



## Five new species of predaceous cheyletid mites (Acari: Prostigmata: Cheyletidae)

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### Abstract

Five new species and 1 new genus of predaceous cheyletid mites (Acari: Cheyletidae) are described. *Oconnoricheylus* **gen. nov.** (type species *O. speciosus* sp. nov.) differs from *Alliea* in both sexes by the presence of 4 setae on tibia II and in males by the palpal claws possessing elongated projections, an apically slightly serrate eupathidium *ul'* and comb-like eupathidia *acm* and *sul*. *Oconnoricheylus speciosus* **sp. nov.** (from oranges, USA) differs from *O. chimaera* (Bochkov & Ochoa) **comb. nov.** (transferred from *Alliea*) by the presence of 2 filiform setae on tibia II, the distinct ornamentation of the dorsal shields, and by the absence of angles on the leg tarsal claws. *Cheletomimus crowei* **sp. nov.** (from avocado, New Zealand) differs from *C. filipina* Corpuz-Raros and *C. notelaeae* Gerson by smooth filiform setae *dF* of the palpal femur, smooth idiosomal setae *c2*, the presence of setae *ps3*, setae *se* located off the propodonotal plate, bases of setae *e1* located almost at the same level with bases of *e2*, and by the propodonotal shield in the shape of an inverted trapezium. *Chelacheles thomasi* **sp. nov.** (from oranges, Australia) differs from *C. stigmaeoides* Barilo by the absence of setae *c4*, short and serrate rod-like setae *c2* (about 40 long), and by the presence of 2 setae on femur III. *Chelacheles indra* **sp. nov.** (from beetles *Sinoxylon crassum*, India) differs from *C. baiwanganae* Corpuz-Raros by the absence of setae *fl*, by setae *hl* being slightly shorter than other hysteronotal setae. *Bak indonesiensis* **sp. nov.** (from undetermined beetle, Indonesia) differs from *B. elongatus* Patxot & Goff and *B. faini* Corpuz-Raros by the presence of 1 seta (*l'*) on genu III, the slightly clavate dorsal setae of the idiosoma, setae *e1* being subequal in shape and sizes to their anterior hysteronotal setae, and by the presence of a pair of distinct lateral teeth on the rostral shield.

**Key words:** Acari, Cheyletidae, new species, predators, systematics

### Introduction

The cosmopolitan family Cheyletidae Leach (Acari: Prostigmata) comprises close to 400 species, of which the vast majority, more than 300 species in 55 genera, are predators, while the remaining 85 species belonging to 18 genera are permanent parasites of birds and mammals (Bochkov 2009). The predatory cheyletids inhabit a variety of plants, fungi, lichens, plant debris, nests of insects and vertebrates, grain supplies, and even house dust (Volgin 1969; Summers & Price 1970; Bochkov 2004). Some highly specialized cheyletid predators (tribes Cheletosomatini and Metacheyletiini) live in bird quills, where they prey on parasitic quill mites (Bochkov & OConnor 2003). In predaceous cheyletids, dispersion via phoresy on different insects is relatively common and sometimes these phoretic relationships are very specialized. For example, mites of the genus *Cheletophyes* Oudemans (Cheyletini) live in nests of carpenter bees (Apidae: Xylocopinae) and exclusively rely on these hosts for dispersal (Klimov *et al.* 2006). However, despite the frequently observed nidicolous and phoretic associations of cheyletids and insects, true parasitic relationships occur rarely (Bochkov & Klimov 2004), and so far have been found only for *Pavlovskicheyla platydemae* Thewke & Enns, 1975 parasitizing the tenebrionid beetle *Platydema ruficorne* (Sturm) (Coleoptera: Tenebrionidae) (Thewke & Enns 1975). At the same time there are several examples of transition from commensalism to parasitism known for predaceous cheyletids associated with vertebrates, such as mites of the genus *Picocheylus* Bochkov & OConnor (Cheletosomatini) from quills of *Tricholaema hirsuta* (Swainson) (Piciformes: Ramphastidae) or the genus *Hylopecheyla* Fain (Cheyletini) associated with South-East Asian squir-