

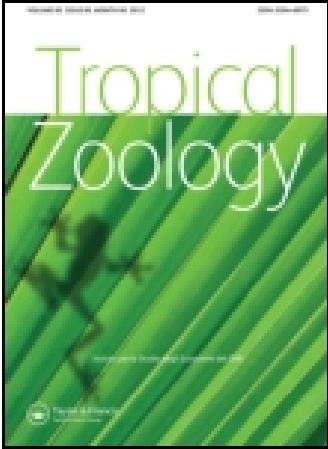
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***Milnesium tetralamellatum*, new species of Milnesiidae from Africa (Eutardigrada)**

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A new species of Milnesiidae is described, *Milnesium tetralamellatum*, from Tanzania. It differs from *Milnesium tardigradum* Doyère 1840 essentially by having four peribuccal lamellae instead of six.

KEY WORDS: African fauna, Tardigrada, *Milnesium tetralamellatum* n. sp.

***Milnesium tetralamellatum* n. sp. (Fig. 1)**

Until now only one species has been ascribed to the genus *Milnesium*: *Milnesium tardigradum* Doyère 1840. In a moss sample collected on the slopes of the volcano Ngorongoro (Tanzania) we found 7 specimens (6 ♀ and 1 ♂) belonging to a new species of *Milnesium* that we name *Milnesium tetralamellatum* since it has only 4 peribuccal lamellae instead of 6.

Body length up to 739 µm; colour of the living specimens reddish; cuticle smooth, eyes present.

Six peribuccal and two lateral papillae present. The mouth has only 4 triangular peribuccal lamellae longitudinally striped in their basal portion. The buccal tube is very wide. In a specimen 645 µm long, the buccal tube, measured from the sclerified ring immediately anterior to the stylet sheaths, is 45.45 µm long and 22.32 µm wide ($pt = 49.10$)¹. In the population the stylet supports are inserted on the buccal tube at 61.98-64.37% of its length ($pt = 61.98-64.37$).

The stylet sheaths are elongated; the stylet furcae are triangular in shape with the postero-lateral processes not thickened and rounded but pointed at their apices.

The pharyngeal bulb in the holotype (645 µm long) is 118 µm long and 50.3 µm wide.

¹ pt (PILATO 1981) is the percent ratio between the length of a structure and the length of the buccal tube (in *Milnesium* measured from the sclerified ring immediately anterior to the stylet sheaths).

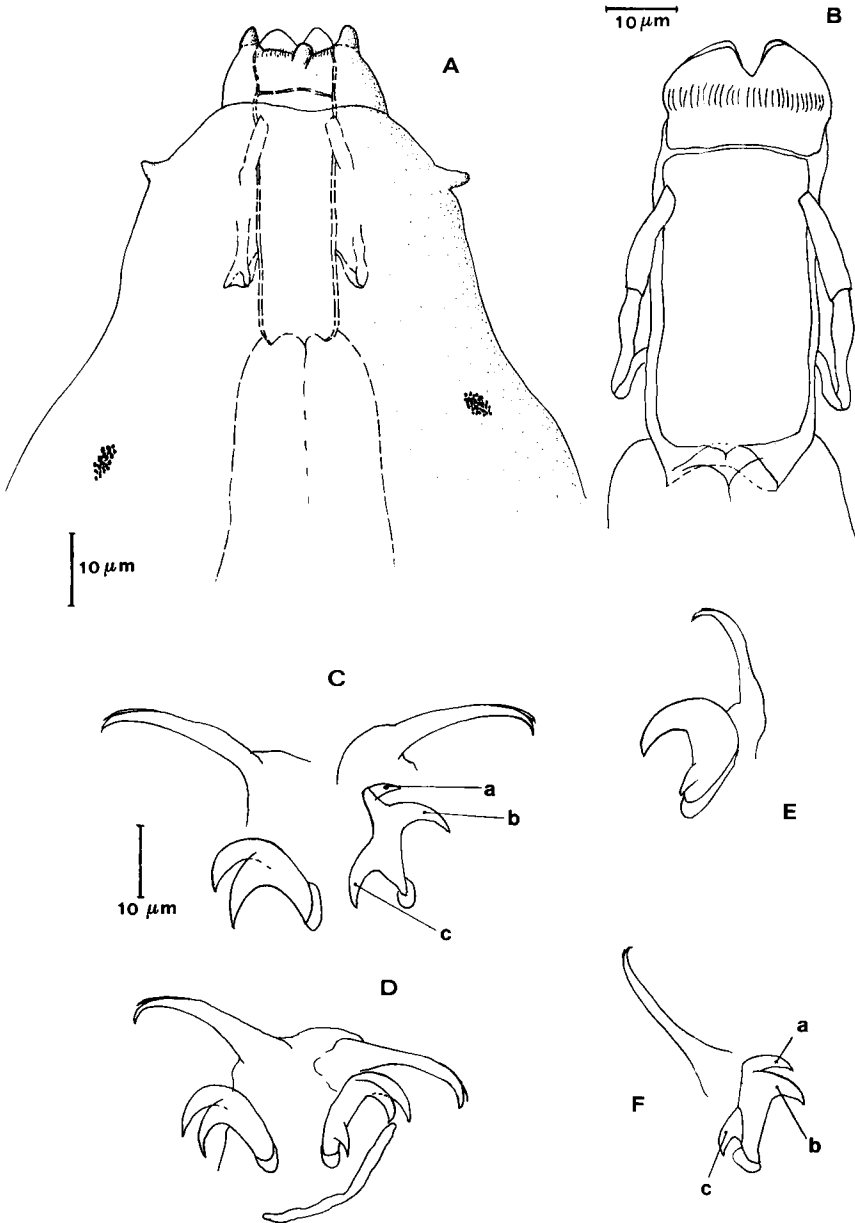


Fig. 1A-E. — *Milnesium tetralamellatum* n. sp. A, head; B, bucco-pharyngeal apparatus; C, claws of the third pair of legs (with well developed spur *c*); D, claws of the third pair of legs (with a very little spur); E, claws of the first pair of legs of the male. F, claws of the first pair of legs of *Milnesium tardigradum*.

Table 1.

Dimensions of specimens of *Milnesium tetralamellatum* n. sp. and of *Milnesium tardigradum* Doyère 1840 of very similar body size.

	<i>Milnesium tetralamellatum</i>	<i>Milnesium tardigradum</i>
Body length	645	648
Buccal tube length	45.45	51.11
Buccal tube width	22.32	22.83
Stylet supports	<i>pt</i> = 63.90	<i>pt</i> = 64.98
Main branch of claws I	19.46 <i>pt</i> = 42.81	18.69 <i>pt</i> = 36.57
Basal claw + secondary branch I	16.09 <i>pt</i> = 35.40	16.62 <i>pt</i> = 32.52
Main branch of claws II	21.01 <i>pt</i> = 46.22	19.24 <i>pt</i> = 37.64
Basal claw + secondary branch II	17.42 <i>pt</i> = 38.32	16.88 <i>pt</i> = 33.03
Main branch of claws III	21.16 <i>pt</i> = 45.55	20.14 <i>pt</i> = 39.41
Basal claw + secondary branch III	17.68 <i>pt</i> = 38.89	17.42 <i>pt</i> = 34.08
Main branch of claws IV	24.86 <i>pt</i> = 54.70	24.32 <i>pt</i> = 47.58
Basal claw + secondary branch IV	20.98 <i>pt</i> = 46.16	18.69 <i>pt</i> = 36.57

Measurements in μm .

The main branch of each claw has two small accessory points. The complex basal claw + secondary branch has a rounded basal thickening; in one specimen it has only 2 points on all legs; in 6 specimens in the first three pairs of legs it has only 2 points on the outer claws whereas on the inner claws it has 3 points (which we name *a*, *b*, *c*); in this case the lowest point (point *c*) can have variable size but it is always smaller than the superior points *a* and *b*, which are almost equal in size. In these 6 specimens the complex basal claw + secondary branch on the hind legs has only 2 points on the outer claws and 3 points on inner claws. We have ascertained a similar variability in *Milnesium tardigradum* Doyère 1840; DASTYCH (1984) found Antarctic specimens of this species having up to 6 points.

The length of the claws and the relative *pt* values are indicated in Table 1 where specimens of *M. tetralamellatum* and of *M. tardigradum* of similar body size are compared.

On the first three pairs of legs, near the base of the claws, an elongated cuticular thickening is present as in *M. tardigradum* (PILATO 1973). In the only male found, the

complex basal claw + secondary branch on the first pair of legs is a stout hook provided with a basal spur; the length of that male is 396 μm long, its buccal tube is 34.7 μm long and the hook is 13.72 μm long ($pt = 39.53$). The other claws are like those of the females.

M. tetralamellatum differs from *M. tardigradum* by having 4 peribuccal lamellae instead of 6, and by having, on the complex basal claw + secondary branch, the two superior points *a* and *b* almost equal in size whereas in *M. tardigradum* point *a* is distinctly smaller than point *b*. In *M. tetralamellatum* the stylet supports are inserted on the buccal tube in a more cephalic position but a little overlapping of the values is possible: 61.98-64.37 in *M. tetralamellatum*, 64.32-65.96 in *M. tardigradum*. In other species of Eutardigrades studied by us a highly significant smaller difference was found (PILATO et al. 1982) since the intraspecific variability of that character is very reduced.

HORNING et al. (1978) reported that in African specimens of *M. tardigradum* 4 peribuccal lamellae are present instead of 6 but they do not give any details, not even the locality. We have observed specimens from North Africa (Tunisia) (BINDA & PILATO 1987) provided with 6 peribuccal lamellae and attributable to *M. tardigradum*. We think that HORNING et al. observed specimens attributable to *M. tetralamellatum*.

The holotype (slide no. 3704) and the paratypes are preserved in the collection Binda & Pilato, Dipartimento di Biologia Animale, University of Catania.

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