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Two new species of feather mites (Acarina: Psoroptidia) from the Great Barbet, *Psilopogon virens* (Piciformes: Megalaimidae)

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Abstract

The paper describes two new species of feather mites collected on *Psilopogon virens* (Boddaert) (Piciformes: Megalaimidae) in India (Meghalaya): *Megalaimobius massarae* **sp. nov.** (Analgoidea: Pteronyssidae) and *Picalgoides arbenzi* **sp. nov.** (Psoroptoidea: Psoroptoididae). Males of *M. massarae* **sp. nov.** differ from the other three species of the genus by the shape of the transventral sclerite which is much deeper concave. The female of the new species has the external copulatory tub with an acute apex (this structure has a truncated apex in females of other species). Males of *Picalgoides arbenzi* **sp. nov.** differ from the closest species *P. capitonis* Černý, 1974 mainly by the shape of adanal apodemes which are fused into a large arch encircling the anal field. Females of the new species have the hysteronotal shield with acute posterior angles and setae *d2* situated on the lateral margins of this shield (in females of *P. capitonis* the hysteronotal shield has the posterior angles rounded and setae *d2* situated at a short distance from the lateral margins of this shield).

Key words: Acari, *Megalaimobius massarae, Picalgoides arbenzi*, systematics, India

Introduction

The diversity of feather mites (Acariformes: Psoroptidia) in India is poorly known, data on species recorded in this country are scattered among various taxonomic works (Oudemans 1904; Bonnet 1924; Gaud & Mouchet 1963; Atyeo *et al*. 1972; Gaud 1972; McClure & Ratanaworabhan 1973; Gaud & Atyeo 1976, 1987; Santana 1976; Peterson *et al.* 1980; D'Souza & Jagannath 1982; Atyeo 1984; Gaud *et al.* 1985, 1988; Dabert & Ehrnsberger 1998, 2003; Mironov *et al.* 2002; Putatunda *et al.* 2004; Constantinescu *et al.* 2014a, b, c).

The feather mite fauna of the Asian barbets (Piciformes: Megalaimidae) is less studied. Atyeo (in McClure and Ratanaworabhan 1973) reported ten new species of mites belonging to seven genera and five families from these birds; unfortunately this material has never been described. Later, a new genus of feather mites, *Megalaimobius* Mironov, 2005, was established for three species found on birds of the genus *Psilopogon* Müller S. (=*Megalaima* Gray G.R.*)* (Mironov 2005). In the present paper we describe two new species of feather mites collected in India (Meghalaya) and belonging to the genera *Megalaimobius* Mironov, 2005 (Analgoidea: Pteronyssidae) and *Picalgoides* Černý, 1974 (Psoroptoidea: Psoroptoididae). These new species were collected from the Great Barbet *Psilopogon virens* (Boddaert), a host that has not been investigated so far regarding its feather mites fauna.

Material and methods

The material used in the present paper was collected from Meghalaya (India) in January 2014. The birds were captured using mist-nets, identified and visually checked for the presence of mites and after collecting them released back into the wild. Mite specimens were taken from birds manually with a needle and placed in tubes with

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References

Atyeo, W.T. (1984) A new genus of feather mites and a new expression of male polymorphism (Analgoidea: Avenzoariidae). *Journal of the Kansas Entomological Society*, 57 (3), 437–455.

Atyeo, W.T., Gaud, J. & Humpfhreys, W.J. (1972) The feather mite genus *Freyanella* Dubinin, 1953 (Analgoidea: Pterollichidae). *Acarologia*, 13, 383–409.

Bonnet, A. (1924) Révision des genres *Megninia, Mesalges* et genres voisins de la sous-famille des sarcoptides plumicoles (2e Partie). *Bulletin de la Société zoologique de France*, 49, 190–218.

Buchholz, R. (1869) *Bemerkunger über die Arten der Gattung Dermaleichus Koch*. Druk von E. Blochmann & Sohn, Dresden, 56 pp.

Černý, V. (1974) Parasitic mites of Surinam XIX. Seven new species of *Mesalgoides* (Analgoidea, Analgidae). *Folia Parasitologica*, 21, 243–250.

Clements, J.F., Schulenberg, T.S., Iliff, M.J., Sullivan, B.L., Wood, C.L. & Roberson, D. (2013) The eBird/Clements checklist of birds of the world: Version 6.9. http://www.birds.cornell.edu/clementschecklist/download/ (accessed 11 September 2014)

Constantinescu, I.C., Chişamera, G., Mukhim, K.B. & Adam, C. (2014a) Two new feather mite species of the family Pteronyssidae (Acarina: Analgoidea) from Meghalaya (Northeast India). *Zootaxa*, 3774 (4), 351–366. http://dx.doi.org/10.11646/zootaxa.3774.4.4

Constantinescu, I. C., Chişamera, G., Mukhim, K.B. & Adam, C. (2014b) A new species of pterodectine feather mites (Acarina, Analgoidea, Proctophyllodidae) from the Little Spiderhunter *Arachnothera longirostra* (Passeriformes, Nectariniidae) in Meghalaya, India. *ZooKeys*, 425, 1–13. http://dx.doi.org/10.3897/zookeys.425.7587

Constantinescu, I.C., Chişamera, G., Mukhim, K.B. & Adam, C. (2014c) Three new species of feather mite of the genus *Proterothrix* Gaud, 1968 (Analgoidea: Proctophyllodidae: Pterodectinae) from passerines in Meghalaya, North East India. *Systematic Parasitology*, 89, 45–58. http://dx.doi.org/10.1007/s11230-014-9508-1

Dabert, J. & Ehrnsberger, R. (1998) Phylogeny of the feather mite family Ptiloxenidae Gaud, 1982 (Acari: Pterolichoidea). *Biosystematics and Ecology Series*, 14, 145–178.

Dabert, J. & Ehrnsberger, R. (2003) The feather mite family Syringobiidae Trouessart, 1896 (Acari, Astigmata, Pterolichoidea). I. Systematics of the family and description of new taxa. *Acta Parasitologica*, 48, 1–184.

D'Souza, P.E. & Jagannath, M.S. (1982) A new genus and species of syringobiid mite (Acari) in the quill of domestic fowl (*Gallus domesticus*) from south India. *Indian Journal of Acarology,* 6, 51–56.

Gaud, J. (1972) Acariens Sarcoptiformes plumicoles (Analgoidea) parasites sur les oiseaux Charadriiformes d'Afrique. *Musée Royal de l'Afrique Centrale, Annales Sciences Zoologiques*, 193, 1–116.

Gaud, J. (1988) Acariens Sarcoptiformes plumicoles parasites des Piciformes d'Afrique. I. Parasites des Indicatoridae. *Revue de Zoologie africaines*, 102, 411–428.

Gaud, J. & Atyeo, W.T. (1976) Discordances entre les aires de répartition géographique des parasites et celles de leurs hotes chex les sarcoptiformes plumicoles. *Acarologia*, 18, 329–344.

Gaud, J. & Atyeo, W.T. (1987) Les *Trouessartia* (Analgoidea, Trouessartiidae) parasites des hirondelles de l'ancien monde II. Le groupe Minutipes. *Acarologia*, 28, 367–379.

Gaud, J. & Atyeo, W.T. (1996) Feather mites of the world (Acarina, Astigmata): the supraspecific taxa. *Musée Royal de l'Afrique Centrale, Annales Sciences Zoologiques*, 277, 1–191.

Gaud, J. & Mouchet, J. (1963) Révision des genres *Grallobia* Hull et *Grallolichus* Gaud (Pterolichidae, Sarcoptiformes). *Acarologia*, 5, 628–643.

Gaud, J., Atyeo, W.T. & Barré, N. (1985) Les acariens du genre *Megninia* (Analgidae) parasites de *Gallus gallus*. *Acarologia*, 26 (2), 171–182.

Gaud, J., Rosen, S. & Hadani, A. (1988) Les Acariens plumicoles du genre *Megninia* parasites des poulets domestiques. *Science véterinaires médicine comparée*, 90, 83–98.

Griffiths, D.A., Atyeo, W.T., Norton, R.A. & Lynch, C A. (1990) The idiosomal chaetotaxy of astigmatid mites. *Journal of Zoology*, 220, 1–32. http://dx.doi.org/10.1111/j.1469-7998.1990.tb04291.x

Grimmett, R., Inskipp, C. & Inskipp, T. (2011) *Helm Field Guides: Birds of the Indian Subcontinent*. Christopher Helm, London, 528 pp.

McClure, H.E. & Ratanaworabhan, N. (1973) *Some ectoparasites of the birds of Asia, Applied Scientific Research*, Jintana Printing Ldt, Bangkok, 219 pp.

Mironov, S.V. (1992) Five new species of feather mite genus *Pteroherpus* Gaud (Analgoidea: Avenzoariidae) from passerine birds of Vietnam. *International Journal of Acarology*, 18, 1–12. http://dx.doi.org/10.1080/01647959208683958

Mironov, S.V. (2001) Four new genera of the feather mite family Pteronyssidae Oudemans 1941 (Astigmata: Analgoidea) with notes on systematic of the family. *Acarina*, 9 (1), 3–22.

Mironov, S.V. (2003) A review of feather mites of the genus *Neopteronyssus* (Astigmata Pteronyssidae) associated with

woodpeckers (Piciformes Picidae) of the Old World. *Belgian Journal of Entomology*, 5 (1), 37–77.
Mironov, S.V. (2004) Taxonomic notes on four genera of the feather mite subfamily Pandalurinae (Astigmata: Psoroptoididae). *Acarina,* 12 (1), 3–16.
Mironov, S.V. (2005) A new feather mite genus, *Megalaimobius* gen. n. (Astigmata: Pteronyssidae), from the Asian Barbets (Piciformes: Ramphastidae: Megalaiminae) in Vietnam. *Acarina*, 13 (2), 117–126.
Mironov, S.V. (2007) Systematic notes on two genera of the feather mite family Psoroptoididae (Astigmata: Analgoidea). *Acarina*, 15 (1), 135–141.
Mironov, S.V. & Pérez, T.M. (2002) Two new feather mites (Astigmata: Analgoidea) from ground finches of the genus *Geospiza*. *Acta Parasitologica*, 47, 228–234.
Mironov, S.V. & Proctor, H.C. (2005) A new feather mite genus of the family Psoroptoididae (Acari: Analgoidea) from cassowaries. *Journal of Natural History*, 39, 3297–3304.
http://dx.doi.org/10.1080/00222930500126107
Mironov, S.V., Dabert, J. & Ehrnsberger, R. (2002) On systematics of the feather mite genus *Triphyllochaeta* Dubinin, 1956 (Astigmata: Pterolichidae). *Entomologische Mitteilungen aus dem Zoologischen Museum Hamburg*, 14, 27–37.
Mironov, S.V., Literák, I., Sychra, O. & Čapek, M. (2011) A new mite species of the genus *Picalgoides* Černý, 1974 (Astigmata: Psoroptoididae) from a passerine host in Costa Rica. *Systematic Parasitology*, 79, 63–70.
http://dx.doi.org/10.1007/s11230-011-9293-z
Norton, A.R. (1998) Morphological evidence for the evolutionary origin of Astigmata (Acari: Acariformes). *Experimental & Applied Acarology*, 22, 559–594.
Oudemans, A.C. (1904) Acarologische Aanteekeningen XIV. *Entomologische Berichten*, 1, 190–195.
Peterson, P.C., Atyeo, W.T. & Moss, W.W. (1980) The feather mite family Eustathiidae (Acarina: Sarcoptiformes). Monograph. *Academy of Natural Sciences of Philadelphia*, 21, 1–143.
Putatunda, B.N., Kumar, R. & Banerjee, D.P. (2004) Mites parasitic and/or associated with poultry and some mammals in Hisar, Haryana with key to identification. *Indian Journal of Animal Research*, 38 (1), 1–7.
Rasmussen, P.C. & Anderton, J.C. (2012) *Birds of South Asia. The Ripley Guide. Vol. 1 & 2*. *2nd Edition*. National Museum of Natural History—Smithsonian Institution, Michigan State University and Lynx Edicions, Washington, D.C., Michigan and Barcelona, 684 pp. & 378 pp.
Santana, F.J. (1976) A review of the genus *Trouessartia* (Analgoidea: Alloptidae). *Journal of Medical Entomology*, Supplement 1, 1–128.
Stoll, O. (1893) Subfamily Analgesinae. *In*: Godman, F.D. & Salvin, O. (Eds.), *Biologia Centrali-Americana, Zoologia*. R.H. Porter, London, pp. 40–43.
http://dx.doi.org/10.5962/bhl.title.54584
Trouessart, E.L. (1885) Note sur la classification des Analgésiens et diagnoses d'especes et de genres nouveau. *Bulletin de la Société d'Études Scientifiques d'Anger*, 14, 46–88.