

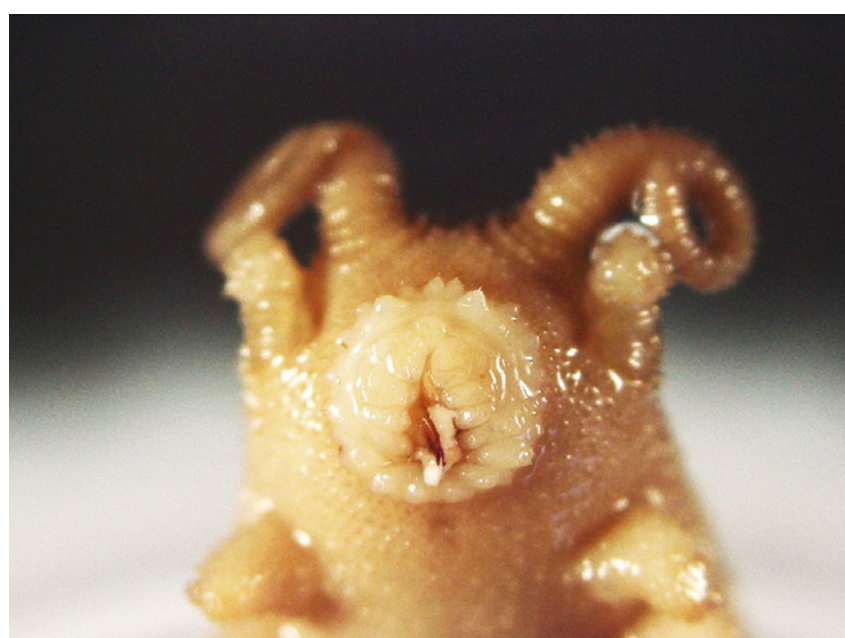
Why is there no book on velvet worms?

Julián Monge-Nájera

Back in 1995 I read, cover to cover, *The Biology of Scorpions* (Stanford University Press), a 587 page book that summarized everything known about these feared arthropods; and I asked myself: why is there no similar book about velvet worms? These worms, also known as “onychophorans”, with their placentas, Spiderman-like hunting nets, and over 500 million years of history, would certainly be fit for a fascinating book.

I considered writing it myself. Of course, living in Costa Rica, with its anemic libraries, it was impossible to take the first step for a serious, thorough book of this type: finding everything ever written about these worms. Why not take a few weeks to visit the famous expert Dr. Hilke Ruhberg, in Hamburg, and photocopy the literature there?

I could then return to Costa Rica, rent a room at [La Selva Research Station](#), where resources are plentiful and nobody would interrupt me, and write until the book was finished. My friend Dr. Christopher Vaughan had tipped me about that trick “when you really need to finish a manuscript”.



But then I read the long and complex series about onychophoran embryology, morphology, reproduction, physiology, and locomotion that British zoologist Sidnie M. Manton had written in the early 20th century, and it was clear to me that summarizing the mass of literature on onychophorans would need more time than I would ever have (I do have a life outside onychophorology). I understood why Gary A. Polis had chosen to invite several experts to coauthor his book on scorpions. That was a more reasonable idea: at the time, there were half a dozen people studying onychophorans, and I could invite them to write particular chapters to round a comprehensive book. That way I could have a manuscript in a reasonable time.

If you have a manuscript, you still need to reach the readers: how exactly do you publish such a specialized book?

Just at that time I met an American botanist who had published a similar book with a respected German publisher; I asked, and he sat down and kindly explained the whole process from first draft to printed book, but warned me that most copies of such books are never read.

--What? Never read! Why are they published, then?



Because academic librarians in the USA and Western Europe often feel compelled to buy every new technical book. The books are bought by the hundreds (not by the thousands!), and stored, in case someone ever wants to read them. It is a good business for the publishers, the libraries, the people who grow trees for paper, the people who manufacture printing ink, the postal service, etc. And there is always the chance that someone will actually read at least one chapter, but few people will actually want to read the whole book (I was, as usual, the odd case).

There was something I could do. I had noticed that, for over a century, hundreds of authors had described isolated details about the onychophoran body and behavior. All that information needed to be connected in a meaningful way

I thanked him for his honesty, but his words gave me pause. Even with several co-authors, a worthy book about onychophorans would need years of hard work, of nudging busy colleagues to finish their chapters, of difficult exchanges with editors and publishers. Sadly, I decided that I was not going to be the one to produce a book on “more than you would ever want to know about onychophorans”.

It was not all in vain, though. There was something I could do. I had noticed that, for over a century, hundreds of authors had described isolated details about the onychophoran body and behavior. All that information needed to be connected in a meaningful way. And what could be more meaningful than an evolutionary approach to find out the “why” of all these characteristics?

Why do they use adhesive to capture prey, instead of another method? Why are there extinct --but not living-- velvet worms in Europe and the USA? Why are females larger? Why do they move away from the light? Why are most fossils found in marine deposits, if they are terrestrial animals? Why did they lose the spikes and shields that protected their backs at the beginning?

I spent a good part of the next four years answering those questions, and Muriel H. Walker, kindly published my [article in a special issue](#) of the *Zoological Journal of the Linnean Society*, famous for publishing the Darwin-Wallace papers.

As a homage to the inspirational book about scorpions, I also worked with the leading scorpion authority, Dr. Wilson Lourenço of the Parisian Muséum National d’Histoire Naturelle, in a comparison of onychophorans and scorpions. Why compare these two groups, so different in appearance and danger to human health?

Because both are ancient groups of predatory invertebrates that use chemical weapons, and I wanted to see what they had in common, and also what made them different. Apparently, the key difference is that onychophorans have not evolved better ways to keep water inside their bodies, making them far more moisture-dependent than scorpions. But apart from that and the smaller litters and sexual precociousness of onychophorans, [both groups are ecologically quite similar](#).

The result of asking why there was no single book on velvet worms was a couple of articles, but, at the end of the day, the ghost of the book is still there, haunting scientific libraries, unable to rest until somebody finally decides to write it into life. Will you be the one to do it?

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Imágenes

Imagen encabezado: A velvet worm in “question mark” posture; by Alejandro Solórzano (reproduced with permission).

Imagen 2: A yet unnamed species, from Nicaragua; by Julián Monge-Nájera.

Imagen 3: A collared species from Panama (reproduced with permission from *Cuadernos de Investigación UNED*, 10(1), 204-208).

Referencias

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