; land planarians do not have a proboscis. Finally, the eye pattern on the anterior end - in nemerteans the eyes are generally in distinct clusters, whereas in planarians there may be just two eyes anteriorly, or if multiple eyes they usually contour the anterior end, generally in a single row, may cluster antero-laterally, and generally pass along the sides of the body."

Although the request and suggestion for further study is perhaps overstated in these Nature Notes, in this case we feel it is warranted so that actual specimens can be collected for examination. For notes on preservation techniques see Winsor (1991).

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#### REFERENCES

**Gibson, R.** 1995. Nemertean genera and species of the world: an annotated checklist of original names and description citations, synonyms, current taxonomic status, habitats and

recorded zoogeographic distribution. *Journal of Natural History*, 29:2, 271-561

**Gerlach, J.** 1998. The behaviour and captive maintenance of the terrestrial nemertine (*Geonemertes pelaensis*). *The Journal of Zoology*, 246: 233-237.

**Helmer, E.H., Ruzycki, T.S., Benner, J., Voggesser, S.M., Scobie, B.P., Park, C., Fanning, D.W. and Ramnarine, S.** 2012. Detailed maps of tropical forest types are within reach: Forest tree communities for Trinidad and Tobago mapped with multiseason Landsat and multiseason fine-resolution imagery. *Forest Ecology and Management*. 279:147-166.

**Moore, J.** 1985. The Distribution and Evolution of Terrestrial Nemertines. *American Zoologist*, 25:15-21.

**Moore, J. and Gibson, R.** 1986. The land nemertean *Geonemertes pelaensis* in Jamaica (Nemertea). *Zoologischer Anzeiger*, 217: 192-194.

**Moore, J., Gibson, R. and Jones, H.D.** 2001. Terrestrial nemerteans thirty years on. *Hydrobiologia*, 456: 1-6.

**Moore, J. and Moore, N.W.** 1982. Land nemertines in Dominica, W. Indies. *Caribbean Journal of Science*, 18: 43-47.

**Morffe, J., García, N. and Breugelmans, K.** 2020. First record of the terrestrial nemertean *Geonemertes pelaensis* Semper, 1863 (Hoploneurata: Prosorhochmididae) for Cuba. *BioInvasions Records*, 9: 399-407.

**Winsor, L.** 1991. Methods for taxonomic and distributional studies of terrestrial flatworms (Tricladida: Terricola). *Hydrobiologia* 227: 349-352.

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