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***Persanura hyrcanica*, a new genus and species of Neanurinae (Collembola: Neanuridae) from Iran, with a key to genera of the tribe Neanurini**

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Abstract

Persanura hyrcanica, a new genus and species of Neanurini from Iran is described and illustrated. It has a unique suite of morphological characters: labrum with only 4 chaetae, fusion of tubercles So and L on head, tubercle Di on th. II–III with 2 chaetae and separation of tubercles Di on abd. V. The erected genus is closely related to *Neanura* MacGillivray, 1893, *Kalanura* Smolis, 2007 and *Xylanura* Smolis, 2011. An updated key to genera of the tribe Neanurini is given.

Key words: taxonomy, springtails

Introduction

The cosmopolitan family Neanuridae comprises more than 1450 species and constitutes nearly one fifth of the world fauna of Collembola (Bellinger *et al.* 2014). Interestingly, the family includes the largest living springtails, members of the genus *Holacanthella* Börner, 1906, which can reach almost 2 cm in length. Among six established subfamilies within the mentioned family, Neanurinae is the most speciose and intensively studied. In spite of more than 800 described species, the knowledge of the diversity of the subfamily is still incomplete and far from satisfactory. This is partly due to small number of active specialists in Collembola taxonomy and poorly recognition of many parts of the world, including also some parts of the Western Palearctic.

During investigations of springtails in Iran, a new species of the tribe Neanurini was discovered. The Neanurini is one of six tribes within Neanurinae and currently includes over 200 species worldwide belonging to 22 genera (Cassagnau 1989, Hopkin 1997, Deharveng & Bedos 2000, Smolis 2011). Up to date only 5 genera and 6 species are known from Iran (Shayanmehr *et al.* 2013). A detailed examination of the newly discovered species morphology showed its similarity to three genera: *Neanura* MacGillivray, 1893, *Kalanura* Smolis, 2007 and *Xylanura* Smolis, 2011. Nevertheless, it also convinced us that it can not belong to any mentioned taxa and a new genus should be erected for it. In the paper we present the description of the new taxon and a key to genera of the tribe Neanurini.

Material and methods

Terminology for the description follows that of Deharveng (1983), Deharveng & Weiner (1984), Greenslade & Deharveng (1990) and Smolis (2008).

Abbreviations used in text, tables and figures: General morphology: abd—abdomen; ant.—antenna; AOIII—sensory organ of antennal segment III; Cx—coxa; Fe—femur; Scx2—subcoxa 2; T—tibiotsar; th—thorax; Tr—trochanter; VT—ventral tube.

| | | |
|-----|--|--|
| 4. | Maxilla with two or three dentate lamellae | <i>Protanura</i> Börner, 1906 |
| - | Maxilla without or with one dentate lamella | 5 |
| 5. | Line of chaetae Di ₂ –De ₂ crosses the line Di ₁ –De ₁ on head (cross-type), head with 3+3 eyes | 6 |
| - | Line of chaetae Di ₂ –De ₂ parallel to the line Di ₁ –De ₁ on head (uncross-type), head without or with 1–2+1–2 eyes | 10 |
| 6. | Head with tubercles Af and Cl fused, abdomen V longer than abd. IV | <i>Thaumanura</i> Börner, 1932 |
| - | Head with tubercles Af and Cl separate, abdomen V shorter than abd. IV | 7 |
| 7. | Tubercles on thorax I absent, abdomen IV with tubercles De shift laterally towards D ₁ | <i>Xylanura</i> Smolis, 2011 |
| - | Tubercles on thorax I present, abdomen IV with tubercles not shift laterally | 8 |
| 8. | Chaetae A and B on head same length, tubercles Di on thorax I absent or present | <i>Neanura</i> MacGillivray, 1893 |
| - | Chaeta A shorter than chaeta B on head, tubercles Di on thorax I present | 9 |
| 9. | Head with separate lateral tubercles D ₁ , L and S ₀ ; tubercle Di on th. II–III with 3 chaetae | <i>Kalanura</i> Smolis, 2007 |
| - | Head with fusion of lateral tubercles L and S ₀ ; tubercle Di on th. II–III with 2 chaetae | <i>Persanura</i> gen. nov. |
| 10. | Abdomen V longer than abd. IV | <i>Caucasanura</i> Kuznetzova & Potapov, 1988 |
| - | Abdomen V shorter than abd. IV | 11 |
| 11. | Abdomen IV with tubercles Di, De and D ₁ completely fused | <i>Cansilianura</i> Dallai & Fanciulli, 1983 |
| - | Abdomen IV with tubercles Di, De and D ₁ separate or partially fused (e.g. only tubercles Di and D ₁ fused) | 12 |
| 12. | Abdomen V with tubercles Di shift laterally towards tubercle (De+D ₁ +L) | <i>Pumilinura</i> Cassagnau, 1979 |
| - | Abdomen V with tubercles not shift laterally | 13 |
| 13. | Abdomen VI with tubercles fused into a single large, distinctly bilobate plate | <i>Metanura</i> Yosii, 1954 |
| - | Abdomen VI with tubercles separate or fused into a large, not bilobate plate | 14 |
| 14. | Head with complete fusion of central tubercles Af, Cl and Oc | 15 |
| - | Head with separation or incomplete fusion of central tubercles Af, Cl and Oc (e.g. only tubercles Af and Cl fused) | 19 |
| 15. | Head with tubercles (Di+De) fused into a single transverse plate | <i>Monobella</i> Cassagnau, 1979 |
| - | Head with tubercles (Di+De) separate | 16 |
| 16. | Abdomen IV with tubercles Di fused | 17 |
| - | Abdomen IV with tubercles Di separate | 18 |
| 17. | Head with chaeta C, tubercle (Af+Cl+Oc) on head with non-reticulate areas (very rarely absent) | <i>Lathriopyga</i> Caroli, 1910 |
| - | Head without chaeta C, tubercle (Af+Cl+Oc) on head without non-reticulate areas | <i>Tetraloba</i> Lee, 1983 |
| 18. | Cryptopygy (tubercles of abdomen VI not visible from dorsal side) well developed | <i>Balkanura</i> Cassagnau, 1979 |
| - | No cryptopygy (tubercles of abdomen VI clearly visible from dorsal side) | <i>Catalanura</i> Deharveng, 1982 |
| 19. | Head with tubercles Di and De fused | 20 |
| - | Head with tubercles Di and De separate | 21 |
| 20. | Abdomen IV with tubercles Di fused, tubercle (Di+Di) on abd. V with 2+2 chaetae, elementary tubercle D _f present on head | <i>Albanura</i> Deharveng, 1982 |
| - | Combination of characters other than above | <i>Deutonura</i> Cassagnau, 1979 |
| 21. | Head with tubercles Di fused along midline, head without chaeta De ₂ | <i>Ghirkanura</i> Kuznetzova & Potapov, 1988 |
| - | Head with tubercles Di separate, head with chaeta De ₂ | 22 |
| 22. | Abdomen III with tubercles Di fused; mandible strongly modified, as long ciliated lamella | <i>Edoughnura</i> Deharveng, Hamra-Kroua & Bedos, 2007 |
| - | Abdomen III with tubercles Di separate, mandible not modified | 23 |
| 23. | Abdomen V with 4 tubercles: 2 Di and 2 (De+D ₁ +L) | <i>Cryptonura</i> Cassagnau, 1979 |
| - | Abdomen V with 2 or 3 tubercles: 2 (Di+De+D ₁ +L) or (Di+Di) and 2 (De+D ₁ +L) | 24 |
| 24. | Antennal segment I with 9–10 chaetae, head with chaeta D situated closer to chaeta G than chaeta F | <i>Neanurella</i> Cassagnau, 1968 |
| - | Antennal segment I with lesser number of chaetae, chaeta D on head set more posteriorly than chaeta F | <i>Endonura</i> Cassagnau, 1979 |

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