

MACROCHELES ZAHERI, A NEW SPECIES IN THE GLABER GROUP (ACARI : MACROCHELIDAE) FROM EGYPT

BY M. S. NAWAR *

- TAXONOMY ABSTRACT : *Macrocheles zaheri* n. sp. was collected from compost on the farm of the Faculty of Agriculture, Cairo University, Giza, Egypt. The adult female was described and illustrated.
- TAXONOMIE RÉSUMÉ : *Macrocheles zaheri* n. sp. a été récolté dans du compost à la ferme de la Faculté d'Agriculture, Université du Caire, Giza, Egypte. La femelle adulte est décrite et figurée.

INTRODUCTION

Mites of the family Macrochelidae Vitzthum are common in dung and other decaying organic matter. They are predators, often phoretic as adult females on dung beetles, and may contribute to the biological control of dung-breeding flies (KRANTZ, 1983). The largest genus is *Macrocheles* Latreille, which includes several hundred species. A number of attempts have been made to divide *Macrocheles* into subgenera, but without lasting success. Taxonomic structure in the genus is now based on the recognition of species-groups, which vary in their degree of formal definition (HALLIDAY, 1986). FILIPPONI and PEGAZZANO (1962) erected the *glaber* species group to include three European species of fimicolous *Macrocheles* : *M. glaber* (Müller), *M. perglaber* F. & P., and *M. scutatus* (Berlese). KRANTZ (1981) redefined the group and added *M. eurygaster* Krantz and *M. peregrinus* Krantz. In 1986, in Australia, WALLACE also added *M. kraepelini* (Berlese), while HALLIDAY (1986) redefined the group, in which he included *M. aestivus* Halliday. WALTER and KRANTZ (1986) reviewed the *glaber* group and added seven new species from Africa and Asia. They identified five species

complexes within this group, in which 30 species were recorded. These species comprise two "assemblages", one of which possesses the robust characteristics of *M. glaber*, and the other of which displays the somewhat reduced features of *M. scutatus*.

This paper presents a description of *M. zaheri*, a new species collected from compost on the farm of the Faculty of Agriculture, Cairo University, Giza, Egypt. *M. zaheri* was collected by KRANTZ from the African scarab beetles *Onitis alexis*, *O. viridulus* and *Onthophagus gazella* in South Africa in 1979, and he has seen additional collections from compost in Zaire (KRANTZ 1991, personal communication).

The system of notation used for the dorsal setae is that of LINDQUIST and EVANS (1965), as applied to the Macrochelidae by KRANTZ (1981). All measurements are given in micrometers.

Genus *Macrocheles* Latreille

Diagnosis : Dorsal shield entire in both sexes, usually with 28 pairs of setae and 22 pairs of pores. Vertical setae on edge of dorsal shield. Metasternal

* Agricultural Zoology Department, Faculty of Agriculture, Cairo University, Giza, Egypt.

shield free. Genital shield with a pair of setae and accessory sclerites ; a ventrianal shield ; three pairs of preanal setae, plus three setae normally associated with the anus.

***Macrocheles zaheri* n. sp.**

(Figs. 1-5)

Diagnosis : This species is related to *Macrocheles aestivus* Halliday (HALLIDAY, 1986), but differs in having dorsal shield setae smooth and pointed, except setae j_1 , j_4 , z_4 and J_5 pilose ; ornamentation of the sternal shield reduced ; ventrianal shield slightly longer than wide ; post-anal seta smooth and pointed ; fixed digit with four teeth and movable digit with three teeth.

Female : Dorsal shield 1097-1157 long, 648-697 wide at level of seta r_4 (4 specimens) ; with strongly marked polygonal ornamentation throughout ; with 28 pairs of setae and 22 pairs of pores ; 8 additional pairs of setae on lateral membrane. On the podonotum the j -series consist of six pairs of setae, the z -series of five pairs and the s - and r -series of four pairs each. Setae r_6 situated on the interscutal membrane. On the podonotum, setae z_3 , s_1 , s_3 , r_1 and r_2 are absent. On the opisthonotum the J -series consists only of setae J_2 and J_5 . The Z - and S -series comprise four pairs each, setae Z_3 and S_3 absent. R -series situated on the interscutal membrane and comprising a full complement of seven pairs. Setae j_1 expanded distally, heavily pilose, bases adjacent ; j_4 and z_4 heavy and distally pilose ; J_5 pilose ; all other setae smooth and pointed (Fig. 1).

Sternal shield with faint ornamentation ; with three pairs of smooth pointed setae and two pairs of pores ; metasternal shields small, oval, each with a smooth seta posteriorly and an anterior pore ; epigynal shield broader than long, truncate posteriorly, with smooth, pointed setae. Ventrianal shield slightly longer than wide (length 359-399, width 308-338) with a straight anterior margin, ornamented with a series of concentric arcs and with small granular areas ; with three pairs of pre-anal setae, one pair of para-anal setae and a short post-anal seta, all smooth and pointed. The opisthogaster bears 10 pairs of smooth, pointed setae ; peritremes

each extending anteriorly along the dorsal shield margin to a point between the insertions of setae j_1 and z_1 (Fig. 2).

Tectum with a pair of broad lateral elements, tapering distally, and with a pointed basal process ; medial element thinner, forked distally, with fine ciliation ; lateral margins finely serrated (Fig. 3). Chelicera with robust digits ; fixed digit with four teeth, a terminal hook and a pilus dentilis, dorsal seta conspicuous ; movable digit with three teeth and a terminal hook (Fig. 4).

The capitular groove (Fig. 5) is provided with six rows of deutosternal denticles, each row with 10 to 15 denticles. The horn-like corniculi are relatively long. The salivary styli fit into the lateral grooves of the corniculi and are almost as long as the latter. The serrated labrum is almost as long as the corniculi and the internal malae somewhat shorter and curved outwards distally. Hypostomatics 2 longer than hypostomatics 4 ; hypostomatics 1 three times and hypostomatics 3 four times the length of hypostomatics 4.

Leg chaetotaxy normal for the genus.

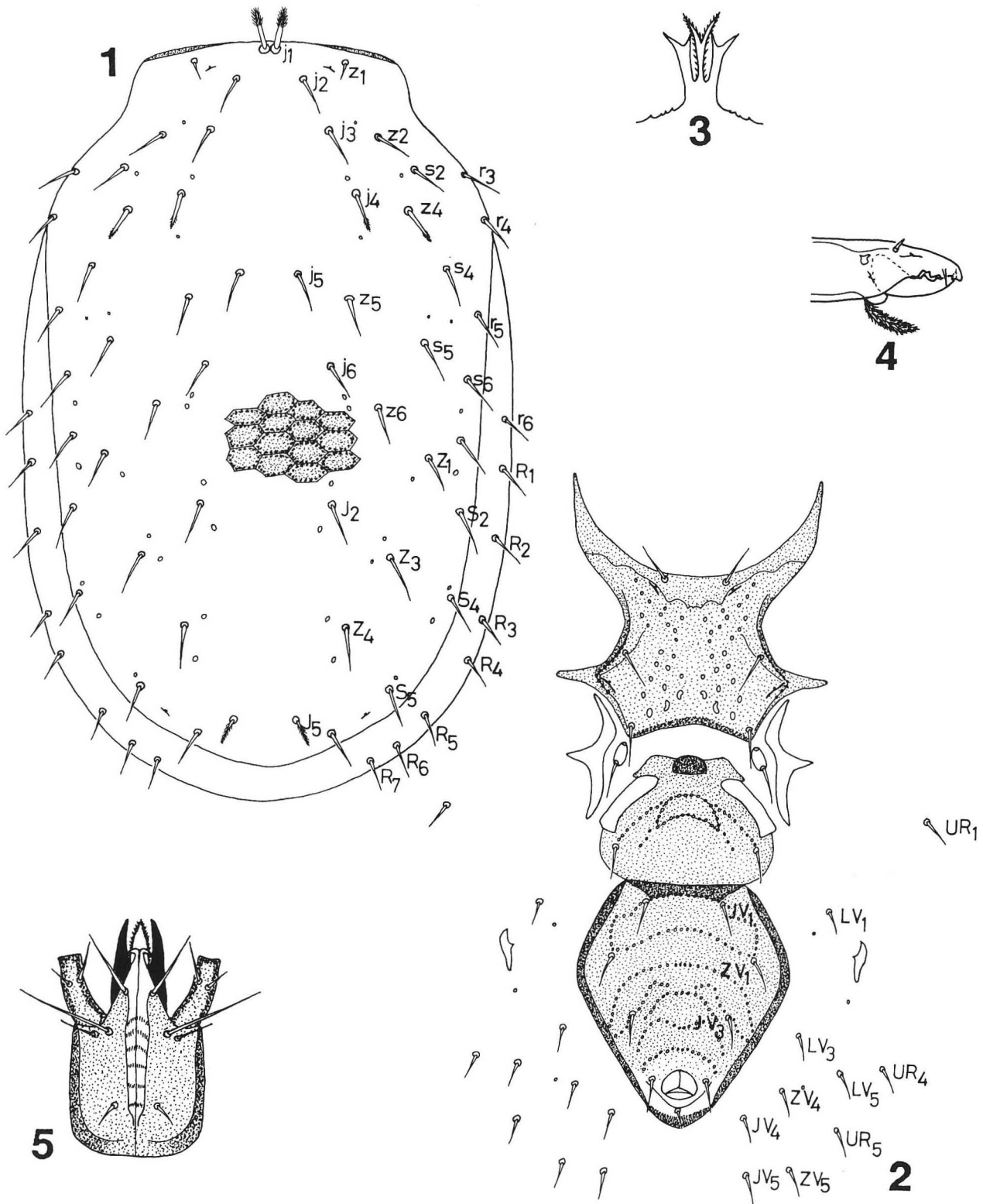
Male : Unknown.

Collection data : Holotype collected from compost on the farm of the Faculty of Agriculture, Cairo University, Giza, Egypt. Holotype and three paratypes are in the Agricultural Zoology Department, Faculty of Agriculture, Cairo University Collection.

Remarks : This species is similar to *M. aestivus* Halliday, but differs mainly in having dorsal shield setae smooth and pointed, except setae j_1 , j_4 , z_5 pilose ; ornamentation of the sternal shield reduced ; ventrianal shield slightly longer than wide ; post-anal seta smooth and pointed ; fixed digit with four teeth and movable digit with three teeth.

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FIGS. 1-5 : *Macrocheles zaheri* n. sp., female.

1. — Dorsum. 2. — Venter. 3. — Tectum. 4. — Chelicera. 5. — Gnathosoma.

ZAHER, Agricultural Zoology Department, Faculty of Agriculture, Cairo University, Giza, Egypt, in whose honor I named the new mite, for reviewing this manuscript.

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