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Article

New feather mites of the subfamily Pterodectinae (Acari: Proctophyllodidae) from passerines and woodpeckers (Aves: Passeriformes and Piciformes) in Vietnam

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Table of contents

Abstract

Two new genera and nine new species of the feather mite subamily Pterodectinae (Proctophyllodidae) are described from passerines and woodpeckers in Vietnam: *Dolichodectes furcilobus* **sp. n.** from *Copsychus malabaricus* (Scopoli) (Muscicapidae), *Montesauria abroscopi* **sp. n.** from *Abroscopus superciliaris* (Blyth) (Cettiidae), *M. macronoi* **sp. n.** from *Macronous gularis* (Horsfield) (Timaliidae), *M. pellornei* **sp. n.** from *Pellorneum ruficeps* Swainson (Pellorneidae), *M. phylloscopi* **sp. n.** from *Phylloscopus ricketti* (Slater) (Phylloscopidae), *M. seicerci* sp. n. from *Seicercus valentini* (Hartert) (Phylloscopidae), *Picipterodectes sasiae* **gen. n.**, **sp. n.** from *Sasia ochracea* Hodgson (Picidae), *Proterothrix alcippeae* **sp. n.** from *Alcippe rufogularis* (Mandelli) (Pellorneidae), and *Vireodectes erporni* **gen. n.**, **sp. n.** from *Erpornis zantholeuca* (Blyth) (Vireonidae). The new genera *Picipterodectes* **gen. n.** and *Vireodectes* **gen. n.** belong to the *Proterothrix* generic group uniting archaic genera in the tribe Pterodectini. Brief comments on the current state of

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systematics of the genera *Dolichodectes* Park and Atyeo, 1971, *Montesauria* Oudemans, 1905 and *Proterothrix* Gaud, 1968 are provided. A new species group *macronoi* is established in the genus *Montesauria*.

Key words: Acari, feather mites, Proctophyllodidae, systematics, Aves, Passeriformes, Piciformes, Vietnam

Introduction

Feather mites are highly specialized parasitic and commensal astigmatan mites (Acari: Astigmata) permanently inhabiting the plumage or skin of birds. The approximately 2500 species in 450 genera and 34–38 families occur throughout the World and have been recorded from all avian orders; nevertheless, it is considered that the currently known number of species represents not more than 15% of the extant fauna (Peterson 1975; Gaud & Atyeo 1996; Mironov 2003; Proctor 2003; Dabert *et al.* 2008; OConnor 2009; Schatz *et al.* 2011).

With the present work we start a series of papers dedicated to new taxa of feather mites from passerines and other terrestrial birds from Vietnam. Information on feather mite biodiversity in Vietnam, as for all countries of the Indo-Malayan, is quite scanty. The investigation of Atyeo (1973) allows us to understand how poorly explored this region is. This author investigated a vast material from ten countries of the Indo-Malayan region (Vietnam was not included), representing collections from over 589 avian species of about 2200 species occurring in this region, and identified to the species level only 95 feather mite species from 84 genera and 17 families, while much greater number of potentially new species remained identified only to the generic level.

The first records of five feather mites from Vietnam were mentioned in the taxonomic papers of early researchers of the nineteenth century (Mégnin & Trouessart 1884; Trouessart 1884, 1885, 1887). Further, Gaud and Petitot (1948) reported 32 feather mite species referring (according to the modern taxonomic system) to 21 genera and 12 families. These authors also suggested the quite probable presence of 22 more species in this country. Later on, Gaud *et al.* (1985) reported three species of the genus *Megninia* Berlese, 1883 (Analgidae) from domestic chickens and wild *Gallus gallus* Linnaeus in Vietnam. Finally, Mironov (1990, 1992, 1993) described eleven new species and two new genera of the family Pteronyssidae. In total, 45 species, 23 genera, and 12 families of feather mites have been recorded so far in Vietnam.

In the plumage of avian hosts, pterodectines mainly inhabit the primaries and secondaries of the wings, where they are located in corridors on the ventral surface of the vane. The subfamily Pterodectinae is one of the two subfamilies currently recognized within the family Proctophyllodidae (Mironov 2009; Knowles & Klimov 2011), although previous authors arranged members of the former subfamily in three or two separate subfamilies (Park & Atyeo 1971a, 1971b, 1972a; Gaud & Atyeo 1996). The Pterodectinae in the modern sense have included up to now about 175 species in 19 genera (Mironov *et al.* 2008b; Mironov 2009; Valim & Hernandes 2010; Mironov & González-Acuña 2011). Representatives of this subfamily are distributed mostly on two major taxonomic groups of hosts, passerines (Passeriformes) and hummingbirds (Apodiformes: Trochilidae); however, several species are known from Coraciiformes and Piciformes, and a single species has been found on each of Gruiformes, Musophagiformes and Caprimulgiformes (Park & Atyeo 1971a, 1975; Gaud & Atyeo 1996; Mironov 2006, 2009; Valim & Hernandes 2010). Pterodectines restricted to hummingbirds constitute the tribe Rhamphocaulini, and the remaining genera are referred to the tribe Pterodectini. Representatives of the latter tribe are currently arranged into two generic groups, *Proterothrix* and *Pterodectes*, which can be considered as archaic and derived groups, respectively (Mironov 2009).

Pterodectines distributed in the Old World have been most extensively explored in Africa (Gaud 1952, 1953, 1957, 1964, 1979; Till 1954, 1957; Gaud & Mouchet 1957; Gaud & Till 1961; Mironov & Kopij 1996a, 1996b, 1997; Mironov & Fain 2003; Mironov 2008, Mironov & Wauthy 2010; Mironov *et al*. 2010). In the Oriental part of the Old World, mainly in countries of the Indo-Malayan region, these mites have been studied to a much lesser extent (Sugimoto 1941, Gaud & Petitot 1948; Gaud 1962, 1968, Atyeo & Gaud 1977; Mironov 2006; Kuroki *et al*. 2006; Mironov *et al*. 2008a, Mironov & Proctor 2009; Hernandes *et al*. 2010). Investigations of pterodectines in Europe and Northern Asia are not numerous at all, but this is explained by the fact that only a few species of the genera *Alaudicola* Mironov, 1996 and *Montesauria* Oudemans, 1905 and a single species of the genus *Pterodectes* Robin, 1877 are known to occur in these territories (Robin & Mégnin 1877; Oudemans 1905; Vassilev 1958; Černý 1963; Mironov 1996). Although pterodectines from the Old World have been explored for a long time, and generic diagnoses and species content of genera are at present quite clear, most species described before the 1970s need redescription and almost all genera require construction of keys to species.