



Charles Darwin *In Memoriam*

Evolutionary looks at the why of biological and cultural phenomena.

"I, astonished, discovered by chance the only specimen": the first velvet worm (Onychophora)

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ABSTRACT: The first description of a velvet worm, misidentified as a slug with legs, was published in Latin by Lansdown Guilding in 1826, but apparently, no translation is available. Here, I present English and Spanish translations of that first description, and some biographical notes on Guilding.

KEYWORDS: *Peripatus*, Mollusca, antennae, illustration, first published description.

I can only imagine the mix of fear and anticipation of a five year old child crossing the Atlantic in a primitive vessel from the late 18th century. But that child, named Lansdown, was destined to make history for discovering a worm so extraordinary, that it has a whole phylum for itself: the onychophoran or velvet worm.

Lansdown Guilding was born in the Caribbean island of Saint Vincent (9 May 1797) but was sent to England for his education. At age 16, he matriculated at Oxford and at 21 he was already a Fellow of the Linnean Society. But together with these accomplishments, he had a weaker side, being described as "an arrogant, demanding, ambitious, and often conceited individual, all too ready to ask for unusual favors".

Still quite young, at 24 he traveled throughout the island of St. Vincent, collecting plants and animals, even climbing to the crater of the Soufriere volcano; and he corresponded about his findings with the great ones, from Hooker to Darwin.

Sadly, he was not destined to live long: at 33 he went "to vacation in Bermuda" where he died of unreported causes four months later (2 October 1831), leaving behind his second wife Charlotte and six small children. I could not find out what happened to his family, or even a portrait of Guilding, but he will always be remembered for discovering what he

thought was a legged slug, the first published description of a member of the ancient phylum Onychophora.

He published his discovery in 1826 and explained that he was actually collecting plants when he found it. Apparently, he never found another one, but he was aware that this was an extraordinary animal. Luckily, he was a decent artist and his illustration leaves no doubt that he did find an onychophoran and not a slug. His description, though, has until now only been available in Latin (Guilding, 1826), so here I include an English translation I made based on a Latin to Spanish translation kindly provided by Dr. Carlos O. Morales, Escuela de Biología, Universidad de Costa Rica. His Spanish translation is available in Appendix 1 and the original in Latin in Appendix 2.

Guilding thought that the oral papillae were eyes (Figure 1) and was unsure about the genital opening, but otherwise he was basically right.

Subkingdom-Mollusca.
Class POLYPODA. Guild
Genus *Peripatus*. *

Generic characteristics.

Soft, elongated, contractile, semi-cylindrical body; reduced rear end, corrugated.

Two long tentacles, semi-retractable, sub-cylindrical.

Mouth at the bottom, elongated (at rest) hidden; with lips (when extended) papillose.

Without jaws.

The eyes at the base of the tentacles, dark and warty.

Without mouth shield.

Anus posterior, in lower position.

Genital orifice? defined, posterior and inferior.

Pairs of legs 33, with extended alternate pairs.

Nails furcated.

PERIPATUS JULIFORMIS.

Foot dark, stained yellowish rings, dark brown venter; the entire body papillose spiny; black dorsal line.

Body length 3 inches, width 3 lines (about 6.3 mm).

Inhabits primary forests of Saint Vincent, often walks backward. If pressed, it releases viscous liquid from the mouth. Among the plants that I collected at the foot of mount “Bon Homme”, I, astonished, discovered by chance the only specimen.

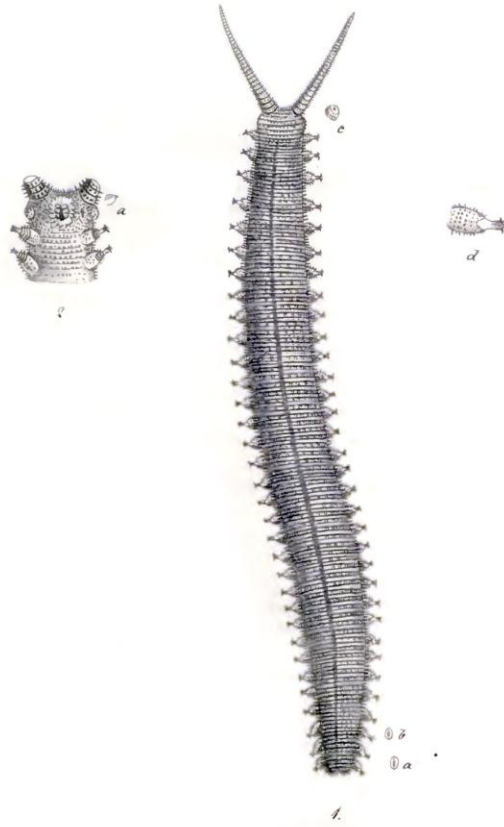
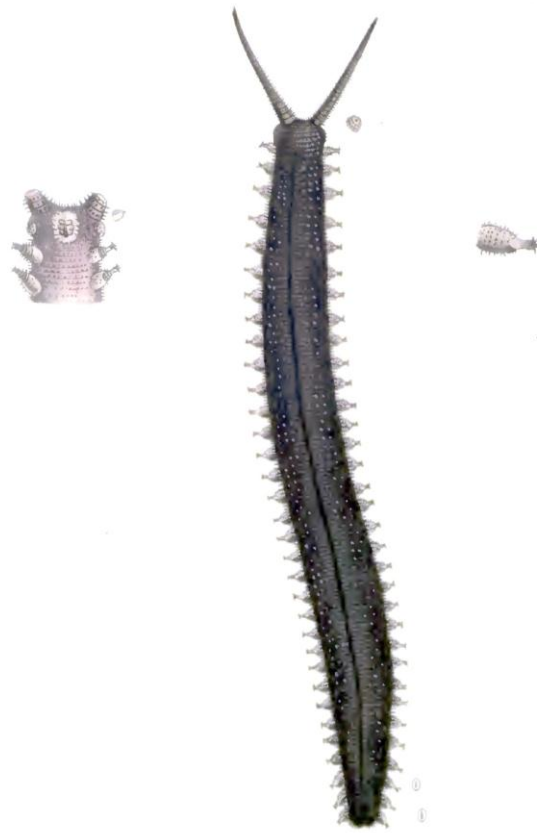


FIGURE 1. **Extended resting animal. a. Anus, b. genital orifice?, c. Eye. D. Foot (amplified).**



Peripatus juliformis. p. 444.

FIGURE 2. **Head (amplified), with extended lips and truncated antennae.**

A Lip papilla.

* The name comes from περίπατος, peripatus, ambulacrum.

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Appendix 1 Spanish translation

SPANISH TRANSLATION BY DR. CARLOS O. MORALES

Subreino Mollusca.

Clase POLYPODA Guild.

Género Peripatus.*

Características genéricas.

Cuerpo suave, alargado, contráctil, semicilíndrico, extremo posterior reducido, corrugado.

Dos largos tentáculos, semi-retráctiles, sub-cilíndricos.

Boca en la parte inferior alargada, (en descanso) oculta; con labios (cuando extendidos) papilosos.

Sin mandíbulas.

Los ojos en la base de los tentáculos, oscuros y verrugosos.

Sin escudo bucal.

Ano posterior, en posición inferior.

Orificio genital? definido, posterior e inferior.

Pares de patas 33, con pares alternos extendidos.

Uñas multifidas [i.e. "multi-divididas" en el extremo].

PERIPATUS JULIFORMIS.

Pie oscuro, anillos amarillentos manchados, vientre café oscuro; todo el cuerpo espinuloso papiloso; línea dorsal negra.

Longitud corporal 3 pulgadas, ancho 3 líneas (ca. 6,3 mm).

Habita en bosques primarios de San Vicente, *saepe retrogradus* [a menudo retrógrado]. Si se le oprime lanza líquido viscoso de la boca. Entre las plantas que recolecté al pie del monte "Bon Homme" por casualidad descubrí, atónito, el único ejemplar.

Explicación de la lámina XIV.

Figura 1. Animal en reposo ampliado. a. Ano, b. orificio genital?, c. Ojo. d. Pie ampliado.

Figura 2. Cabeza ampliada, con labios extendidos y antenas cortadas.

a Papila labial.

* El nombre procede de περίπατος, peripatos, ambulacro.

Appendix 2 Latin original

LATIN ORIGINAL (TRANSCRIPTION BY DR. CARLOS O. MORALES)

Subreg. Mollusca.

Classis. POLYPODA. Guild.

Genus. Peripatus.*

Character Genericus.

Corpus molle, elongatum, contractile, subrotundatum, postice subattenuatum, corrugatum.

Tentacula duo longa, semi-retractilia, sub-cylindracea.

Os subtus longitudinale, (in quiescente) clausum; labiis (dum extenditur) papillois.

Mandibulae nullae.

Oculi ad radices tentaculorum, obscuri, verrucosi.

Clipeus nullus.

Anus posticus, infra.

Orificium generationis? distinctum, posticum, infra.

Ambulacra utrinque 33, paribus alternis extenduntur.

Ungues multifidi.

PERIPATUS JULIFORMIS.

P. atro-fuscus, annulose flavido maculatus: ventri nigrescente-roseo; corpore toto spinuloso-papilloso: linea dorsali atra.

Long. Corp. 3 un. Lat. 3 lin.

Habitat in sylvis antiquis Sti. Vincentii saepe retrogradus. Atteritus liquorem glutinosum ab ore respuit. Inter plantas a me lectas ad radices montis immensi "Bon Homme" unicum exemplum attonitus forte detexi.

Explicatio Tabulae XIV.

Figure 1. Animal quiescens auctum. a. Anus, b. Orificium generationis? C. Oculus. D. Pes auctus.

Figure 2. Caput auctum, labiis expansis et antennis truncatis.

a Labii papillus.

* Nomen a περίπατος ambulacrum.