Zootaxa 3768 (2): 178–188
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3768.2.5
http://zoobank.org/urn:lsid:zoobank.org:pub:71A50DF5-A7E8-4643-9135-DE21D667A3AC

New taxa of the family Syringophilidae (Acari: Prostigmata) from African barbets and woodpeckers (Piciformes: Lybiidae, Picidae)

MACIEJ SKORACKI[1, 5], MIROSLAVA KLIMOVIČOVÁ [2], MUCHANE MUCHAI[3] & MARTIN HROMADA[2, 4]

[1]*Department of Animal Morphology, Adam Mickiewicz University, Faculty of Biology, Umultowska 89, 61–614 Poznan, Poland*
[2]*Department of Ecology, Faculty of Humanities and Natural Sciences, University of Presov, Presov, Slovakia*
[3]*Department of Zoology, National Museums of Kenya, PO Box 40658, GPO 00100 Nairobi, Kenya*
[4]*Faculty of Biological Sciences, University of Zielona Gora, Szafrana 1, 65-516 Zielona Gora, Poland*
[5]*Corresponding author. E-mail: skoracki@amu.edu.pl*

Abstract

New taxa of quill mites (Acari: Syringophilidae) are described from African barbets and woodpeckers in the Ethiopian region. A new monotypic genus *Picineoaulonastus* **gen. nov.** is established for a new species *Picineoaulonastus pogoniulus* **sp. nov.**, parasitising 2 lybiid species, *Pogoniulus bilineatus* (Sundevall) (type host) in Kenya and Tanzania and *P. pusillus* (Dumont) (Piciformes: Lybiidae) in Ethiopia. Additionally, 2 more new syringophilid species are described: *Neosyringophilopsis lybidus* **sp. nov.** from *P. bilineatus* in Kenya, and *Syringophiloidus picidus* **sp. nov.** from *Dendropicos fuscescens* (Vieillot) (Piciformes: Picidae) in Kenya, Uganda, and Tanzania.

Key words: Acari, ectoparasites, Lybiidae, Picidae, quill mites, Syringophilidae, taxonomy

Introduction

Mites of the family Syringophilidae (Acari: Prostigmata) are permanent and highly specialized parasites of birds living inside the quills of feathers (Kethley 1970). To date, this family includes over 290 species grouped in 56 genera and recorded from over 380 bird species belonging to 23 orders (Skoracki *et al*. 2012c, 2013a, c, d). Despite the Ethiopian region has a rich ornithofauna, the knowledge on bird syringophilids of the region is relatively poorly known (Skoracki *et al*. 2012), where only 55 quill mite species from 70 hosts have been described from this region until now (Fain *et al*. 2000; Skoracki and Hromada 2013; Skoracki *et al.* 2011, 2012b, c, 2013b).

The order Piciformes comprises of about 400 species (Clements *et al*. 2012) living in most parts the world, except Antarctica, Australia and Madagaskar and oceanic islands. Quill mite fauna of this order is still extremely weakly explored with only 9 mite species recorded from 13 piciform species, in particular from the families Bucconidae (3 species) and Picidae (6 species). Most of these syringophilids are monoxenous parasites (6 species); oligoxenous ones are *Picobia heeri* Haller (2 host species), *Neoaulonastus picidus* Skoracki (3 host species) and *Picobia dryobatis* (Fritsch) (5 host species) (Skoracki *et al*. 2012a, c). Till now syringophilids associated with piciform birds have been grouped into 5 genera: *Neoaulonastus* Skoracki, *Picisyringophilus* Skoracki et OConnor, *Syringophiloidus* Kethley, *Picobia* Haller, and *Pseudopicobia* Skoracki *et al*. From these genera, only two, *Picisyringophilus* and *Pseudopicobia* are restricted to piciform birds whereas remaining are distributed on a wide spectrum of hosts (Skoracki 2011; Skoracki *et al*. 2012).

In this paper, we propose a new genus and three new species described from African barbets and woodpeckers. Syringophilid mites are recorded from family Lybiidae for the first time. The host spectrum for the genus *Neosyringophilopsis*, previously known only from passeriform birds is broadened to include also piciform birds.

 Accepted by A. V. Bochkov: 3 Jan. 2014; published: 25 Feb. 2014

Differential diagnosis. This new species is morphologically similar to *Syringophiloidus carolae* Skoracki, Flannery et Spicer, 2009 described from *Cardinalis cardinalis* (Linnaeus) (Passeriformes: Cardinalidae) (Skoracki *et al*. 2009). In females of both species, the infracapitulum is punctate; each lateral branch of the peritremes has 9–10 chambers; the propodonotal shield is punctate; the hysteronotal shield is fused to the pygidial shield. These species are distinguished as follow: in females of *Syringophiloidus picidus*, each medial branch of the peritremes has 6–7 chambers; the length ratio of setae *vi*:*ve*:*si* is 1:1.2–1.3:1.7–2.3, and all of propodonotal and hysteronotal setae are discernibly serrated. In females of *Syringophiloidus carolae*, each medial branch of the peritremes has 3 chambers; the length ratio of setae *vi*:*ve*:*si* is 1:3–3.4:5–6.5, and all propodonotal and hysteronotal setae are lightly serrated.

Etymology. The specific name refers to the family name of the host.

Acknowledgements

We would like to thanks Dr. Idle Farah, director and Dr. Peter Njoroge, the head of the Department of Ornitology of the National Museums of Kenya (Nairobi) for making avilable the samples of dry bird skins for the present study. We also thank Dr. R. Smolak and Bc. P. Mikula for the technical help. This work was financially supported by VEGA 1/1244/12 (MK, MH), MK was supported also by LLP/Erasmus - student mobility for placement 2013. MS was supported by the SYNTHESYS Project (http://www.synthesys.info/), which was funded by the European Community Research Infrastructure Action under FP7 (BE–TAF–1687).

References

Bochkov, A.V. & Galloway, T.D. (2001) Parasitic cheyletoid mites (Acari: Cheyletoidea) associated with passeriform birds (Aves: Passeriformes) in Canada. *Canadian Journal of Zoology*, 79, 2014–2028. http://dx.doi.org/10.1139/cjz-79-11-2014

Clements, J.F., Schulenberg, T.S., Iliff, M.J., Sullivan, B.L., Wood, C.L. & Roberson, D. (2012) The eBird/clements checklist of birds of the world: Version 6.7. The Cornell Lab Ornithology, Ithaca, New York. Available from: www.birds.cornell.edu/clementschecklist/downloadable-clements-checklist (accessed 15 August 2013)

Fain, A., Bochkov, A.V. & Mironov, S.V. (2000) New genera and species of quill mites of the family Syringophilidae (Acari: Prostigmata). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique*, 70, 33–70.

Fritsch, W. (1958) Die milbengattung *Syringophilus* Heller, 1880 (subordo Trombidiformes, Fam. Myobiidae Mégnin, 1877). *Zoologische Jahrbücher Systematik*, 86, 227–234.

Grandjean, F. (1939) Les segments postlarvaires de l'hysterosoma chez les oribates (Acariens). *Bulletin de la Société zoologique de France*, 64, 273–284.

Grandjean, F. (1944) Observations sur les acariens de la famille des Stigmaeidae. *Archives des Sciences Physiques et Naturelles*, 26, 103–131.

Kethley, J.B. (1970) A revision of the family Syringophilidae (Prostigmata: Acarina). *Contributions of the American Entomological Institute*, 6, 1–76.

Kethley, J.B. (1990) *Acarina: Prostigmata (Actinedida)*. *In*: Dindal, D.L. (Ed.), Soil Biology Guide. Wiley and Sons, New York, pp. 667–754.

Skoracki, M. (2011) Quill mites (Acari: syringophilidae) of the Palaearctic region. *Zootaxa*, 2840, 1–415.

Skoracki, M., Flannery, M.E. & Spicer, G.S. (2009) New data on systematics of the quill mites of the genus *Syringophiloidus* Kethley, 1970 (Acari: Syringophilidae) from North American birds. *Acta Parasitologica*, 54, 64–72. http://dx.doi.org/10.2478/s11686-009-0001-y

Skoracki, M., Glowska, E. & Bochkov, A.V. (2013a) Phylogeny of quill mites of the family Syringophilidae (Acari: Prostigmata) based on their external morphology. *European Journal of Entomology*, 110, 663–675. http://dx.doi.org/10.14411/eje.2013.090

Skoracki, M. & Hromada, M. (2013) A review of picobiine mites (Acari: Syringophilidae: Picobiinae) parasiting African birds. *Folia Parasitologica*, 60, 192–212.

Skoracki, M., Hromada, M. & Unsoeld, M. (2013b) Three new quill mite species of the genus *Neoaulonastus* Skoracki (Acari: Syringophilidae) parasiting passerines in Tanzania. *Zootaxa*, 3616, 367–377. http://dx.doi.org/10.11646/zootaxa.3616.4.5

Skoracki, M., Hromada, M. & Wamiti, W. (2011) A new species and new host records of syringophilid mites (Acari: Syringophilidae) from passerines from Kenya. *Zootaxa*, 2922, 34–40.

Skoracki, M., Mironov, S.V. & Unsoeld, M. (2013c) The first records of quill mites of the family Syringophilidae (Acariformes: Prostigmata: Cheyletoidea) from trogoniform birds (Aves: Trogoniformes). *Zootaxa*, 3701 (2), 291–297. http://dx.doi.org/10.11646/zootaxa.3701.2.9

Skoracki, M., Scibek, K. & Sikora, B. (2012a) New genus and three new species of quill mites (Acari: Syringophilidae: Picobiinae) parasitising puffbirds (Aves: Piciformes). *Folia Parasitologica*, 59, 229–236. http://dx.doi.org/10.14411/fp.2012.031

Skoracki, M., Solarczyk, P. & Sikora, B. (2012b) Three new species of picobiine mites (Acari: Syringophilidae) parasiting African flycatchers (Aves: Muscicapidae). *Systematic Parasitology*, 83, 123–135. http://dx.doi.org/10.1007/s11230-012-9376-5

Skoracki, M., Unsoeld, M. & Ozminski, M. (2013d) A new genus of quill mites of the family Syringophilidae (Acari: Cheyletoidea) associated with mousebirds (Aves: Coliiformes). *Systematic Parasitology*, 85, 213–217. http://dx.doi.org/10.1007/s11230-013-9427-6

Skoracki, M., Zabludovskaya, S. & Bochkov, A.V. (2012c) A review of Prostigmata (Acariformes: Trombidiformes) permanently associated with birds. *Acarina*, 20, 67–107.