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Polymita Picta Awaits

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04/03/2022



More than once this author has written in CubaSi about the polymita picta, especially moved by its impressive beauty.

And now it turns out that in addition to being beautiful, they are also unique for other reasons, and all of them determine that this endemic snail of Cuba is today one of the five candidates for the Mollusk of the Year 2022 condition in the contest promoted by the Loewe Center for Genomics Translational Biodiversity (TBG), in Germany.

From February 25<sup>th</sup> to March 15<sup>th</sup>, the vote will take place on the TBG official website where Internet users in general will be able to vote for one of the five candidates. **The Mollusk of the Year 2022** will be announced on March 18<sup>th</sup> in an official press release.

From among fifty nominees around the world, the five species of molluscs in competition were chosen by a jury of scientists from the Senckenberg Natural History Museum in Frankfurt; the Loewe Center, and the World Society for Mollusc Research.

Candidates to be Mollusk of the year 2022

1- Fustiaria rubescens. Known as bargefoot, this scaphopod is usually found mainly in the Mediterranean Sea and the Eastern Atlantic Ocean, inhabiting muddy bottoms, usually offshore.

2- Telescopium telescopium, also known as telescope snail or horn snail, has its native environment in the mangrove forests along the Indian Ocean.

3- *Cymbulia peronii*, the sea butterfly, spends its entire life adrift in the open sea. Hence, it has been reported in all the world's oceans, below 200 meters deep.

4- *Teredo navalis*. Although they call it the naval worm, it's a clam that, in past times, used to feed on the wooden hulls of ships. It lives in the entire world throughout the tropics and subtropics, anywhere there is a lot of wood in the water.

5- *Polymita picta*, the painted snail. Cuban snail in the brink of extinction and famous for its shell of various colors and its enigmatic «love dart».

Like you, reading these lines, can still vote, here we leave you more information about very unique aspects —almost amazing for those who are not familiar with the subject— that distinguish our polymita, which last year won the second place in votes.

If chosen, an assembled genome of this iconic species would provide the basis for understanding the evolutionary origin of shell color variation and 'love dart' firing behavior.

Furthermore, since snails are in danger of extinction, due to habitat loss and poaching, genomic resources would help establish conservation units, ultimately protecting this species and, like an umbrella, would also serve to protect other species in the same habitat, says the Loewe Center.

### **A dart of love among colors**

As amazing as it is, it's not enough for the *polymita picta* to be beautiful, it has unique mating behaviors as a hermaphrodite animal incapable of self-fertilization.

In addition to having the longest mating duration of any polymite species investigated until today, lasting about four hours, the *picta* employs a dart as a reproductive conduit during mating, copulation, and post-copulation.

With this dart, it rubs, wipes, and stabs, especially, the fore region of its partner's body, and they do it reciprocally.

This behavior has nothing to do with sadomasochistic intentions, unthinkable in that evolutionary range. A group of authors published in the *Journal of Molluscan Studies*, at the Oxford Academy, the substantial research Mating, shape of the dart and morphology of the sperm of the Cuban *Polimita picta*, where they explain that the function of the dart is to inject accessory products of glands in the pair to improve the survival of spermatophores.

*Polymita picta* is not the only land snail to use a dart device. For example, *Euhadra subnimbosa* uses it repeatedly, with a frequency of 2.52 stabs per second. In favor of the *Polymita picta*, and as a peculiarity of its mating, they point out that it uses this device with a lower frequency, between 0.04 and 1.05 stabs per minute.

What explains this lower frequency is that *Polymita picta* lives in mountain areas east of Cuba, with abundant rainfall; hence it's less exposed to stressful weather conditions such as drought.

This appears to be reflected in their mating behaviour, as they are under less selective pressure to conserve energy and/or reduce the risk of dehydration during copulation and mating in general than other *Polymita* species.

The mentioned study reports that in most of the helical families the dart apparatus is associated with a single mucous gland, while *Polymita picta* carries two types of mucous glands, and it's

possible that the products of both glands are transferred through the dart apparatus.

"In contrast to stabbing, rubbing and wiping could prevent sexual conflict between couples, because they don't cause direct damage, that is, they are not traumatic," the researchers clarify.

### **Lots of stripes, lots of beauty**

The word Polymita is made up of two roots derived from the classical Greek language: poly, which means many; and myth, synonym of stripe. Therefore, many stripes, which is precisely what distinguishes those shells painted with the most incredible colors.

Precisely the word picta, which has its origin in pictus, from Latin, means painted.

The official site that sponsors the nomination indicates that it's "possibly the most beautiful snail in the world."

And this wonderful and unique little Cuban animal, which lives between one and two years, is now waiting to be crowned Mollusk of the Year 2022. Your vote also counts and could definitely tip the scales. [Click here](#) to go to the site and do justice to such beauty.

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