



Neocaeculus orientalis sp. nov. (Acari, Trombidiformes, Caeculidae) from Thailand

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Abstract

A new species of the predatory mite family Caeculidae, *N. orientalis* sp. nov., is described and illustrated, based on adult and all active immature instars from moss and forest litter of various localities in Thailand. *Neocaeculus orientalis* sp. nov. differs from its congeners in uniquely having the adult femur I divided but femora II–IV entire, adult coxal setation of 5-1-2-1 (*4a* excluded), and heterogeneous coxal setae. It is the first *Neocaeculus* species known to have no seta *vi* (= *po*) in all stages. A comparison of the diagnostic characters of known *Neocaeculus* species is given.

Key words: *Neocaeculus*, Caeculidae, Prostigmata, new species, predatory mites, ontogeny, Thailand

Introduction

The family Caeculidae is a group of predatory mites characterized by their large (ca. 1000-3000 μm long), heavily sclerotized body with characteristically arranged idiosomal plates and leg I usually equipped with spine-like setae on its anterior face (Walter *et al.* 2009). Due to the latter, they are also called “rake-legged mites”. Caeculids are usually found in dry exposed habitats such as beaches, beach vegetation, tree bark, rocky niches in desert and mountain habitats (Coineau 1974a; Walter *et al.* 2009). However, their ambush behavior and camouflage integument may make them hardly noticeable. This family currently comprises about 100 known species, including two species from fossil amber, in seven genera: *Allocaeculus* Franz, *Andocaeculus* Coineau, *Caeculus* Dufour, *Microcaeculus* Franz, *Neocaeculus* Coineau, and *Procaeculus* Jacot (Coineau & Poinar 2001; Taylor *et al.* 2013). A key to genera and a checklist of the world species of Caeculidae were recently provided by Taylor *et al.* (2013).

Coineau (1967) proposed the genus *Neocaeculus* for *N. luxtoni* Coineau, 1967 from New Zealand. Later, Coineau and Enns (1969) described two new species from Australia: *N. knoepffleri* Coineau & Enns, 1969 and *N. bornemisszai* Coineau & Enns, 1969. Coineau (1974a) briefly described one more new species from South Africa: *N. lamorali* Coineau, 1974a, and also assigned the South American species, *N. bruchi* (Berlese, 1916)—from *Caeculus*—to *Neocaeculus*. In the same year, Coineau (1974b) described two new species from Australia: *N. johnstoni* Coineau, 1974b and *N. womersleyi* Coineau, 1974b. Recently, three more new species of *Neocaeculus* were described from this continent by Taylor *et al.* (2013) and Taylor (2014): *N. imperfectus* Taylor *et al.*, 2013, *N. kinnearae* Taylor, 2014 and *N. nudonates* Taylor, 2014. The complete ontogeny of *Neocaeculus* species is known only in *N. luxtoni* and *N. knoepffleri* (Coineau 1967; Coineau & Enns 1969). In this paper, we describe all active instars of the first member of the genus known outside Southern Hemisphere: *N. orientalis* sp. nov. from moss and forest soil and litter of various localities in Thailand. This is also the first record of family Caeculidae in Thailand.

Material and methods

Mites were collected by hand or extracted from soil and leaf-litter samples using Tullgren funnels for seven days