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A NEW GENUS AND SPECIES OF CHEYLETID MITE (ACARI: CHEYLETIDAE) FROM A CAVE IN WESTERN AUSTRALIA

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ABSTRACT - A new genus and species of a predatory cheyletid mite, *Granulocheyletus corpuzrarosae* n. gen., n. sp. (Acari: Cheyletidae) is described from a cave in Western Australia.

Key words - Mites, Cheyletidae, predators, systematics, Australia.

INTRODUCTION

Gerson *et al.* (1999) listed a total of 76 valid genera in the family Cheyletidae. Bochkov and Fain (2001, in press), using a cladistic method, proposed a new classification for the family Cheyletidae. They recorded 72 valid genera in this family. Among these genera 70 were included into 15 tribes and 2 remained ungrouped.

Recently (Fain and Bochkov, 2001) described a new genus and species of Cheyletidae from a cave in Kenya. In the present paper we describe an additional new genus and species in this family, also from a cave but in Western Australia, *Granulocheyletus corpuzrarosae* n. gen. and n. sp.

The nomenclature of the idiosomal chaetotaxy follows Fain (1979). All measurements are in micrometers (μm).

Family CHEYLETIDAE

Tribe Cheyletiini Volgin, 1969

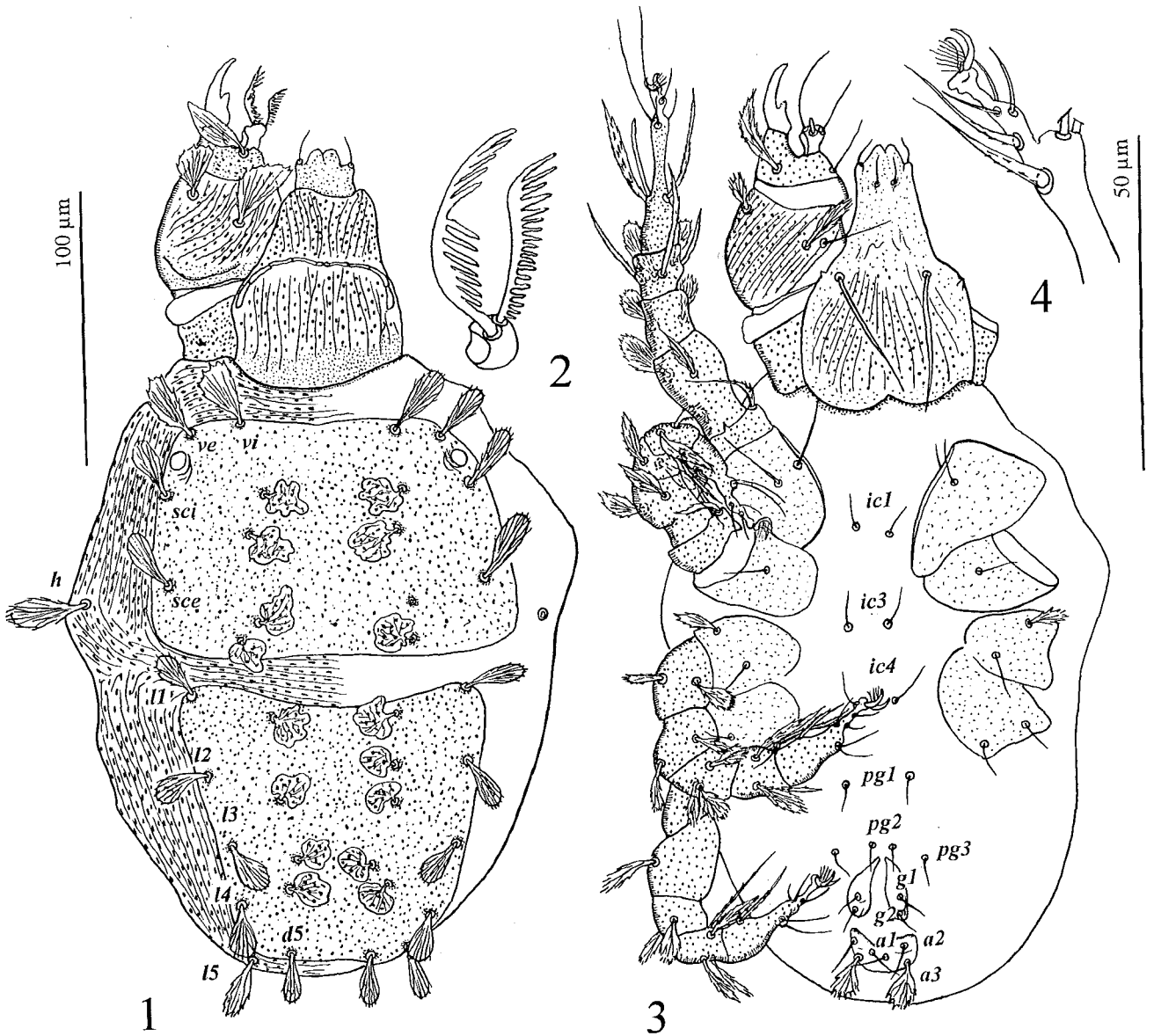
Granulocheyletus n. gen.

FEMALE - *Gnathosoma*: Palps granulated. Palpal tarsi with 4 setae and a short solenidion: 2 dorsal comb-like setae with numerous teeth and 2 sickle-like ventral setae. Palpal claw with one or several teeth in its basal part. Palpal tibia with 2 fanlike setae and 1 hairlike seta. Palpal genu without setae. Palpal femur with 5 setae: 4 fanlike and 1 hairlike. Rostral shield granulated. Peritremes archlike. *Idiosoma*: ovoid, more than 2 times longer than gnathosoma. *Dorsum*: Eyes present. Propodosomal and hysterosomal shields present, granulated. Propodosoma bearing laterally fanlike setae *vi*, *ve*, *sci*, *sce*, *h* and neotrichial modified setae medially; hysterosoma bearing laterally setae *ll-15*, *d4*, *d5* and neotrichial modified setae medially. *Venter*: Setae *ic1*, *ic3*, *ic4*, *pg1-pg3*, *g1*, *g2* and *a1* and *a2* smooth hairlike, setae *a3* fanlike. *Legs*: All legs granulated and short. All tarsi with claws and empodium. Tarsus I-II, tibia I and genu I with solenidia. Guard seta of solenidion $\omega 1$ narrow fanlike. Apical tarsal knobs and claw angles absent. Outer seta of coxae III fanlike. Most setae of trochanter-tibia I-IV fanlike or lanceolate. Chaetotaxy (excluding solenidion): tarsi 9-7-7-7, tibiae 5-4-4-4, genua 2-2-2-2, femora 2-2-2-1, trochanters 1-1-2-1, coxae 2-1-2-2.

MALE - Similar to the female, but neotrichial median setae of dorsal shields not modified but similar to lateral setae. Tarsi III and IV with ventral solenidia.

TYPE SPECIES - *Granulocheyletus corpuzrarosae* n. sp.

REMARKS - This new genus presents all the characters of the tribe Cheyletiini Volgin, 1969, i.e. fanlike shape of dorsal and ventral setae of palpal tibia and 4 of 5 setae on the palpal femur, most of leg setae and guard seta of tarsus I are fanlike (see also the diagnosis of the tribe Cheyletiini in Bochkov and Fain, 2001). This tribe includes *Neoeucheyla* group (3 genera), *Hylopecheyla* group (2 genera) and 8 ungrouped genera. This new genus differs from the mites of the *Neoeucheyla* group mainly



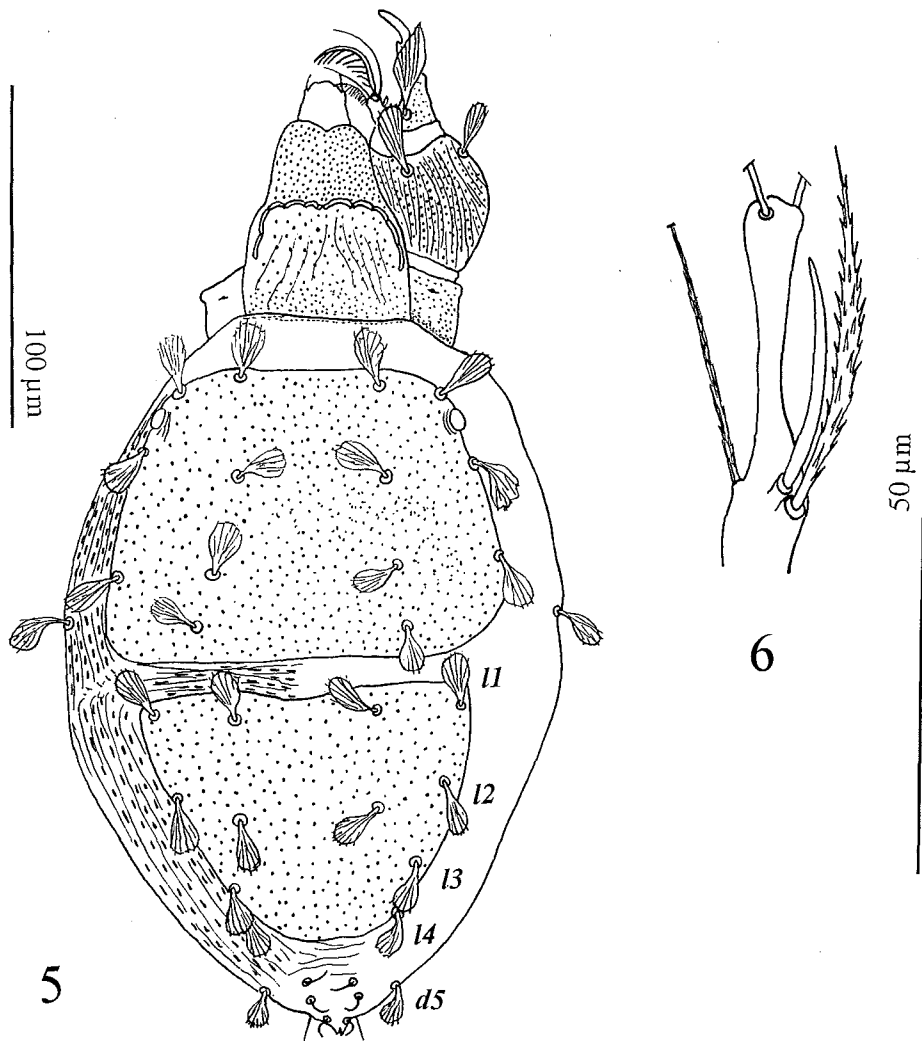
Figs. 1- 4. *Granulocheyletus corpuzzarosae* n. gen., n. sp. (female) - 1. dorsal view; 2. palpal tarsus in dorsal view; 3. ventral view; 4. pretarsus I in lateral view. Scale lines 100 μm (Figs. 1, 3), 50 μm (Figs. 2, 4).

by the normal, not inflated, shape of the inner ventral seta of the palpal tarsus and from those of the *Hylopecheylea* group by the terminal position of the gnathosoma and the lack of neotrichial lamellate setae on idiosoma. It differs from the 8 ungrouped genera by the narrow fanlike guard setae of solenidion $\omega 1$. The female of this new genus is closest to *Hoffmannita* Pelaez, 1962 and *Chiapacheyletus* De Leon, 1962. In these 3 genera the palpal femur bears 5 setae and the palpal genu is devoid of setae. *Granulocheyletus* n. gen. is easily distinguished from *Hoffmannita* by the presence of normally developed eyes and the different shape of the neotrichial setae, and from the genus

Chiapacheyletus by the smaller number of neotrichial setae on dorsal shields and by the shape of the palpal claw.

***Granulocheyletus corpuzzarosae* n. sp.**
(Figs. 1-6)

FEMALE (holotype, Figs. 1-4) - Gnathosoma 115 long and 110 wide. Palpal femur 50 long and 60 wide. Outer comblike seta of palpal tarsus with 11 tines, inner comblike seta of palpal tarsus with 16-17 tines. Peritremes with 4 links. Palpal claw with a single tooth. Idiosoma 265 long and 215 wide. Setae series *d* and *l* and setae *h*



Figs. 5, 6. *Granulocheyletus corpuzzarosae* n. gen., n. sp. (male) - 5. dorsal view; 6. tarsus I in lateral view. Scale lines 100 μm (Fig. 5), 50 μm (Fig. 6).

fanlike, about 30 long and 18 wide. Propodosomal shield 110 long and 155 wide, bearing setae *vi*, *ve*, *sci*, *sce* and 4 pairs of neutrichial median cloudlike setae. Setae *h* situated off propodosomal shield. Hysterosomal shield 125 long and 135 wide, bearing setae *11-14*, *d5* and 5 pairs of neutrichial median cloudlike setae. Setae *15* situated off the hysterosomal shield. Legs. Length of legs: I 160, II 125, III 130 and IV 150. Solenidion $\omega 1$ 35 long; guard seta (*ft'*) 40 long; solenidion $\omega 2$ 15, situated ventrally, short. All setae of trochanters lanceolate. Femora I with a dorsal fanlike seta and a ventral lanceolate seta; femora and genua II-IV with only fanlike setae. Tibiae I with 2 fan-like setae and 3 barbed thickened setae; tibiae II with 2 fanlike setae, one lanceolate seta and one thickened barbed seta; tibiae III-IV with 3 wide lanceolate setae and one thickened barbed seta.

MALE (homeomorphic, Figs. 5, 6) - Gnathosoma as in female, 85 long and 65 wide. Palpal femur 35 long and 30 wide. Outer comblike seta of palpal tarsus with 9 tines, inner comblike seta of palpal tarsus with 14-16 tines. Peritremes with 5 links. Idiosoma 200 long and 135 wide. Setae series *d* and *l* and setae *h* fanlike, as in the female. Propodosomal shield 85 long and 105 wide, bearing 3 pairs of neutrichial median setae, similar with lateral setae. Hysterosomal shield 80 long and 85 wide, bearing setae *11-14* and 2 pairs of neutrichial median setae. Setae *d5* situated off the hysterosomal shield. Legs: Length of legs I 115, II 90, III 100 and IV 105. Solenidion $\omega 1$ 28 long; guard seta 35 long. Chaetotaxy as in the female but the tarsi II, III-IV with long ventral solenidia.

REMARKS - We include in this new genus *Hemicheyletia kureatollensis* Goff, 1982 described from a female from the Hawaiian Islands (Goff, 1982). This species presents the same generic characters as *Granulocheyletus*. It differs from the female *G. corpuzrarosae* n. sp. in the following characters: palpal claws with 7-9 teeth, propodosomal and hysterosomal shield both with 7 pairs of median setae, guard seta of tarsus I about half as long as $\omega 1$. In *G. corpuzrarosae* n. sp. the palpal claws bear only one tooth, propodosomal shield with 4 pairs of median setae, hysterosomal shield with 4-5 pairs of median setae, guard seta of tarsus I longer than $\omega 1$.

LOCALITY - Female holotype, 2 male paratypes and 1 teleonymph paratype from Weelawadjia Cave, near Eneabba, Western Australia, 3. III. 1973, Coll. J. Lowry. All specimens are deposited in the Institut royal des Sciences naturelles de Belgique, Bruxelles, Belgium.

ETYMOLOGY - This new species is named for Dr. L. Corpuz-Raros, Manila, Philippines.

ACKNOWLEDGEMENTS

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