Description of *Amplimerlinius uramanatiensis* sp. n. (Nematoda: Merliniidae) and observations on three other species of the genus from Iran

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Abstract

A new species of the genus *Amplimerlinius* is described and illustrated from the rhizosphere of *Vitis* sp. from Kurdistan province in western Iran. *A. uramanatiensis* sp. n. is characterized by having seven to eight head annuli up to the end of the outer extension of the cephalic framework, 29–31 µm long stylet and cylindrical-clavate tail with a thin hyaline region (9–11 µm) and smooth terminus. Furthermore, *A. paraglobigerus* and *A. macrurus* were identified and intra-specific variability of *A. globigerus* was studied in detail, based on 21 populations collected from different regions of Iran. A key and diagnostic compendium to the species of the genus is provided.

Key words: Key, compendium, morphology, nematode, new species, variability, *Vitis*

Introduction


Sturhan (2012) mentioned that the genus diagnosis should be emended to include some additional diagnostic characters such as tail terminus without a distinct refractive inner cuticle layer, females having six incisures at deirid level and third- and fourth-stage juveniles with six, but second-stage juveniles with four incisures in the lateral field. With the description of *A. omentelus* Kleyhans & Heyns, 1983 and of an undescribed species in the present study, the generic diagnosis must also be emended to include species with non-annulated tail terminus.


Review of the Iranian literature revealed that *A.globigerus* Siddiqi, 1979, *A. icarus* (Wallace & Greet, 1964) Siddiqi, 1976, *A. macrurus* (Goodey, 1932) Siddiqi, 1976, *A. sikkimensis* Shaw & Khan, 1992 and *A. socialis* (Andrássy, 1962) Siddiqi, 1976 have been reported from different localities in the country (see Ghaderi et al. 2014a). In the present paper, a description of *A. uramanatiensis* sp. n. is given, morphometrics of the Iranian populations of *A. paraglobigerus* Castillo, Siddiqi & Barcina, 1990 and *A. macrurus* are presented and some observations are made on intra-specific variation in Iranian populations of *A. globigerus*. Furthermore, a key and diagnostic compendium is provided for species identification.
Amplimerlinius globigerus closely resembles some species including A. socialis, A. planitierum, A. truncatus and A. umbonatus Ivanova, 1982. Andrássy (2007) noted that because stylet length is the only difference between A. globigerus and A. socialis, A. globigerus may be a junior synonym of A. socialis. However, stylet length in Iranian populations of A. globigerus overlap somewhat with that of A. socialis. Three other species, namely A. umbonatus, A. planitierum and A. truncatus differ from A. globigerus in areolated lateral field on the female tail, slightly shorter stylet (19–21 µm) and truncate tail, respectively. However, as Geraert (2011) noted, these species are very similar to A. globigerus. Nevertheless, specimens of A. globigerus from Iran very rarely display areolation on the tail and this may be considered as a diagnostic character for separating it from A. umbonatus.

From the drawings in the original description of A. clavicaudatus Choi & Geraert, 1975, it may be concluded that A. clavicaudatus has a distinct refractive inner cuticle layer and thus, it may be transferred to the genus Paramerlinius Sturhan, 2012. We propose study of the paratypes of A. caroli, A. planitierum, A. umbonatus and A. truncatus to establish their validity and of those of A. clavicaudatus to clarify its taxonomic position.

Key to the species of Amplimerlinius
(Modified after Geraert, 2011)

1. Female tail terminus smooth .......................................................... 2
   - Female tail terminus annulated (with fine or distinct annuli) .................... 3
2. Female stylet 29–31 µm; head with 7–8 annuli .................................. A. clavicaudatus
   - Female stylet 24–26 µm; head with 5 annuli .................................. A. omentelus
   - Female stylet 26–30 µm ..................................................... A. sikkimensis
   (however, tail terminus drawn as annulated in the original description and this species comes close to A. socialis).
3. Ratio c = 10–12; tail terminus clavate .............................................. A. clavicaudatus
   - Ratio c = 13–30; tail terminus hemispherical to slightly clavate ............ 4
4. Female stylet 19–24 µm ................................................................. 5
   - Female stylet 24–26 µm ..................................................... A. socialis (A. sikkimensis is very similar)
   - Female stylet 26–30 µm ..................................................... A. macrurus
   - Female stylet 31–47 µm ..................................................... 7
5. Head annuli 4–5 ............................................................................ A. parbati Zarina & Magbool, 1990
   - Head annuli 5–7 ........................................................................... 6
   - Head annuli 8–10 ......................................................................... A. paraglobigerus
6. Lateral field on tail areolated ............................................................. A. umbonatus
   - Lateral field on tail not areolated ................................................... A. globigerus (A. planitierum and A. truncatus are similar)
7. Mean body length 1–1.4 mm; c′ = 1.4–2.5 ........................................ 8
   - Mean body length 1.5 mm; c′ = 2.9–3.5 ........................................ A. longicauda
   - Mean body length 1.7–2 mm; c′ = 1.8–3.6 ........................................ 11
8. Head annuli 6–7 ............................................................................. A. viciae (A. siddiqui cannot be distinguished)
   - Head annuli 8–10 ........................................................................... 9
9. Female tail annuli 53–75 ................................................................. A. intermedius
   - Female tail annuli 41–49 ........................................................... A. truncatus
10. Basal pharyngeal bulb oval, length/width ratio = 2; lateral field on tail not areolated A. horneusis
    - Basal pharyngeal bulb cylindrical, length/width ratio = 3; lateral field on tail areolated A. nectolineatus
    - Head annuli 4–7; female stylet 33–42 ........................................ 12
12. Female tail annuli 37–47; lateral field on tail usually areolated A. amplius
    - Female tail annuli 50–61; lateral field on tail usually not areolated A. icarus (A. quercinus Mahajan, 1996 cannot be distinguished)

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