



## Descriptions of six known species of *Plectus* Bastian, 1865 (Nematoda, Plectida, Plectidae) from India with a discussion on the taxonomy of the genus

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### Abstract

Detailed descriptions of six species of *Plectus* reported for the first time from India are given on the basis of LM and SEM observations. *Plectus geophilus* de Man, 1880, *P. aquatilis* Andr ssy, 1985, *P. parvus* Bastian, 1865, *P. minimus* Cobb, 1893, *P. magadani* Kuzmin, 1979 and *P. communis* B tschli, 1873 are described and illustrated. The salient morphological characters of the species are given. The taxonomy of the genus has been discussed along with the status of species presenting a great degree of morphometric overlap and continuous variation. An emended diagnosis of the genus is provided with incorporation of relatively consistent and less variable characters.

**Key words:** Description, LM, SEM, taxonomy, *Plectus aquatilis*, *P. communis*, *P. geophilus*, *P. magadani*, *P. minimus*, *P. parvus*.

### Introduction

The genus *Plectus* was described by Bastian in 1865. Its species are largely continental, with a few reportedly found in extreme environments showing anhydrobiosis (Timm, 1971; Hendriksen, 1983; Adhikari *et al.*, 2010). The individuals are bacterivores and good colonizers having a value of 2 on the *c-p* scale (Bongers & Bongers, 1998). Usually males are rare and most species reproduce through parthenogenesis. In the past, several authoritative publications (Maggenti, 1961; Paramonov, 1964; Andr ssy, 1985; Zell, 1993, De Ley & Coomans, 1994) have been devoted to the genus due to its species richness. Andr ssy (1985) synonymised the genera *Plectoides* (de Man, 1904) Chitwood, 1951; *Pycnolaimus* Cobb, 1920 and *Proteroplectus* Paramonov, 1964 with *Plectus* Bastian, 1865. This cosmopolitan genus has 78 species on record *sensu* Andr ssy (2005) and Holovachov & De Ley (2006), however, the latter considered *Ceratoplectus* Andr ssy, 1984 as a subgenus of *Plectus*. The authors (l. c.) also synonymised *Chiloplectus* that was raised by Andr ssy (1984).

During a survey of nematodes from North India six species of *Plectus* were identified that are described here-under with LM and SEM details along with a discussion of their relationships.

### Material and methods

Nematodes were extracted using Cobb's (1918) sieving and decantation method and the modified Baermann funnel technique. For light microscopy, nematodes were fixed in 4% formaldehyde, dehydrated (Seinhorst, 1959) and later mounted on slides using the wax ring technique. The nematodes were measured with an ocular micrometer and drawn using a drawing tube. LM photographs were taken with an Olympus DP-11 digital camera mounted on an Olympus BX-51 DIC microscope. For Scanning Electron Microscopy (SEM), the specimens were fixed in 2% glutaraldehyde, post-fixed in 2% osmium tetroxide, dehydrated in alcohol series and critical point dried using CO<sub>2</sub>. The mounted nematodes were coated with 10 nm gold before viewing at 10 kV under an XL30 FEG scanning electron microscope.