

Redescription of *Nodele calamondin* Muma, 1964 (Acari Cheyletidae)

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Abstract

The species *Nodele calamondin* MUMA, 1964 (Acari Cheyletidae) is redescribed from specimens found in Northern Iran. The male of this species is described for the first time. *Nodele simplex* Wafa et SOLIMAN, 1968 is considered here as a synonym of *Nodele calamondin*.

Keywords : Acari, fauna, Cheyletidae, Iran

Résumé

L'espèce *Nodele calamondin* MUMA, 1964 (Acari Cheyletidae) est redécrite d'après des spécimens de l'Iran. Le mâle de cette espèce est décrit pour la première fois. *Nodele simplex* Wafa et SOLIMAN, 1968 est considéré ici comme un synonyme de *Nodele calamondin*.

Introduction

The mites of the family Cheyletidae (Acari: Prostigmata) have been poorly investigated in Iran. Up to now only 6 species have been recorded from this country, i.e. *Acaropsellina sollers* (KUZIN, 1940), *Cheletomorpha lepidopterorum* (SHAW, 1974), *Cheyletus malaccensis* OUDEMANS, 1903, *Neoeucheyla iranica* FAIN et ARDESHIR, 2000, *Nodele calamondin* MUMA, 1964 and *Zachvatkiniola reticulata* (CUNLIFFE, 1962) (ARDESHIR *et al.*, 2000; FAIN & ARDESHIR, 2000; ARDESHIR *et al.*, in press).

In the present paper we give a new description of *Nodele calamondin* MUMA, 1964. The male of this species is described for the first time. Furthermore, *Nodele simplex* Wafa et SOLIMAN, 1968 is considered here as a synonym of this species.

The nomenclature of the idiosomal chaetotaxy follows FAIN (1979).

Genus *Nodele* MUMA, 1964

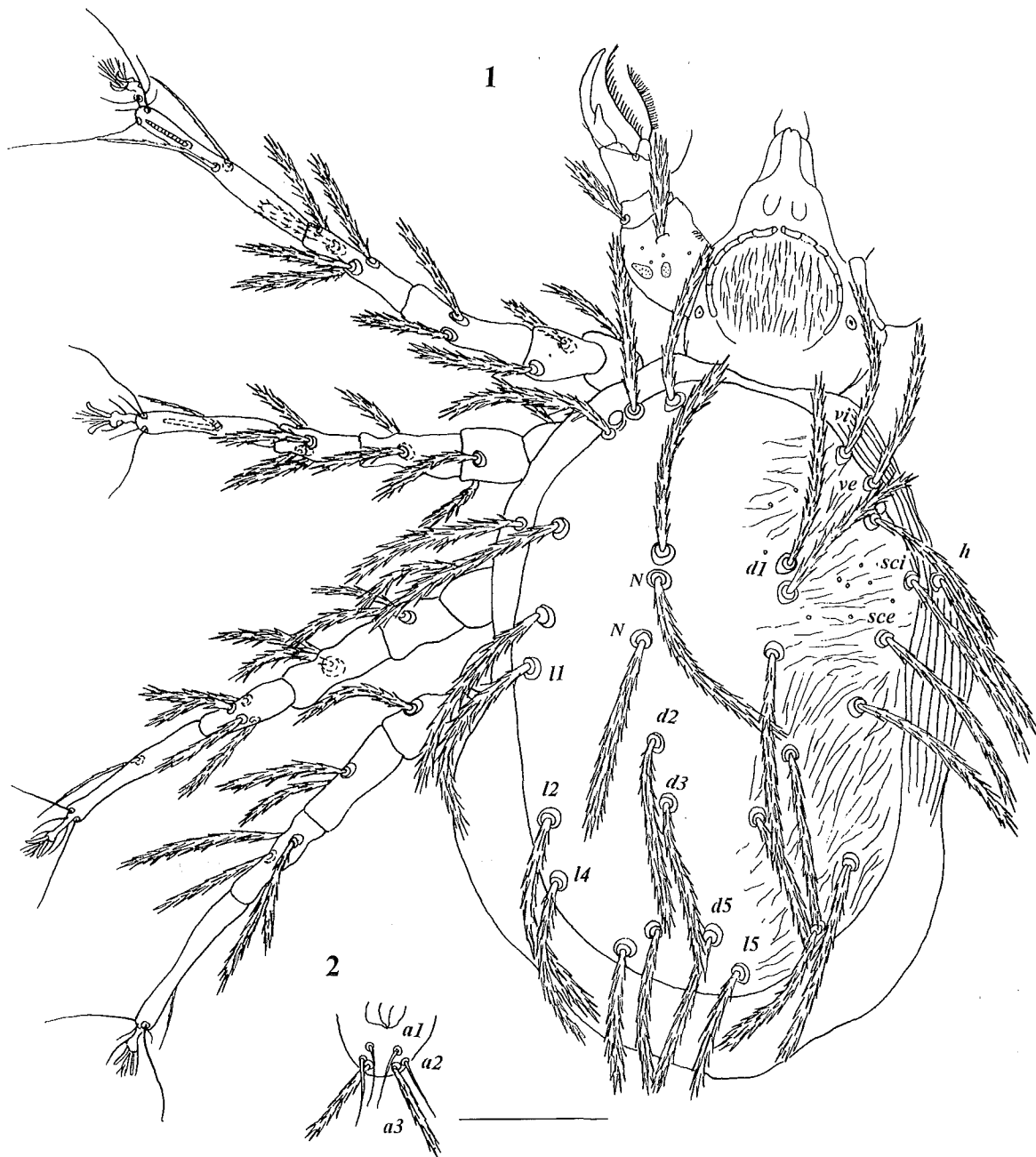
Nodele calamondin MUMA, 1964

Nodele simplex Wafa et SOLIMAN, 1968 : Acarologia, 10 : 220. **syn. nov.**

Material examined : 15 females and 5 males found in grains, Gorgan Prov., Iran, X.1997. (Coll. F. ARDESHIR).

This species was described by MUMA (1964) from Florida citrus, USA. A few years later, Wafa & SOLIMAN (1968) described a new species *N. simplex* Wafa et SOLIMAN, 1968, only represented by a single female specimen found in dried leaves in Egypt. According to VOLGIN (1969), this species is not separable from *N. calamondin*. Its differential diagnosis was not given in the original description (Wafa & SOLIMAN, 1968) and the holotype of *N. simplex* is not available. A comparative study of our specimens with the original descriptions of *N. calamondin* and *N. simplex* has revealed a total similarity of these two species and we consider, therefore that *N. simplex* is a junior synonym of *N. calamondin*.

Female (Figs 1-2, N=15). Gnathosoma 160-170 µm long, 135-140 µm wide. Palpal femur 55-63 µm long, 50-54 µm wide. Palpal claw with one tooth. Comb-like setae with numerous tines. Peritremes arch-like, with 6-7 pairs of links. Idiosoma 380-395 µm long, 260-270 µm wide. *Dorsum*. Propodosomal and hysterosomal shields fused, covering almost all dorsal surface of idiosoma. All dorsal setae, excluding *h*, are situated on these shields, they are thick and strongly barbed. The propodosomal setae, including *h*, are subequal in length 116-140 µm.

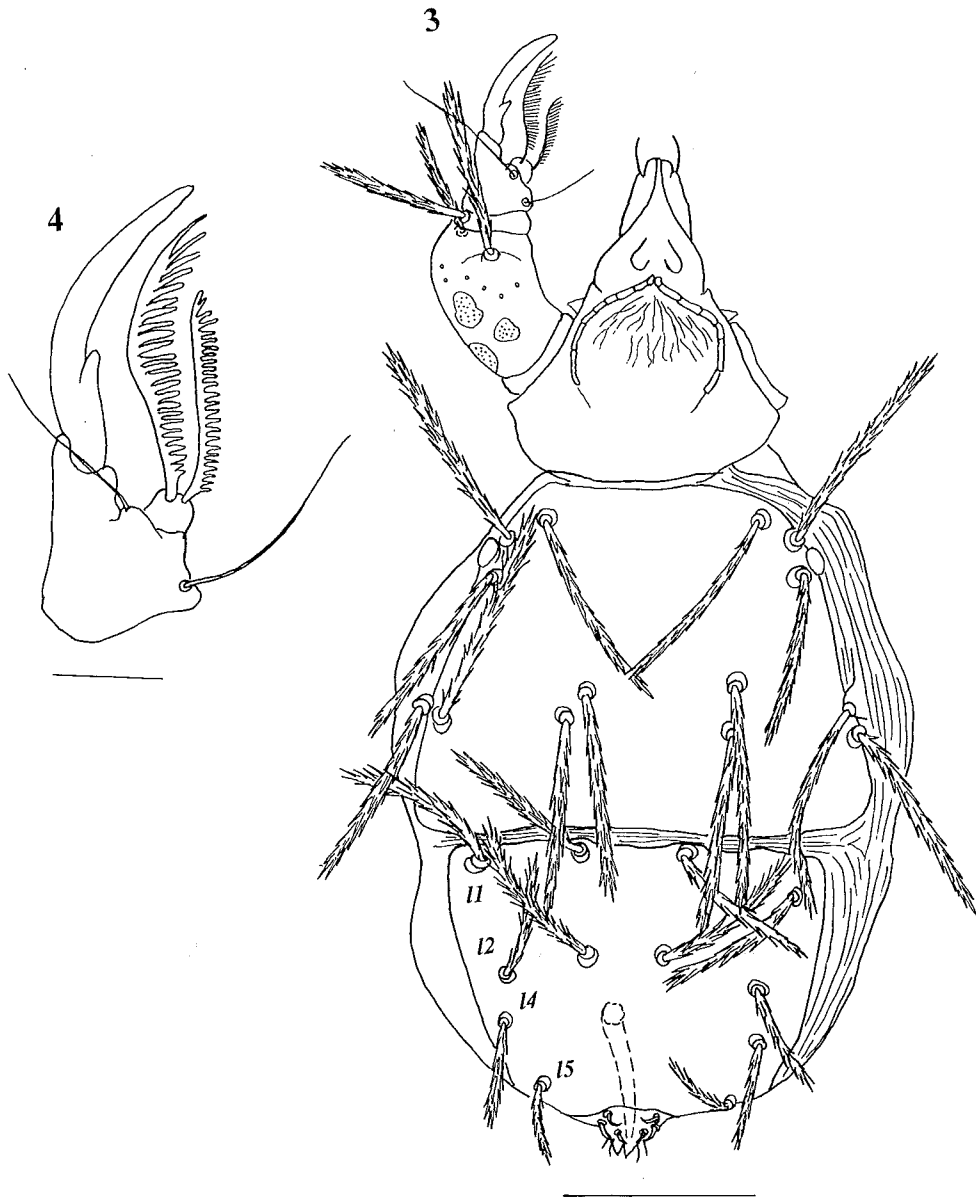


Figs 1-2. *Nodele calamondin* MUMA, 1964, 1 : female dorsally. 2 : anal region of female ventrally. Scale line 100 μm .

Propodosoma with two pair of median setae *d1* and *N*, their bases are set very close to each other. Hysterosoma with 5 pairs of lateral setae (*l1*-*l5*) and 4 pairs of median setae (*d2*-*d5*). Setae *l4*, *l5* and *d5* 100-107 μm long, 80-91 μm long and 98-103 μm long respectively. Length of other hysterosomal setae similar to the propodosomals. Posterior anal setae *a3* about 50 μm long, barbed and thicker, anterior setae *a2* nude about 40 μm long. Chaetotaxy of idiosomal *venter* and *legs* as in other species of this genus. Solenidion *o1* situated slightly more apical than

guard seta, 30-33 μm long, guard seta (*ft*) 60-66 μm long.

Male (homeomorphic, *N*=5, Figs 3-4). Gnathosoma similar to that of the female, 145-150 μm long, 125-130 wide. Palpal femur 65-68 long, 50-55 wide. Idiosoma 300-330 μm long. *Dorsum*. Propodosomal shield 155-160 μm long, distance between propodosomal and hysterosomal shields 8-10 μm . Chaetotaxy of propodosoma as in female, setae 165-170 μm long. Hysterosomal shield with 6 pairs setae : 4 lateral



Figs 3-4. *Nodele calamondin* MUMA, 1964, 3 : male dorsally. 4 : palpal tarsus and palpal tibia of male in dorsal view. Scale lines 100 μm (3), 25 μm (4).

and 2 medial. Length of hysterosomal setae : *l1* 83-100 μm , *l2* 58-63 μm , *l4* 50-58 μm ; *l5* 33-41 μm , *d3*, *d4* 63-74 μm . Penis 80-85 μm long. Solenidion *sol* 43-45 μm long, guard seta 70-75 μm long.

Remark. The female of this species differs from *N. superba* KUZNETZOV, 1977 by the presence of 2 pairs of median setae on the propodosomal shield, it differs from *N. mu* HAINES, 1988 by the arc-like shape of the peritremes and from *N. coccinae* THEWKE et ENNS, 1968 and *N. philippinensis* BAKER, 1949 mainly by the shorter guard seta. In *N. calamondin* the guard seta is only 2 times longer than solenidion *sol*,

while in two latter species the guard seta is more than 3 times longer than the solenidion.

Acknowledgements

For this research Dr. A. V. BOCHKOV was beneficiary of a grant from the Belgian Federal Services for Scientific, Technical and Cultural Affairs.

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Bulletin S.R.B.E./K.B.V.E., 137 (2001) : 126-127

Notes sur les Asilidae paléarctiques (Diptera Brachycera) (19) avec la description d'une espèce nouvelle de *Pamponerus* LOEW, 1849 de Grèce

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Abstract

The new species, *Pamponerus epirus*, is described from Greece. An identification key for the three known species of *Pamponerus* and one illustration of genitalia of the sp. n. is given.

Keywords : Asilidae, *Pamponerus*, genitalia.

Résumé

Une nouvelle espèce, *Pamponerus epirus*, provenant de Grèce est décrite. Une clef d'identification pour les 3 espèces de *Pamponerus* connues ainsi qu'une illustration des genitalia de la nouvelle espèce sont données.

Introduction

Le genre *Pamponerus* LOEW, 1849 renferme seulement 3 espèces. La première *P. germanicus* (LINNAEUS, 1758) couvre tout le centre de l'Europe et s'étend jusqu'en Mongolie, la deuxième *P. helveticus* (MIK, 1864) est citée uniquement de Suisse (LEHR, 1988 et WEINBERG & BÄCHLI, 1995). Quant aux genitalia de *P. germanicus* ils furent étudiés et illustrés par LEHR (1992-1996) et WEINBERG & BÄCHLI (1993). Il est à noter que les dessins de ces deux auteurs présentent une différence notable au niveau du dististylus.

Le genre le plus proche, *Echthistus* LOEW, 1849, se sépare principalement des *Pamponerus* par un net raccourcissement des tarsi. Les deux genres sont des habitants de prairies et de steppes, bien que *Pamponerus* soit associé préfé-

rentiellement aux lisières des forêts, clairières et rivières de vallée. L'aire de répartition d'*Echthistus* s'étend actuellement plus au Sud que celle de *Pamponerus* vu qu'elle comprend la Turquie d'Asie et Israël (LEHR, 1988 & 1992).

Clef des espèces de *Pamponerus*

- 1 Moustache entièrement noire, fémurs noirs avec un anneau jaune à l'extrémité basale. Soies et épines des tarsi et des tarsi noirs et jaunes *P. epirus* sp. n
- Moustache bicolore 2
- 2 Moustache noire à blanc-jaunâtre au centre et sur la partie inférieure. Fémurs noirs. Soies et épines des tarsi et des tarsi noirs
..... *P. germanicus* (L.)
- 3 Moustache jaunâtre avec quelques soies noires