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The identification of free living dorylaims

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Dorylaims, the members of the nematode order Dorylaimida, are certainly the most diverse nematode taxon, with more than 250 valid genera and more than 2500 valid species. Their identification has become a difficult and intricate task due to several reasons: many old species remain poorly characterized because of their corresponding original descriptions lack relevant diagnostic features, more recently described forms were not compared in depth to previously known ones, the current classification system is little satisfactory and not very useful for taxonomical purposes, available molecular information is still incomplete and of poor quality, etc. Examples are presented to illustrate the state of the art of the field. And some ideas or recommendations are proposed to overcome the present situation, among others: the re-examination of type material deposited in collections, more strict requirements for the description of new taxa, the provision of molecular data in combination to morphological information, etc. However, the 'taxonomic impediment' (a lack of taxonomists to handle the enormous task identifying and naming the biodiversity we have yet to describe) is a serious handicap to face this challenge.

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Post-embryological development and systematics of dorylaims (Dorylaimida)

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The phylogeny and the classification of Dorylaimida are controversial. The current traditional (morphological) system is not totally satisfactory and, so far, molecular data have not provided an alternative scheme yet. New initiatives should be undertaken to combine morphological and molecular information to overcome the present impasse. Post-embryological development is a poorly explored field of the biology of this nematode taxon since species descriptions are almost always based on adult specimens, and juvenile stages have received little or no attention. However, it does show an interesting diversity, with three main patterns: (i) both females and males have an elongate to filiform tail; (ii) females have an elongate to filiform tail, while adult males have rounded tail although their corresponding juvenile stages have a long tail; and (iii) both adult females and males with rounded tail but one or more juvenile stages bearing an elongated tail. The morphology of tail in adult dorylaims has been (and still is) used to separate family taxa, for instance Dorylaimidae (long-tailed forms) from Qudsianematidae (short-tailed forms). Nevertheless, molecular data suggest that rounded-tailed dorylaimid genera, namely *Crassolabium* Yeates, 1967 and *Labronema* Thorne, 1939, are close to long-tailed taxa. Some evidence has demonstrated that these rounded-tailed genera have one or more juveniles with an elongated tail, and support the hypothesis that shortening of tail in rounded-tailed forms might be a recent condition of the character and derived from long-tailed forms. If this hypothesis is confirmed in further studies, the classification of dorylaims should be re-examined.

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Opisthodelphic species of the genus *Oriverutus* Siddiqi, 1971 (Dorylaimida, Nordiidae): a compendium

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Oriverutus is a diverse dorylaimid taxon, with about 30 valid species. It shows some variability mainly affecting lip region morphology, odontostyle length, female genital system and tail shape, but species separation is often a problematic task. The structure of the female genital system distinguishes two groups of species since nine of them are monodelphic-opisthodelphic, namely *O. asaccatus*, *O. hastatus*, *O. lobatus*, *O. longistylus*, *O. microdorus*, *O. occidentalis*, *O. orientalis*, *O. sturhani* and *O. sundarus*, while the remaining are didelphic-amphidelphic. A compendium of opisthodelphic forms is provided after the re-examination of type specimens of some species, the study of fresh material of other species as well as a detailed analysis of available literature. Morphometric features of all species are summarized in a table, their geographical distribution is illustrated on a world map, original pictures, including scanning electron microscopy photos, are presented for several species, and an updated key to their identification is provided.

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Free-living Dorylaimida from Cuc Phuong National Park, VietnamDuong Nguyen^{1,2}, Tam T. Vu^{1,2} and Reyes Peña-Santiago¹Corresponding author: rpena@ujaen.es¹Departamento de Biología Animal, Biología Vegetal y Ecología, Universidad de Jaén, Campus 'Las Lagunillas' s/n, Edificio B3, 23071- Jaén, Spain.²Institute of Ecology and Biological Resources, Vietnam Academy of Sciences and Technology. 18 Hoang Quoc Viet, Cau Giay, Ha Noi, Vietnam.

The dorylaimid fauna from eight locations of a pristine, tropical forest in northern Vietnam has been studied. Twenty four forms have been hitherto characterized and can be divided in four groups according to their zoogeographical profile: cosmopolitan (*Aporcelaimellus obtusicaudatus*, *Tylencholaimus teres* and *Rhysocolpus iuventutis*), Pantropical (*Longidorella xenura*, *Proleptonchus aestivus* and *Tyleptus projectus*), Oriental (*Axonchium thoubalicum*, *Belondira murtazai*, *Dorylaimoides microamphidius*, *Labronema glandosum*, *L. neopacificum*, *Oriverutus parvus*, *Oxybelondira paraperplexa* and *Thornedia opisthodelphis*) and the remaining ten belonging to non-described species of the genera *Allodorylaimus*, *Belondira*, *Morasia*, *Oriverutus* and *Sectonema*. It is especially remarkable that more than two-fifths (42%) of the species examined certainly represent unknown forms, a proof of the interesting nematode diversity existing in the poorly explored natural areas from southeast Asia.

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