

Contribution to the knowledge of the Linyphiidae of the Maghreb. Part X. New data on *Lepthyphantes* Menge (*sensu lato*) species (Araneae, Linyphiidae)

Robert Bosmans

Terrestrial Ecology Unit, Department of Biology, Ghent University, Ledeganckstraat 35 B-9000 Gent, Belgium.

Corresponding author : Robert Bosmans, e-mail : Robert.bosmans@lin.vlaanderen.be

ABSTRACT. The following new species are described : *Megalepthyphantes auresensis* **sp. n.**, *M. hellinckxorum* **sp. n.**, *Palliduphantes tricuspis* **sp. n.** and *P. yakourensis* **sp. n.** The unknown male of *Lepthyphantes aelleni* and the unknown female of *Palliduphantes cadiziensis* are described for the first time, and *Lepthyphantes afer* is redescribed. The following new combinations are proposed : *Canariphantes atlassahariensis* (Bosmans) **comb. n.**, transferred from *Lepthyphantes*, *Canariphantes zonatus* (Simon) **comb. n.**, transferred from *Bolyphantes* and *Improphantes djazairi* (Bosmans) **comb. n.**, transferred from *Lepthyphantes*. An overview of all Maghrebian species and new distribution data of several species are presented.

RÉSUMÉ. Les espèces nouvelles suivantes sont décrites : *Megelephyphantes auresensis* **sp. n.**, *M. hellinckxorum* **sp. n.**, *Palliduphantes tricuspis* **sp. n.** et *P. yakourensis* **sp. n.** Le mâle inconnu de *Lepthyphantes aelleni* et la femelle inconnue de *Palliduphantes cadiziensis* sont décrits pour la première fois et *Lepthyphantes afer* est redécrit. Les combinaisons nouvelles suivantes sont proposées : *Canariphantes atlassahariensis* (Bosmans) **comb. n.**, transféré de *Lepthyphantes*, *Canariphantes zonatus* (Simon) **comb. n.**, transféré de *Bolyphantes* et *Improphantes djazairi* (Bosmans) **comb. n.**, transféré de *Lepthyphantes*. Toutes les espèces Maghrébienues sont revues et de nouvelles dates de distribution sont présentées.

KEY WORDS : *Lepthyphantes*, Maghreb, new species and records

INTRODUCTION

BOSMANS (1985) revised the species of *Lepthyphantes sensu lato* living in the Maghreb countries of Morocco, Algeria and Tunisia. Since then, after a stay of 6 years in Algeria and some additional collecting trips to Tunisia and Morocco, many additional data have been gathered. New species, unknown males or females and new distribution data of known species were collected. The results are given below.

Since 1985, *Lepthyphantes* has been reclassified in several smaller genera. Because of these nomenclatural changes, the following genera are now represented in the Maghreb : *Canariphantes* Wunderlich, 1992, *Improphantes* Saaristo & Tanasevitch, 1996, *Megalepthyphantes* Wunderlich, 1994, *Palliduphantes* Saaristo & Tanasevitch, 2001 and *Tenuiphantes* Saaristo & Tanasevitch, 1996. Since taxonomic changes to the *Lepthyphantes* group of genera have progressed in a piecemeal fashion with contributions from many authors, the systematics of these species has become rather complicated. Some of the species occurring in the Maghreb have been transferred to alternative genera, but the others remained in *Lepthyphantes*, despite the fact that they do not meet the definition of *Lepthyphantes sensu stricto* as proposed by SAARISTO & TANASEVITCH (1996). In the absence of new taxonomic work, they are left in the genus *Lepthyphantes*. The present paper, catalogs all known *Lepthyphantes sensu lato* living in the Maghreb and in the refer-

ences below each species, only data concerning the Maghreb are presented.

The type material is deposited in the collection of the KBIN and the MNHNP; the rest of the material is temporarily deposited in the author's collection.

ABBREVIATIONS

CRB : Collection R. Bosmans;

KBIN : Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussel;

MNHNP : Muséum national d'Histoire naturel de Paris;

Fe, Pa, Ti, Mt, Ta : femur, patella, tibia, metatarsus, tarsus; FeI, FeII, Fe III, FeIV : femur of first, second, third, fourth leg; d, pl, rl, pv, rv : dorsal, prolateral, retro-lateral, proventral, retroventral.

G : Gouvernorat (Tunisia); P : Province (Morocco); W : Wilaya (Algeria).

Measurements are in mm.

SYSTEMATICS

Genus *Lepthyphantes* Menge *sensu stricto*

SAARISTO & TANASEVITCH (1996, 1999, 2000, 2001) redefined the genus *Lepthyphantes* and in their view, only a few species are placed in this genus. All other species

were or will have to be transferred to other genera, which leaves the genus *Lepthyphantes* in a mess. In the Maghreb, *Lepthyphantes minutus* is the only species that remains. Some species were transferred to the genera *Canariphantes*, *Improphantes*, *Megalepthyphantes*, *Palliduphantes* or *Tenuiphantes* (SAARISTO & TANASEVITCH, 1996, 2000, 2001). Seven Maghreb species belong in the *afer*-complex, as first defined by BRIGNOLI (1971) and confirmed by SAARISTO & TANASEVITCH (1993). Finally, another seven species have, at the moment, an uncertain position.

Lepthyphantes minutus (Blackwall, 1833)

Lepthyphantes minutus; Bosmans 1985 : 142; Saaristo & Tanasevitch, 1996 : 177, 177, figs 2A, 4A-B, 10A.

Description and diagnosis

See BOSMANS (1985).

New material examined

ALGERIA

W. Batna : Aures Massif, Aïn Taga, 1600m, 2 males, pitfalls in *Cedrus atlantica* forest, 4.XI.1987.

W. Setif : Djebel Babor, 1950m, 2 females in pitfalls in *Cedrus atlantica* forest, 22.X.1989.

W. Tizi Ouzou : Djurdjura Massif, Tala Guilef, 1550m, 1 male, pitfalls in *Cedrus atlantica* forest, 12.XI.1988.

Distribution

A common species in temperate Europe, in Algeria limited to forests at high altitude : the Djurdjura and Aures Massifs and the Djebel Babor. Probably also present in the Moroccan Atlas.

Lepthyphantes species belonging to the *afer* complex

Lepthyphantes afer Simon, 1913 (Figs 1-5)

Troglohyphantes afer Simon, 1913 : 374 (descr. male).

Lepthyphantes afer; Fage, 1919 : 72, fig. 30; Fage, 1931 : 189, 233, fig. 33 (descr. female); Bosmans, 1985 : 167.

Citations

ALGERIA

W. Tizi Ouzou : Djurdjura massif : Ifri Bou Anou, Douar Iboudrarene (type locality; SIMON, 1913); Djebel Azerou Tidjer, Ifri Maareb (SIMON, 1913); Dra-el-Missan, Tessereft Tabor Boufrichen (FAGE, 1919, 1931); Anou 't Azzou, Ibou Bou N'Taya (FAGE, 1931); Tessereft el hadj ou-Kaci (FAGE, 1931).

Remarks

BOSMANS (1985) was unable to locate the material mentioned above and the species thus could not be redescribed. Newly collected material allows us to do so now.

Diagnosis

Males are recognised by the basal spine on the paracymbium and by the shape of the lamella (Fig. 1), females by the shape of the protruding sigmoid scape (Figs 3-4). For this and related species, BRIGNOLI (1971) created the *afer*-group, which SAARISTO & TANASEVITCH (1993) named the *afer*-complex.

Description

Measurements : Male : total length 2.8-3.4; prosoma 1.36-1.42 long, 1.04-1.12 wide. Female : total length 2.6-3.8; prosoma 1.31-1.42 long, 1.02-1.16 wide.

Colour : Cephalothorax, chelicerae, sternum and legs yellowish orange, abdomen pale grey, nearly white.

Legs long, Fe I 1.8 times as long as prosoma.

Spination : FeI : 2 or 3 pl, FeII-IV spineless; TiI : 2d, pl, rl; TiII : 2d, rl; TiIII-IV : 2d; Mt : I-III : d; MtIV spineless.

Palp (Figs 1-2) : Patellar and tibial spine 1.5 times as long as their diameter; tibia twice as long as wide; proximal part of paracymbium with 5 scattered spines, distal part slender and with mesal tooth, invisible in lateral view; suprategular apophysis pointed, with basal tooth; radix with strongly pointed basal tooth; lamella long and pointed; terminal apophysis U-shaped, distally rounded; embolus compact, distally with small tooth.

Epigyne (Figs 3-5) : With strongly protruding, sigmoid scape; anterior part of scape nearly circular, slightly longer than wide, distal part gradually narrowing into the stretcher; median plate strongly elongate, twice as long as wide.

New material examined

ALGERIA

W. Tizi Ouzou : Djurdjura massif, Tirourda, grotte du Maccabée, 3 males 23 females, several juveniles, 27.IV.1989.

Lepthyphantes brevihamatus Bosmans, 1985

Lepthyphantes brevihamatus Bosmans, 1985 : 157, figs 8a-g (descr. male, female).

Description and diagnosis

See BOSMANS, 1985.

New material examined

None.

Distribution :

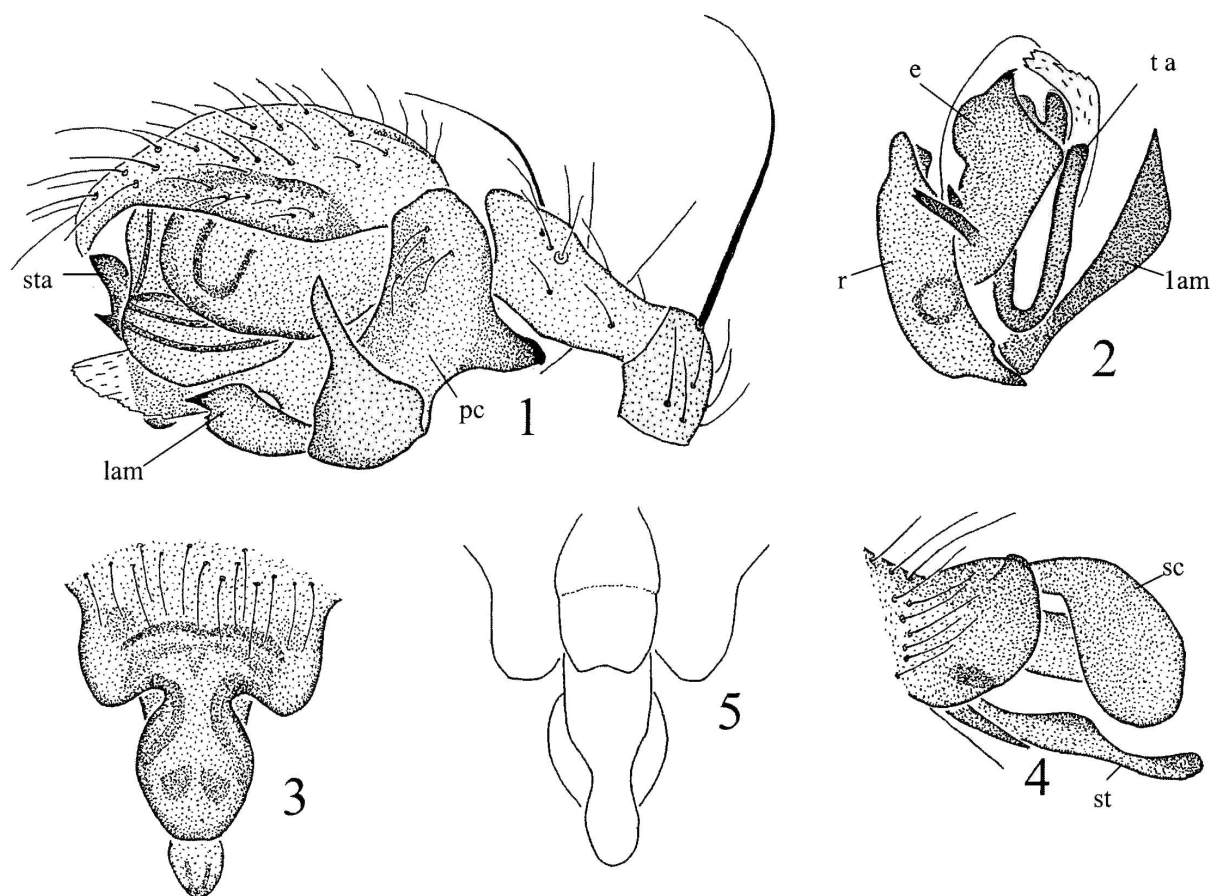
Morocco, caves in the High Atlas.

Lepthyphantes emarginatus Fage, 1931

Lepthyphantes emarginatus Fage, 1931 : 190 fig. 35 (descr. male, female); Bosmans, 1985 : 168, figs 13a-f (redescr. male, female).

Description and diagnosis

See BOSMANS, 1985.



Figs 1-5. – *Lepthyphantes afer* (Simon). 1. Male palp, lateral view; 2. Embolic division, ventral view; 3. Epigyne, ventral view; 4. Epigyne, lateral view; 5. Idem, dorsal view. (e : embolus; lam : lamella; pc : paracymbium; r : radix; sc : scape; st : stretcher; sta : supralegular apophysis; ta : terminal apophysis).

New material examined

ALGERIA

W. Bouira : Djurdjura massif : Tala Rana, 1310m, 2 males 3 females, pitfalls in open *Cedrus* forest, 6.X.1987-1.VI.1988; Tigounatine, 1460m, 1 female in pitfalls in *Cedrus* forest, 5.I.1988.

W. Tizi Ouzou : Djurdjura massif : Aït Ali, 1400m, 1 female, cave Ifri Koa, 17.IV.1989; El Djemaa, 800m, 1 female in cave, 26.IV.1989; Tala Guilef, 2 females, pitfalls in *Cedrus* forest, 14.IX.1983.

Distribution

Algeria, Djurdjura Massif. In the past the species was only collected in caves, and we recollected it there. As we collected it also outdoors in pitfall traps, the species appears not to be a true troglobiotic.

Lepthyphantes longihamatus Bosmans, 1985

Lepthyphantes longihamatus Bosmans, 1985 : 155, figs f. 6a-c, 7a-d, 8h, 11c (descr. male, female).

Description and diagnosis

See BOSMANS, 1985.

New material examined

None.

Distribution :

Morocco, caves in the High Atlas.

Lepthyphantes ritae Bosmans, 1985

Lepthyphantes ritae Bosmans, 1985 : 159 figs 9a-c, 10a-c, 11b (descr. male, female); Bosmans 1993 : 133 (citation).

Description and diagnosis

See BOSMANS (1985).

New material examined

ALGERIA

W. Aïn Defla : Col Kandek, 600m, 1 female in pitfall in *Pistacia maquis*, 18.II.1988.

W. Alger : Bainem, 290m, 1 female in *Pinus halepensis* litter, 26.III.1985, and 1 female, 12.VI.1986; Bouzareah NW., 300m, 1 female in *Pinus halepensis* litter, 30.IV.1984.

W. Blida : Chrea, Hakou Feraoun, 830m, 3 males 3 females in pitfalls in *Pinus halepensis* forest, II.1987-I.1988.

W. Boumerdes : Reghaia, 20m, 1 female in pitfall in *Olea maquis*, 6.IV.1986.

W. Ech Chleff : Damous, 50m, 1 female in pitfall in *Pinus halepensis* forest, 1.IV.1989.

W. El Tarf : El Kala, Lake Tonga N., 10m, 7 males 1 female in *Pinus halepensis* litter, 28.III.1988; El Kala, Lake Oubeira N., 2 males in *Quercus suber* litter, 30.III.1988.

W. Oran : M'sila forest, 400m, 1 female, litter in *Quercus suber* forest, 24.IV.1984.

W. Souk Ahras : Hadjar NE., dam on the Cheffia river, 250m, 1 male in *Pistacia maquis*, 28.II.1990.

W. Tipasa : Bouchaoui, 95m, 1 male 1 female in pitfalls in *Ulmus* forest, 12.II.1987; Douaouda, Oued Mazafran, 50m, 3 males 2 females in pitfalls in *Olea maquis*, 12.II.1987; Sidi Fredj, 10m, 4 males 2 females in pitfalls in *Olea maquis*, VII.1986-I.1987; Sidi Fredj, 25m, 18 males 8 females in pitfalls in *Pinus halepensis* forest, VII.1986-I.1988; Zeralda, 10m, 1 male in pitfall in maquis in dunes, 17.III.1988; Zeralda, 10m, 3 females in litter of *Quercus coccifera* forest in dunes, 6.V.1989.

W. Tlemcen : Traras Mountains, between El Arba and El Arabienne, 580m, 1 female in pitfall in *Pistacia maquis*, 24.V.1990.

TUNISIA

G. Siliana : Sidi Said NE., near Oued Kebir, 1 male, pitfall in *Pinus halepensis* forest, 7.III.2005.

Distribution

Formerly known from one locality in Morocco and from the wilaya's Alger and Annaba in Algeria (BOSMANS, 1985), later also cited from the south of Spain (BOSMANS, 1993). New localities are added here from the Algerian wilaya's of Ain Defla, Blida, Boumerdes, Ech Chleff, Oran, Souk Ahras, Tipasa and Tlemcen and from one governorat in Tunisia. The species thus occurs all over the north of the Maghreb.

Lepthyphantes strinatii Hubert, 1970

Lepthyphantes strinatii Hubert, 1970 : 154, figs 5-7 (descr. female); Bosmans, 1985 : 172 (citation).

Description and diagnosis

See HUBERT, 1970.

New material examined

None.

Distribution :

Tunisia, cave near Zaghouan.

Lepthyphantes venereus Simon, 1913

Lepthyphantes venereus Simon, 1913 : 372, fig. 4 (descr. female); Fage, 1931 : 184, fig. 34 (descr. male); Deeleman-Reinhold, 1984 : 42, figs 13-14; Bosmans, 1985 : 168, figs 14a-f, 15a-b (redescr. male, female).

Description and diagnosis

See BOSMANS, 1985.

New material examined

None.

Distribution

Algeria, cave near Tlemcen.

'*Lepthyphantes*' species of uncertain position.

Lepthyphantes aelleni Denis, 1957

(Figs 6-11)

Lepthyphantes aelleni Denis, in Denis & Dresco, 1957 : 50, figs 1-3 (descr. female); Bosmans, 1985 : 166 (citation).

Type material

Holotype female from Morocco, probably the province of Taza, from the abyss 'Kaf el Bouk'; exact locality unknown (DENIS & DRESKO, 1957); not examined, unavailable.

Remarks

The type material mentioned above could not be traced in the MNHNP or in any other museum. Newly collected material which undoubtedly belongs to this species allows us to redescribe it.

Diagnosis

The species is easily recognised by the strongly elongated, triangular lamella in the male (Fig. 6) and the shape of the strongly protruding scape in the female (Figs 9, 10). It cannot be placed in any recently created genus of the *Lepthyphantes* group. The elongated, unfolded scape covered with hairs reminds of the scapes of *L. ajoti* Bosmans, *L. exvaginatus* Deeleman and *L. maurusius* Brignoli and these species merit to be united in the same, yet undefined species group.

Description

Measurements : Male : total length 2.4-3.0; prosoma 1.26-1.41 long, 1.08-1.14 wide.

Female : total length 3.2-3.8; prosoma 1.48-1.84 long, 1.06-1.44 wide. Legs long, Fe I 1.5 times as long as prosoma.

Colour : Cephalothorax yellowish orange, margin greyish; sternum grey suffused with yellowish orange; legs yellowish orange; abdomen grey, posterior half with 4-5 whitish chevrons.

Spination : FeI : 1 pl, FeII-IV spineless; TiI-IV : 2d, 2pl, 2rl; Mt I-IV : d.

Palp (Figs 6-8) : Patellar and tibial dorsal spines not strongly developed, 1.5 x the diameter of each segment; tibia twice as long as wide; proximal part of paracymbium with strong basal tooth and about 20 scattered spines, distal part gently curved, terminally rounded;

lamella bifid, lateral branch L-shaped, distally denticulate and gradually narrowing, mesal branch shorter and wider.

Epigyne (Figs 9-11): With strongly elongated proscape, with narrower basal part, gradually widening and becoming rhomboid, posteriorly with concave margin and ventrally strongly excavated, with small stretcher.

New material examined

MOROCCO

P. Taza : Taza S., Friouato abyss, 1550m, 5 males 43 females in mosses, 8.V.1984 (CRB, KBIN, MNHNP).

Distribution

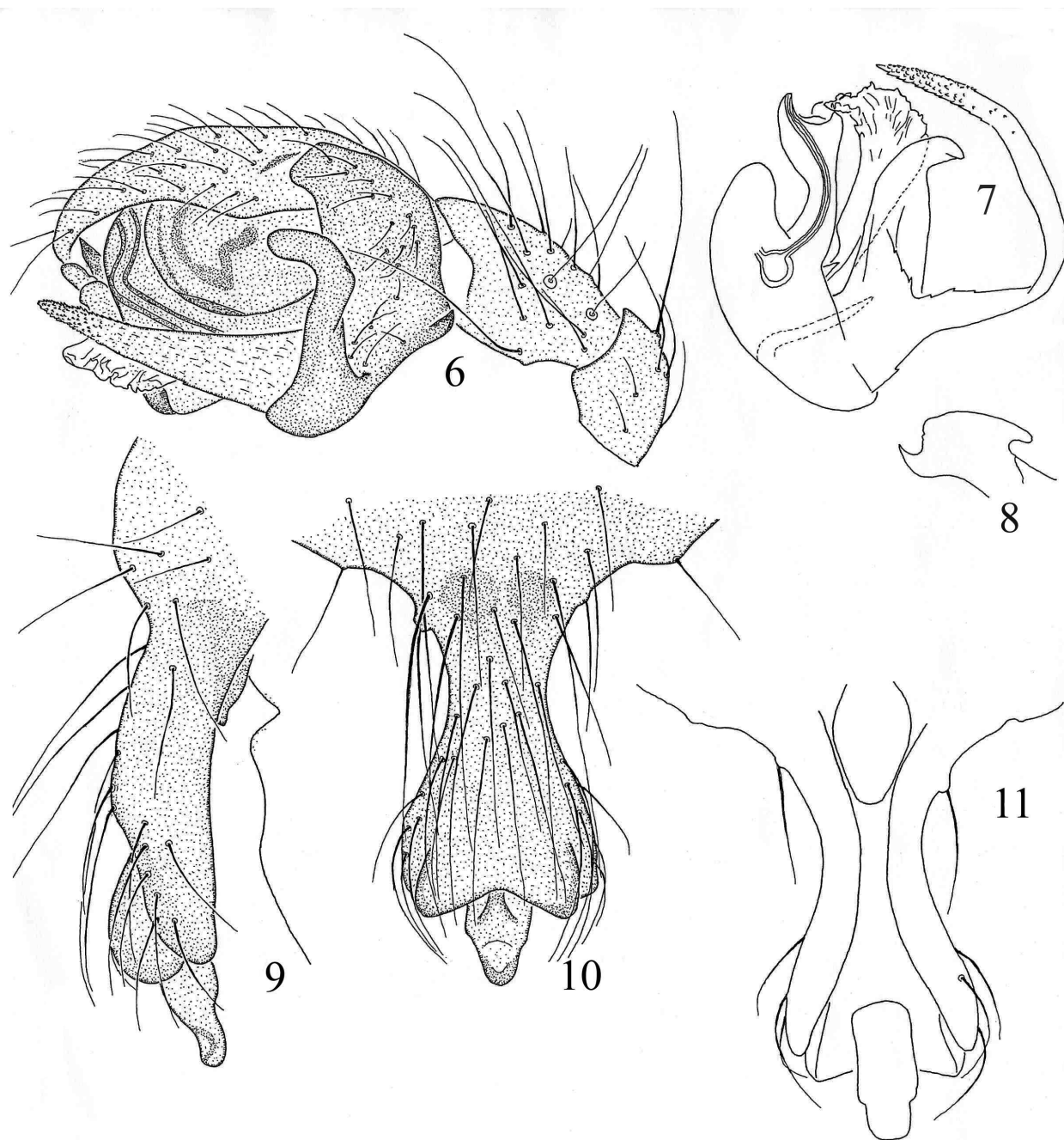
Morocco, region of Taza in the northeast.

***Lepthyphantes ajoti* Bosmans, 1991**

Lepthyphantes ajoti Bosmans, 1991 : 67, figs 3-4, 9-12 (descr. male, female).

Description and diagnosis

See BOSMANS, 1991.



Figs 6-11. – *Lepthyphantes aelleni* Denis. 6. Male palp, lateral view; 7. Embolic division, ventral view; 8. Suprategular apophysis, antero-median view; 9. Epigyne, lateral view; 10. Epigyne, ventral view; 11. Idem, dorsal view.

New material examined

None.

Distribution

Algeria, Saharian Atlas.

***Lepthyphantes exvaginatus* Deeleman, 1984**

Lepthyphantes exvaginatus Deeleman-Reinhold, 1984 : 39 figs 1-6; Bosmans, 1985 : 166, figs 15c-f (descr. female).

Description and diagnosis

See DEELEMEN-REINHOLD, 1984; BOSMANS, 1985.

New material examined

None.

Distribution

Algeria, cave near Tlemcen.

***Lepthyphantes lagunculus* Denis, 1937**

Lepthyphantes lagunculus Denis, 1937 : 1045, pl. 4, figs 13-17 (descr. male, female); Bosmans, 1985 : 172 (citation).

Description and diagnosis

See DENIS, 1937. This is one of the few species that was not recollected by us in Algeria, although the area was well prospected. The type material was not available, so a redescription cannot be given.

New material examined

None.

Distribution

North Algeria, Zouagha forest.

***Lepthyphantes linyphioides* Denis, 1937**

Lepthyphantes linyphioides Denis, 1937 : 1045, pl. 4, figs 9-10 (descr. male); Bosmans, 1985 : 173 (citation).

Description and diagnosis

See DENIS, 1937. This species belongs in another genus *Theonina* as described in (BOSMANS, 2005).

Distribution

North Algeria, Zouagha forest.

***Lepthyphantes maurusius* Brignoli, 1978**

Lepthyphantes maurusius Brignoli, 1978 : 108, figs 2-3 (descr. female); Bosmans, 1985 : 167 (citation).

Description and diagnosis

See BRIGNOLI, 1978. As the type material was not available a redescription cannot be given. As illustrated

by Brignoli, the species has a very typical scape which allows an easy identification.

New material examined

None.

Distribution

Morocco, cave near Taza.

***Lepthyphantes pieltaini* Machado, 1940**

Lepthyphantes pieltaini Machado, 1940 : 515, figs 1-6 (descr. male); Bosmans, 1985 : 167 (citation).

Description and diagnosis

See MACHADO, 1940. This is one of the few species that was not recollected by us in Morocco, and a redescription thus cannot be given. The type material was not available.

New material examined

None.

Distribution

Described from Spanish Morocco, El Ajmas, presently in Morocco in the region of Chechaouen.

Canariphantes* (Wunderlich, 1992)*Remarks**

The genus *Canariphantes* was established by WUNDERLICH (1992) for two species, one from the Canary Islands (*C. alpicola* Wunderlich), the other from Central Europe (*C. nanus* (Kulczyn'ski)). Following the diagnosis given WUNDERLICH (1992), SAARISTO & TANASEVITCH (2001) transferred *Lepthyphantes homonymus* and *L. naili* into the genus *Canariphantes*. Two more species obviously belong there and are here transferred to it : *Canariphantes atlassahariensis* from *Palliduphantes* and *Canariphantes zonatus* from *Bolyphantes* (contra SAARISTO & TANASEVITCH, 2000, 2001).

Diagnosis

Leg spinulation : Fe I pl, Fe II-IV spineless, Ti I 2d, pv, rv, Ti II 2d with or without pv, rv, Mt I-IV d. Male palp : Cymbium without hump; patella and tibia with one short dorsal spine; paracymbium with specific dentation, distal part often translucent; lamella simple, pointed or bifurcate; embolus with subterminal lobe. Epigyne : Small, with flat unfolded scape and small stretcher, flanked by large lateral lobes.

***Canariphantes atlassahariensis*
(Bosmans, 1991) Comb. n.**

Lepthyphantes atlassahariensis Bosmans 1991 : 64, figs 1-2, 5-8 (descr. male, female).

Palliduphantes atlassahariensis; Saaristo & Tanasevitch, 2001 : 6 (transfer from *Lepthyphantes*).

Remarks

SAARISTO & TANASEVITCH (2001) transferred *Lepthyphantes atlassahariensis* to *Palliduphantes*. Two synapomorphies characteristic for this genus are however not present in the species: the lamella of the male palp is not long, narrow and sigmoid, but short and L-shaped; the scape of the epigyne is short and copulation ducts do not run throughout the scape, as in other species of this group. These characters are typical for the genus *Canariphantes* and *L. atlassahariensis* is therefore transferred to this genus.

Description and diagnosis

See BOSMANS (1991).

New material examined**ALGERIA**

W. Laghouat: Oued M'zi, 750m, 6 males 13 females, pitfalls in *Phragmites* belt along the river, 21.V.1990.

Distribution

Only known from two localities in the Saharian Atlas in Algeria. The new material was collected at the type locality.

***Canariphantes homonymus* (Denis, 1934)**

Lepthyphantes homonymus Denis, 1934: 76, fig. 3 (descr. male); Denis, 1950: 102, fig. 40; Bosmans & Bouragba, 1992: 259, figs 28-34 (descr. male, female).

Canariphantes homonymus; Saaristo & Tanasevitch, 2000: 264 (transfer from *Lepthyphantes*).

Description and diagnosis

See BOSMANS & BOURAGBA, 1992.

New material examined**MOROCCO**

P. Taroudannt: between Aoulouz and Taliouine, 600m, 1 female, stones in *Arganier* steppe, 4.II.1996.

Distribution

Formerly known from the extreme southeast of France, Portugal and the steppe region in Algeria (BOSMANS & BOURAGBA, 1992) and cited here for the first time from Morocco.

***Canariphantes naili*
(Bosmans & Bouragba, 1992)**

Lepthyphantes naili Bosmans & Bouragba 1992: 254, figs 17-22 (descr. male, female).

Canariphantes naili; Saaristo & Tanasevitch, 2000: 264 (transfer from *Lepthyphantes*).

Description and diagnosis

See BOSMANS & BOURAGBA, 1992.

New material examined

None.

Distribution

Algeria, Ouled Nail Mountains, Aures and Djurdjura massifs.

***Canariphantes zonatus*
(Simon, 1881) Comb. n.
Figs 12-17**

Lepthyphantes zonatus Simon 1881: 322, fig. 91 (descr. male, female); Simon 1885: 27; Denis 1936: 1045 (citation); Bosmans 1985: 148 (citation).

Bolyphantes zonatus; Saaristo & Tanasevitch, 2000: 256 (transfer from *Lepthyphantes*).

Remarks

SAARISTO & TANASEVITCH (2000) transferred *Lepthyphantes zonatus* to *Bolyphantes*, but in the revision of this genus, VAN HELSDINGEN et al. (2001) correctly considered the species misplaced. An analysis of palpal organ and epigyne shows that the species has a short, L-shaped lamella and that the scape of the epigyne is very short with the copulation ducts not running throughout the scape. These characters are typical for the genus *Canariphantes* and *L. zonatus* is therefore transferred to it.

Description and diagnosis

See MACHADO (1949) and figures 12-17 in present paper.

New material examined**ALGERIA**

W. Ain Temouchent: between El Malah and Hassi El-Ghella, 2 females along Rio Salado, 24.IV.1984.

W. Annaba: Chetaibi, 810m, 2 males 5 females, stones in grassland, 1.III.1990.

W. Bouira: Col de Dirah, 900m, 2 males 3 females in pitfalls in *Juncus* along Oued Djennane, 10.IV.1988; Ighrem, 490m, 1 female in pitfall in Tamarisk bushes along Oued Sahel, 20.IV.1989; Saharidj, 650m, 1 male in pitfall in *Pistacia* maquis, 5.I.1988.

Boumerdes: Bordj Menaël, 30m, 4 females, stones in Eucalyptus plantation, 4.III.1988; Reghaia, 5m, 2 males 6 females, pitfalls in tamarisk maquis, 13.VI.1988; Sidi Daoud, 35m, 1 female, stones along Oued Sebaou, 4.XII.1987; Thenia E., 150m, 1 female in litter in Eucalyptus plantation, 18.III.1988; Zemmouri, 10m, 17 males 7 females in pitfalls in *Cistus* maquis, 12.IV.1985.

W. El Tarf: El Kala, N. Lake Tonga, 10m, 7 males 2 females in pitfalls in *Pinus halepensis* forest, 28.III.1988; idem, 4 females in grassland along the lake, 28.III.1988; El Kala, E. Cap Rosa, 2 males in pitfalls in coastal maquis, 29.III.1988; El Kala, Lake Oubeira, 10m, 4 females in *Quercus suber* forest, 30.III.1988; El Kala, 50m, 2 females, stones in *Quercus suber* forest, 29.III.1988.

W. Khenchela: Zoui E., 900m, 1 female in litter of *Populus alba* forest, 11.XI.1988.

W. Mostagenem : Ben Abdel Malek Ramdane, 25m, 1 female in pitfall in young *Pinus* plantation, 25.V.1990.

W. Skikda : Ben Azouz, 200m, 1 male 1 female in *Eucalyptus* plantation, 2.III.1990; W. Collo, Tamanart, 25m, 1 male 1 female, stones in grassland, 6.VI.1987.

W. Tipasa : Bouchaoui, 95m, 2 females in pitfalls in *Ulmus* forest, 10.IV.1987; Douaouda, Oued Mazafran, 50m, 13 males 7 females in pitfalls in *Populus alba* forest, 16.XII.1986-26.II.1988; Sidi Fredj, 10m, 9 males 11 females, pitfalls in dunes in *Olea* maquis, 25.XI.1986-29.V.1987; idem, 25m, 20 males 3 females in pitfalls in *Pinus halepensis* forest, 18.XII.1986-20.XII.1987.

W. Tizi Ouzou : Aïn-el-Hammam, 1150m, 1 female, stones around hotel, 9.III.1990; Boukhalfa, 180m, 1 male 1 female in pitfalls in *Olea* maquis, 8.III.1990; El Tetla, 180m, 1 female in pitfalls in grassland, 16.III.1990; Oua-dhia S., 250m, 2 females, stones along Oued Assi, 15.IV.1982.

MOROCCO

P. Casablanca : Casablanca, 1 male, IV.1984, J. Mertens leg.

P. Rabat : Aïn-el-Aouda N., 1 female, 8.II.1996.

P. Taza : cascades de Ras-el-Oued, 1000m, 1 male in herbs, 22.IV.1984.

P. Tetouan : Tetouan, 10m, 4 females in abandoned garden along Oued Hadjera, 20.IV.1984.

TUNISIA

G. Jendouba : Tabarka, at E. entrance of the city, 3 females, stones in wasteland, 28.II.2005; Tabarka, 1 male 3 females, stones around fortress, 7.III.2005.

G. Le Kef : Sakiét Sidi Youcef E., 850m, 1 female, stones in *Pinus* forest, 5.III.2005.

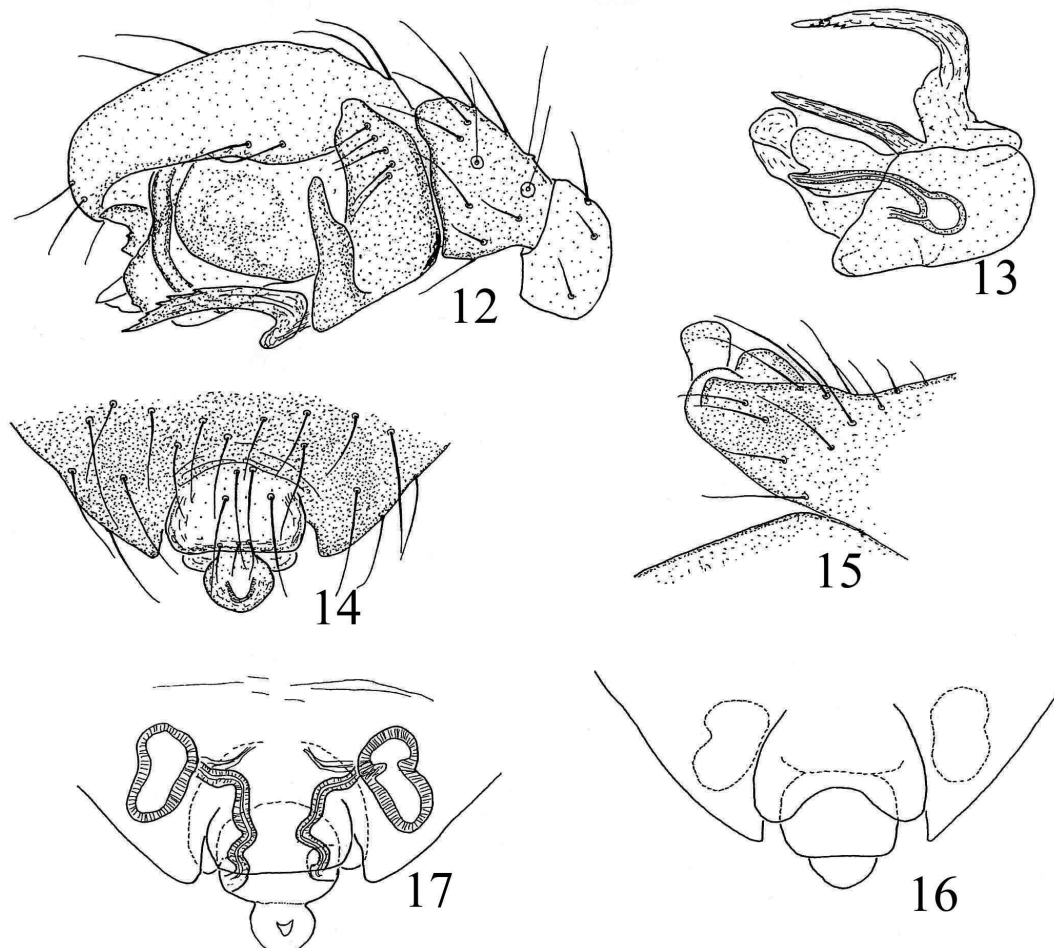
G. Nabeul : El Haouaria, 8 males 1 female, 19.IV.1993, K. De Smet leg.; Kerkouana S., 2 females, litter in pine forest, 26.I.2003.

G. Siliana : Sidi Saïd NE, near Oued Kebir, 400m, pitfall in *Eucalyptus* plantation, 28.II-8.III.2005.

G. Tunis : La Goulette, 1 female, stones in pine forest, 30.I.2003.

Distribution

BOSMANS (1985) cited the species from Algeria in the wilaya's of Annaba, Bejaia and Tizi Ouzou, and from one locality in Tunisia. Several new localities from Algeria, Morocco and Tunisia are added here. *Canariphantes zonatus* appears to be a common species in the north of the Maghreb.



Figs 12-17. – *Canariphantes zonatus* (Simon). 12. Male palp, lateral view; 13. Embolic division, ventral view; 14. Epigyne, ventral view; 15. Epigyne, lateral view; 16. Epigyne, dorsal view; 17. Vulva, ventral view.

Improphantes
(Saaristo & Tanasevitch, 1996)

The genus *Improphantes* was recently created by SAARISTO & TANASEVITCH (1996) for several species formerly included in *Lepthyphantes*. While males of the genus are diagnosed by the sickle-shaped embolus with open sulcus, no unambiguous characters common for the females are actually known. In Northern Africa, *Lepthyphantes decolor* Westring was placed in *Improphantes* and *Lepthyphantes djazairi* Bosmans is here transferred to it as well.

Improphantes decolor
(Westring, 1862)

Lepthyphantes decolor; Bosmans, 1985 : 153, figs 6d-f (descr. male, female).

Improphantes decolor; Saaristo & Tanasevitch, 1996 : 177 (transfer from *Lepthyphantes*).

Description and diagnosis

See BOSMANS, 1985.

New material examined

ALGERIA

W. Batna : Belezma Mountains, Col Telmet, 1820m, 2 males in pitfalls in *Cedrus atlantica* forest, 28.II.1988.

W. Blida : Atlas Blidéen, Meurdja, 950m, 2 females in pitfalls in *Cedrus atlantica* plantation, 10.III.1988; Bougara, Djebel Bou Noua, 850m, 1 female, stones in mixed forest, 1.XII.1983; Djebel Mouzaia, 1400m, 1 male in *Quercus faginea* litter, 4.XI.1985, and 2 females, 22.V.1985.

W. Bouira : Djurdjura massif : Tala Rana, 1310m, 2 females in pitfalls in open *Cedrus atlantica* forest, 24.IX.1987-12.IV.1988; Tigounatine, 1460m, 7 males 3 females in pitfalls in *Cedrus atlantica* forest, 6.X.1987-1.VI.1988.

W. Chleff : Damous, 50m, 1 female in pitfall in *Pinus halepensis* forest, 11.IV.1979; Tacheta, 850m, 2 females in pitfalls in *Quercus faginea* forest, 4.II-25.IV.1988.

W. M'sila : Hodna Mountains, Djebel Maadid, 1600m, 4 females in pitfalls in grassland, I.1990.

W. Tizi Ouzou : Azazga, 750m, 1 female in pitfall in *Quercus suber* forest, 25.XI.1989; Yakouren, 820m, 3 females in litter of *Quercus faginea* forest, 4.XII.1986, and 1 female, 24.II.1988. Djurdjura massif : Ait Ouabane, 1410m, 1 male 6 females, pitfalls in *Cedrus atlantica* forest, 6.X.1987-1.VI.1988; Tizi Boussouil, 1750m, 3 males 5 females, pitfalls in grassland, 1.XII.1991.

Distribution

South Scandinavia, Central and southwest Europe, Algeria.

Improphantes djazairi
(Bosmans, 1985) Comb. n.

Lepthyphantes djazairi Bosmans, 1985 : 150, figs 10d-e (descr. female); Bosmans & Bouragba, 1992 : 258, figs 23-27 (descr. male).

Remarks

Lepthyphantes djazairi is transferred here to the genus *Improphantes*, because it corresponds to the diagnosis proposed by SAARISTO & TANASEVITCH (1996). It is closely related to *I. decolor*.

Description and diagnosis

See BOSMANS, 1985, BOSMANS & BOURAGBA, 1992.

New material examined

None. All additional records were already cited in BOSMANS & BOURAGBA, 1992.

Distribution

A species with a large distribution at higher altitudes in the Algerian Atlas.

Genus *Megalepthyphantes*
(Wunderlich, 1994)

The genus was *Megalepthyphantes* created by WUNDERLICH (1994) for the larger *Lepthyphantes* species of the *nebulosus* group, first defined by WIEHLE (1956). SAARISTO & TANASEVITCH (2000) transferred *L. bkheita* Bosmans & Bouragba to the new genus, and two more new species are described here.

Megalepthyphantes bkheita
(Bosmans & Bouragba, 1992)

Lepthyphantes bkheita Bosmans & Bouragba, 1992 : 251, figs 11-16 (descr. male, female).

Megalepthyphantes bkheita; Saaristo & Tanasevitch, 2000 : 264 (transfer from *Lepthyphantes*).

Description and diagnosis

See BOSMANS & BOURAGBA (1992).

New material examined

None.

Distribution

Only known from Algeria in the region of Djelfa.

***Megalepthyphantes auresensis* sp. n.**
(Figs 18-24)

Lepthyphantes cf. *collinus*; Bosmans 1985 : 142.

Type material

Holotype male from Algeria, W. Batna, Aures Massif, Belezma Mountains, Kef Islane, 1800m, pitfall in *Cedrus atlantica* forest, 26.II.1988. Paratypes : 3 males, same data; 2 females, in mosses, 8.IV.1982; deposited in KBIN and CRB.

Diagnosis

Closely related to *M. bkheita*, males clearly differentiated by 3 unequal terminal teeth of the lamella (Fig. 18),

and females by the strong posterior incision of anterior part of the epigynal scape (Fig. 22).

Etymology

The name is derived from the type locality, the Aures Massif in the Algerian Tell Atlas.

Remarks

This species was cited in BOSMANS (1985) as *Lepthyphantes* *cf.* *collinus*.

Description

Measurements : Male : total length 3.3-3.8; prosoma 1.72-1.76 long, 1.36-1.44 wide. Female : total length 3.4-4.6; prosoma 1.30-1.68 long, 1.04-1.36 wide.

Cephalothorax yellowish brown with broad median and lateral grey stripes; legs yellowish brown, Fe and Ti with two dark grey annulations; abdomen pale grey, with darker chevrons.

Legs : Spination : Fe I : pl; Ti : 2d, 2pv, 2 rv, 1 pv, 1 rv; Mt : d, pl, rl.

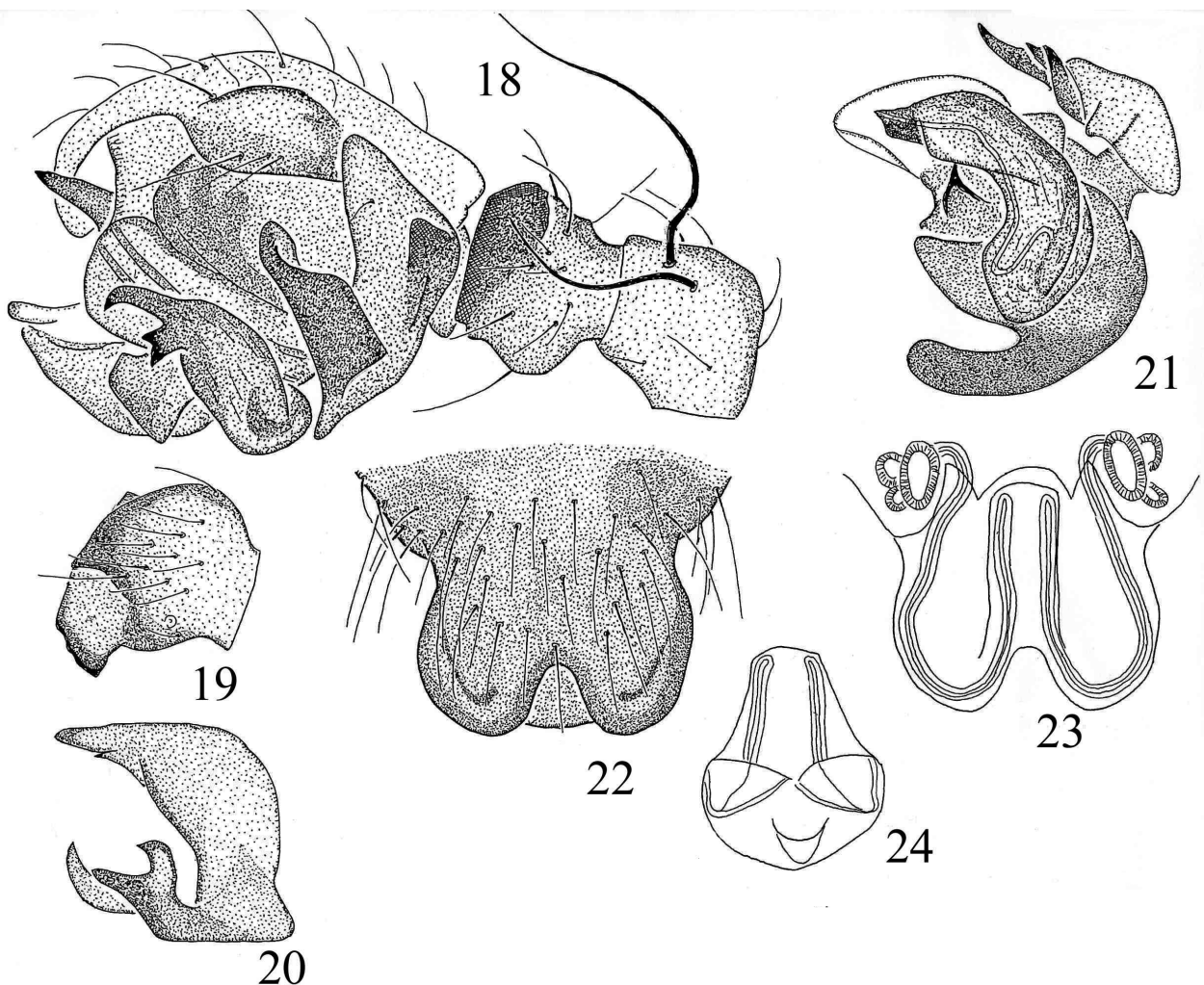
Measurements :

	Fe	Pa	Ti	Mt	Ta
I	3.16	0.53	2.84	3.08	1.74
IV	2.86	0.44	2.60	2.84	1.30

Palp (Figs 18-21) : Tibia with two long, curved spines; distal part of tibia strongly chitinised, with blunt anterodorsal apophysis; proximal part of paracymbium with blunt median tooth; lamella curved, prolateral part with three unequal teeth, retrolateral part larger and curved, terminally pointed; embolus sigmoid.

Epigyne (Fig. 22) : Scape folded, anterior part of scape wider than long, with strong lateral and postero-median incisions, posterior part of scape visible in the incision.

Vulva (Figs 23, 24) : Copulation ducts running throughout the scape.



Figs 18-24. – *Megalepthyphantes auresensis* sp. n. 18. Male palp, lateral view; 19. Palpal tibia, dorsal view; 20. Lamella, ventral view; 21. Embolic division, ventral view; 22. Epigyne, ventral view; 23. Vulva, ventral view; 24. Distal part of scape, ventral view.

Other material examined

ALGERIA

'Alger', 1 female (MNHNP 4259).

W. Batna : Aures Massif, S'gag forest, 1800m, 2 females in pitfalls in *Cedrus atlantica* forest, 18.IV.1982; between Tazoult Lambese and S'gag, 1650m, 1 subadult female among stones in grassland, 16.X.1987.

W. Setif : Djemilia, 950m, 1 female, stones in ruins, 6.II.1988.

W. Ain Sefra : Mecheria, 5 females (MNHNP 6179).

Distribution

Only known from mountains in Tell and Sahara Atlas in Algeria.

Ecology

A species of forests of high altitudes in the inland of Algeria, with adults collected at the end of the winter and in the beginning of spring.

***Megalepthyphantes hellinckxorum* sp. n.**
(Figs 25-31)

Type material

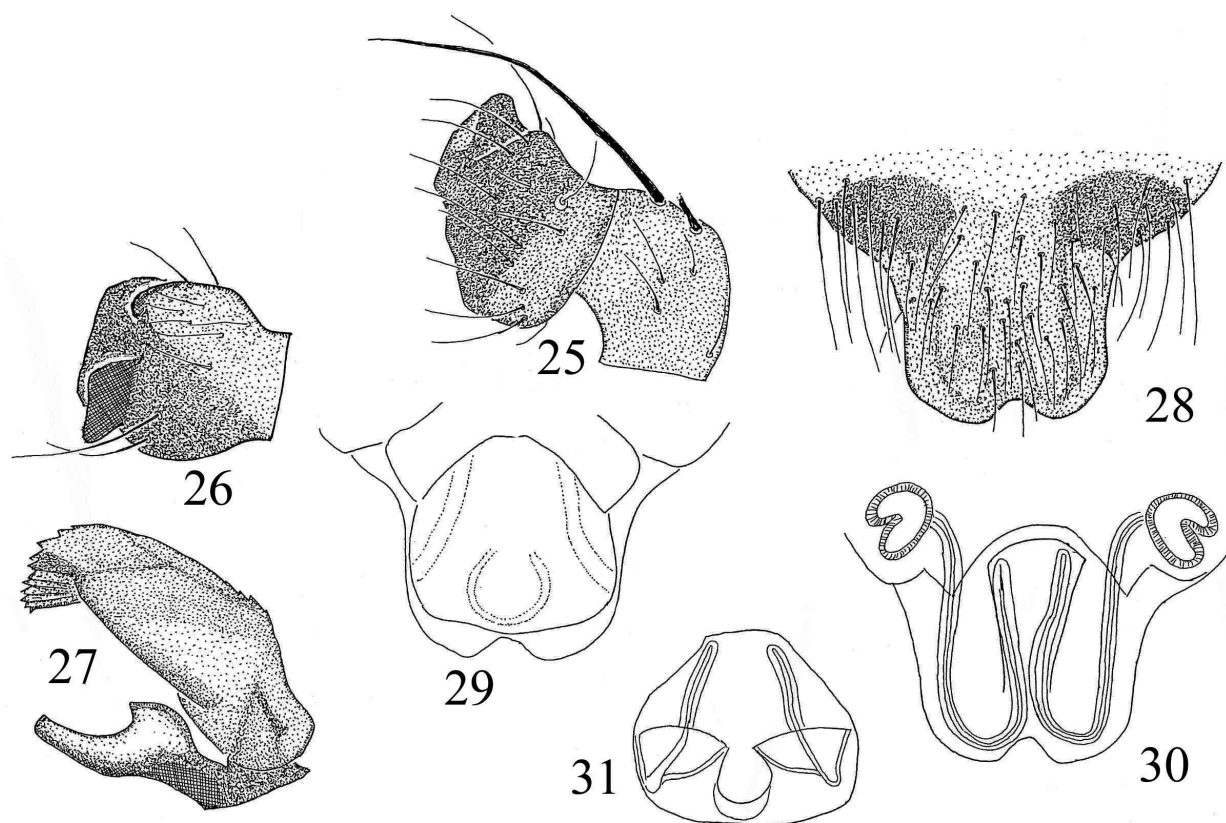
Holotype male from Algeria, W. Tissemsilt, Ouarsenis Massif, Theniet-el-Had, Djebel Meddad, 1400m, pitfall in open *Cedrus atlantica* – *Quercus ilex* forest, 23.III.1988; paratypes : 2 females, idem, 1500m, pitfall in dense *Cedrus atlantica* forest, 4.V.1989; deposited in KBIN (1 male, 1 female) and CRB (1 female).

Diagnosis

M. hellinckxorum is closely related to *M. bkheita* and *M. auresensis*. Males are easily distinguished by the ribbon-like lamella with terminal denticules (Fig. 27), and females by the less incised anterior part of the scape (difference with *auresensis*), and by the quadrangular posterior part of the scape (Fig. 28; rectangular in *bkheita*).

Etymology

The species is dedicated to the Hellinckx family, especially to Bram Hellinckx, in commemoration of the birth of his son Beau.



Figs 25-31. – *Megalepthyphantes hellinckxorum* sp. n. 25. Male palpal patella and tibia, lateral view; 26. Palpal tibia, dorsal view; 27. Lamella, ventral view; 28. Epigyne, ventral view; 29. Epigyne, dorsal view; 30. Vulva, ventral view. 31. Distal part of scape, ventral view.

Description

Measurements : Male : total length 3.6; prosoma 1.94 long, 1.60 wide; chelicerae 0.72 long. Female : total length 4.0-4.3; prosoma 1.52-1.76 long, 1.26-1.30 wide.

Colour and spination as in *L. bkheita*.

Legs : Measurements :

	Fe	Pa	Ti	Mt	Ta
I	3.04	0.54	2.48	-	-
IV	2.68	0.48	2.44	2.76	1.46

Palp (Figs 25-27) : Differing from the preceding species in the following aspects : tibia dorsally with well developed, blunt apophysis and strongly elevated dorsal ridge, delimiting a deep depression; basal branch of paracymbium with relatively small median tooth; prolateral part of lamella a straight sclerite with subterminal concavity, retrolateral part longer, ribbon-like, terminally denticulate.

Epigyne (Figs 28-29) : Anterior part of scape rather elongated, only slightly wider than long. Posterior part of scape rectangular.

Vulva : Figs 30-31.

Other material examined

A female in the MNHNP has an epigyne that is very similar to the epigyne of *M. hellinckxorum* and is here, in the absence of males, provisionally listed : W. El Bayadh : El Bayadh (as Géryville; MNHNP 4279).

Distribution

Algeria, the Ouarsenis Massif and one probable record 200 km to the south.

Genus *Palliduphantes* (Saaristo & Tanasevitch, 2001)

The genus *Palliduphantes* was recently created by SAARISTO & TANASEVITCH (2001) for species formerly included in the *pallidus*-, *insignis*- and *spelaeorum* group of *Lepthyphantes*. They included 48 species, but some seem to be misplaced, as for instance *P. atlassahariensis*, transferred here to *Canariphantes*. In Northern Africa, *Lepthyphantes cadiziensis* Wunderlich, *Lepthyphantes kalaensis* Bosmans and *Lepthyphantes labilis* Simon were included in *Palliduphantes*. Recently, BOSMANS (2003) described *Palliduphantes chenini* and in the present paper, two more species are described.

Palliduphantes cadiziensis (Wunderlich, 1980) (Figs 32-39)

Lepthyphantes cfr. *bolivari*; Brignoli 1978 : 108, fig.1 (descr. male; misidentified).

Lepthyphantes cadiziensis Wunderlich 1980 : 323, figs 13-14 (descr. male).

Palliduphantes cadiziensis; Saaristo & Tanasevitch, 2001 : 6 (transfer from *Lepthyphantes*).

Type material

Holotype male from Spain, Cadiz, 12 km WNW Algeciras, Sierra del Niño, 3.IV.1972 (Wunderlich 1980); not examined.

Diagnosis

Males of this species may easily be recognised by the long, bifurcate lamella (Fig. 32), females by the strongly folded scape with narrowing distal part (Figs 34, 35).

Remarks

In his original description, WUNDERLICH (1980) placed *L. cadiziensis* in the *tenuis* group of *Lepthyphantes*. However, the shape of the embolic division and the folded epigyne indicate that it has to be placed in the *pallidus* group of *Lepthyphantes*, so SAARISTO & TANASEVITCH (2001) correctly integrated the species in the genus *Palliduphantes*.

BRIGNOLI (1978) identified a male from Gibraltar as *L. cfr. bolivari* Fage, but according to his figure of the male palp, it is *P. cadiziensis* as well. *P. bolivari* has a much shorter lamella in the male palp and a wider distal part of the epigynal scape in the female.

Description

Measurements : Male : total length 1.6-1.9; prosoma 0.80-0.88 long, 0.64-0.68 wide. Female : total length 2.1-3.5; prosoma 0.88-0.98 long, 0.72-0.84 wide.

Colour : Prosoma and legs pale yellowish to yellowish orange, eyes surrounded with black; abdomen grey to dark grey, often with paler spots and bars.

Legs : Fe I : pl; Ti I : 2d, pl, rl; TiII : 2d, rl; TiIII-IV : 2d; MtI-IV : d.

Palp (Figs 32-33) : Dorsal spines on patella and tibia of equal length, twice the diameter of the segment; cymbium without tubercle; proximal branch and median part of paracymbium both with basal tooth; distal part slender, rounded terminally; lamella strongly elongated, terminally bifid; embolus pointed, with accompanying lobe.

Epigyne (Figs 34-37) : Strongly protruding; anterior part of scape semi-circular, with two lobe-like internal appendages; posterior part of scape rhomboid; stretcher small, slightly wider than long.

Vulva : Figs 38-39.

Previous citations

GIBRALTAR

St. Michael's Cave, 1 male, 19.V.1973 (BRIGNOLI, 1978, sub *L. cfr. bolivari*).

SPAIN

Cadiz : 12 km WNW Algeciras, Sierra del Niño (WUNDERLICH, 1980).

New material examined

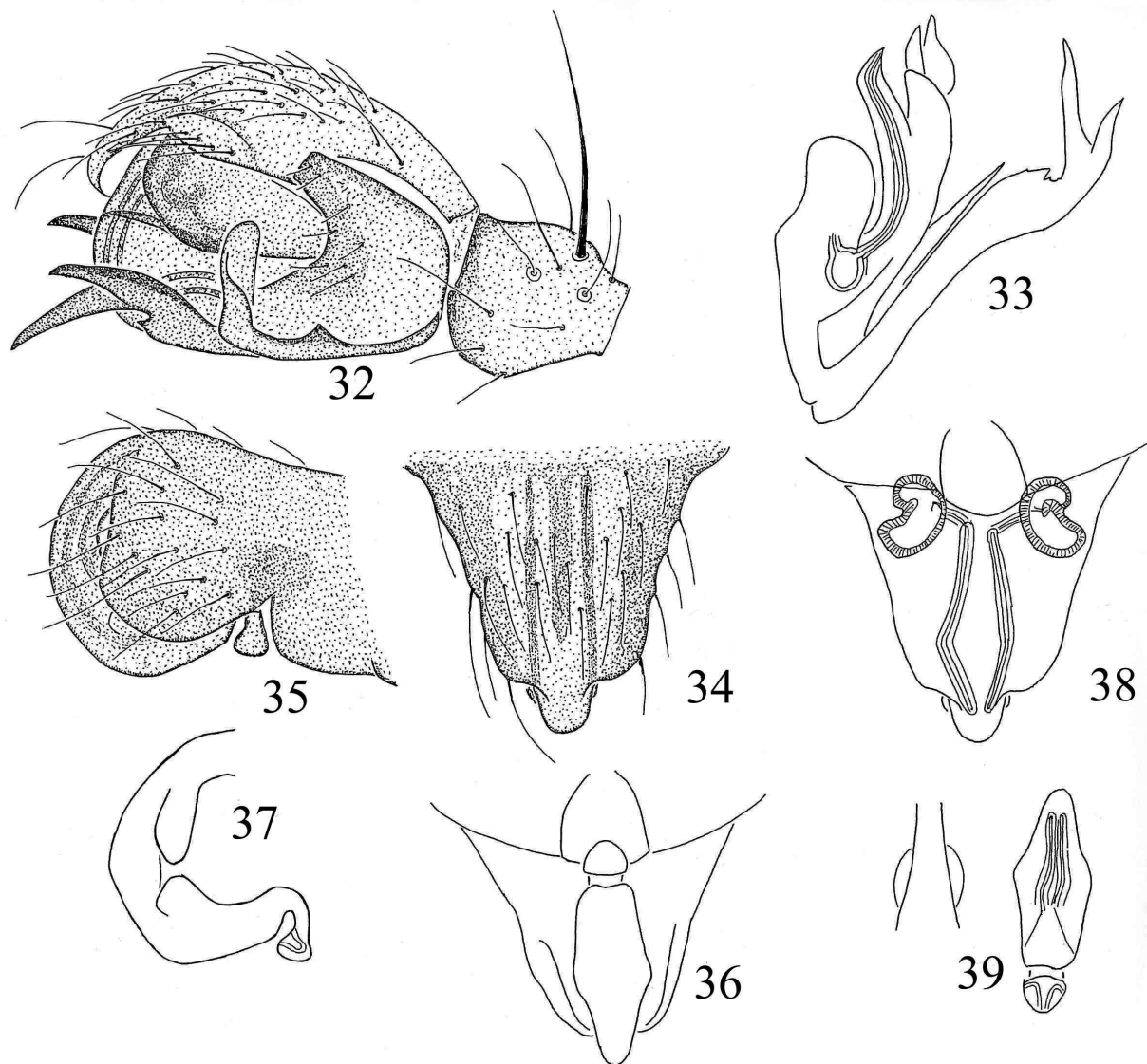
MOROCCO

P. Taza : Taza S., Cascades Ras El Oued, 1000m, 1 female, in low herbs, 21.IV.1984.

P. Tetouan : between Tetouan and Chechaouen, 520m, 2 males 3 females in herbs along a rivulet, 30.IV.1984; Tetoutan S., 10m, 1 female, dunes along Oued Hadjera, 20.IV.1984.

Distribution

Andalucia in the southwest of Spain and the northwest of Morocco.



Figs 32-39. – *Palliduphantes cadiziensis* Wunderlich. 32. Male palp, lateral view; 33. Embolic division, ventral view; 34. Epigyne, ventral view; 35. Epigyne, lateral view; 36. Epigyne, dorsal view; 37. Scape, lateral view; 38. Vulva, dorsal view; 39. Distal part of scape, dorsal view.

***Palliduphantes chenini*
Bosmans, 2003**

Palliduphantes chenini Bosmans, 2003 : 104, figs 1-6 (descr. male, female).

Description and diagnosis

See BOSMANS (2003).

New materiel examined

None.

Distribution

The extreme south of Tunisia.

***Palliduphantes kalaensis*
(Bosmans, 1985)**

Lepthyphantes kalaensis Bosmans 1985 : 145, figs 3a-d, 4a-c, 11a (descr. male, female).

Palliduphantes kalaensis; Bosmans, 2003 : 104 (transfer from *Lepthyphantes*).

Description and diagnosis

See BOSMANS (1985).

Further materiel examined

ALGERIA

W. El Tarf : Lake Tonga, 10m, 1 male 2 females, pitfalls in *Alnus* forest, 28.III.1988.

Distribution

Only known from the region of El Kala in the extreme northeast of Algeria.

Palliduphantes labilis
(Simon, 1913)

Lepthyphantes labilis Simon 1913 : 370, fig.3 (descr. male, female); Bosmans 1985 : 142 figs 4d-f, 5a-d, 11d (descr. male, female).

Palliduphantes labilis; Saaristo & Tanasevitch, 2001 : 6 (transfer from *Lepthyphantes*).

Description and diagnosis

See BOSMANS (1985).

New materiel examined

ALGERIA

W. Alger : les Eucalyptus, 35m, 5 females in pitfalls in wasteland, 15.I.1990.

W. Annaba : Chetaibi, 810m, 1 female, stones in grassland, 2.III.1990.

W. Bejaia : between Aokas and Tizi Ghenif, 5m, 1 male, pitfalls in *Pistacea* maquis in dunes, 25.XI.1989; El Flaye, 800m, 1 female, pitfalls in *Zizyphus* bushes, 1.XII.1988.

W. Blida : Chrea, 1000m, 2 males in pitfalls in *Quercus faginea* forest, 10.V.1982; La Chiffa, 250m, 3 males, pitfalls in orange garden, 21.II.1989.

W. Bordj Bou Arreridj : Sidi Embarek, 900m, 3 females, stones in cultivated land, 27.II.1990.

W. Bouira : Djurdjura massif, Tigounatine, 1460m, 1 female, pitfalls in *Cedrus atlantica* forest, 12.VII.1988.

W. Boumerdes : Aïn Taya, 50m, 3 males 2 females, pitfalls in garden, 20.VI.1989; Lakhdaria, 115m, 1 male in *Olea* litter along Oued Olla, 1 male in herbs along Oued Bou-Hamoud, 20.IV.1990.

W. El Tarf : Lake Tonga, 10m, 1 male 2 females, pitfalls in *Alnus* forest, 28.III.1988; Sidi Embarek, 10m, 1 male 1 female in pitfalls in *Olea* maquis, 2. III.1990.

W. Guelma : Aïn Regada, 600m, 2 females, herbs along Oued Zenati, 22.XI.1989; Bouchegouf, 600m, 3 females, herbs along Oued Seybousse, 22.XI.1989; Hammam Meskoutine, 410m, 1 male in grass tussocks, 28.II.1990.

W. Souk Ahras : Hadjar N.E., Barrage de la Cheffia, 250m, 2 males in pitfalls in *Pistacea* maquis, 28.II.1990.

W. Skikda : Bouchata, 400m, 1 male, stones in grassland, 12.II.1990.

W. Tissemsilt : Theniet-el-Had, Djebel Meddad, 1500m, 1 male, pitfalls in *Cedrus atlantica* forest, 4.V.1989.

W. Tizi Ouzou : Azeffoun S., Alma Guechtoum, 600m, 1 female, *Olea* maquis, 27.IV.1990; forêt de Mizrana, 300m, 4 males 1 female, stones in *Quercus suber* forest, 26.I.1990; Tiggirt E., 50m, 1 male 1 female, stones in grassland, 26.I.1990; Timizar Laghbar, 210m, 1 male 1 female, stones in *Quercus faginea* forest, 25.I.1990; Tizi Ouzou, 5km E., 180m, 1 male 6 females, wet grassland on slope, 25.I.1990 and 1 male 4 females, 11.III.1990; Djurdjura massif : Tala Guilef, 1420m, 1 male 1 female, pitfalls in *Cedrus atlantica* forest, 21.III.1989; idem, Col de Tizi 'n Kouillal, 1510m, 2 males 6 females, pitfalls in montane grassland, 1.XII.1991; idem, Tizi Boussouil, 1750m, 1 male 4 females, pitfalls in montane grassland, 1.XII.1991.

W. Tlemcen : Traras Mountains, between El Arba and El Arabienne, 300m, 1 male, pitfalls in *Pistacea* maquis, 24.V.1990.

TUNISIA

G. Beja : Beja 15 km N., 250m, 1 male, stones bordering fields, 27.II.2005.

G. Jendouba : Chemtou, 250m, 2 females, stones in roman ruins, 6.III.2005; Fernana N., 450m, 1 male 1 female, stones in maquis, 6.III.2005; Tabarka, at E. entrance of the city, 50m, 1 male, stones in wasteland, 28.II.2005; Tabarka S., plain of Oued Kebir, 1 female, stones in grassland, 7.III.2005; Tabarka, 1 female, stones around fortress, 7.III.2005.

G. Le Kef : Hammam Mellègue, 800m, 2 females, stones in small *Pinus* forest, 4.III.2005; Touiref SE., 650m, 1 male 1 female, stones in grassland, 5.III.2005.

G. Nabeul : Menzel Temine, 6 males 2 females, 19.IV.1993, K. de Smet leg.

G. Zaghuan : Saouaf E., 250m, 1 female, stones in maquis, 27.II.2005.

Distribution

The north of Algeria and Tunisia, where it is a common species.

***Palliduphantes tricuspis* sp. n.**
(Figs 46-47)

Type material

Holotype male from Algeria, W. Skikda, between Djendel and Larbi Ben Mhid, 200m, litter of *Quercus ilex*, 2.III.1990; deposited in KBIN.

Diagnosis

This species is closely related to *L. yakourensis* sp. n., described further in this paper. Males differ by the disposition of the hairs on the paracymbium, by the trifid lamella (Fig. 46) and by the differently shaped terminal apophysis (Fig. 47). The female is unknown.

Etymology

The name is derived from the Latin 'tricuspis' ('with three teeth'), referring to the trifold distal part of the lamella.

Description

Measurements : Male : total length 1.8; prosoma 0.78 long, 0.60 wide.

Colour : Prosoma olive brown, fovea, margin and striae suffused with grey; legs yellowish brown; abdomen dark grey, with a pair of elongated, pale grey antero-dorsal spots.

Posterior median eyes separated by 3/4 their diameter.

Chelicerae : with 14-15 indistinct stridulating ridges, and with 3 anterior and 5 small posterior teeth.

Legs : Fe I : pl; Ti I : 2d, pl, rl; TiII : 2d, rl; TiIII-IV : 2d; MtI-IV : d. Measurements :

	Fe	Pa	Ti	Mt	Ta
I	1.08	0.24	—	—	—
IV	1.06	0.20	1.01	1.02	0.68

Palp (Figs 46-47) : Dorsal spines on patella and tibia of equal length, twice the diameter of the segment; cymbium without tubercle; proximal branch and median part of paracymbium both with sharp basal tooth, distal part with blunt lateral tooth, terminally rounded; lamella elongated, terminally trifid; terminal apophysis composed of several teeth, all pointed, three directed anteriorly, one shorter and directed antero-laterally; embolus nearly straight.

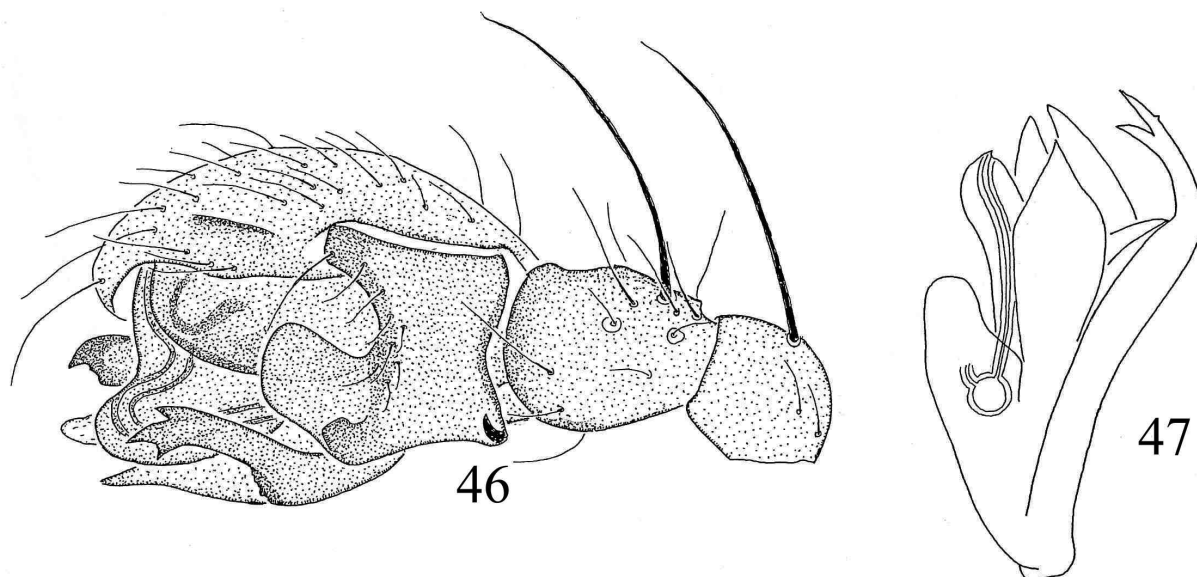
Female : Unknown.

Other material examined

None.

Distribution

Only known from the type locality in the northeast of Algeria.



Figs 46-47. – *Palliduphantes tricuspis* sp. n. 46. Male palp, lateral view; 47. Embolic division, ventral view.

***Palliduphantes yakourensis* sp. n.**
(Figs 40-45)

Type material

Holotype male from Algeria, W. Tizi Ouzou, forest of Yakouren, 820m, litter in *Alnus* forest, 24.I.1990 (deposited in KBIN); paratypes : 2 males 7 females, same data (1 male 4 females deposited in KBIN, 1 male 3 females in MNHNP).

Diagnosis

This species is closely related to *L. kalaensis*, occurring in the Northeast of Algeria. Males differ by the bifid tip of the lamella (Fig. 40), females by details in the shape of

the scape : the longer anterior part of the scape and the longer lateral lobes, as visible in lateral view, and the less curved stretcher (Figs 42, 43).

Etymology

The species is named after the forest where it was first discovered, the Yakouren forest.

Description

Measurements : Male : total length 1.6-2.1; prosoma 0.74-0.90 long, 0.62-0.74 wide. Female : Total length 2.0-2.4; prosoma 0.70-0.92 long, 0.62-0.74 wide.

Colour : Prosoma yellowish brown, margin, striae and fovea region grey; legs yellowish brown, dark specimens

with faint grey annulations on femora and tibiae; abdomen grey, distal part darker and with 4-5 pale chevrons; some females with dark grey abdomen, with clearly marked pale chevrons; two females collected in an ancient mine are much paler.

Eye disposition, chelicerae and spination as in the preceding species.

Leg measurements :

	Fe	Pa	Ti	Mt	Ta
I	1.22	0.24	1.30	1.20	0.81
IV	1.23	0.22	1.34	1.18	0.82

Palp (Figs 40-41) : Dorsal spines on patella and tibia of equal length, twice the diameter of the segment; cymbium without tubercle; proximal branch and median part of paracymbium with sharp basal tooth, distal part with blunt lateral tooth, terminally rounded; lamella very long, terminally bifid; terminal apophysis trifid, with a short, laterally directed tooth, a long and pointed median tooth, and a somewhat shorter mesal one, strongly widened in the middle.

Epigyne (Figs 42-43) : Lateral plates strongly developed; scape elongated, folded, anterior, visible part gently curved, median hidden part straight, distal part a small stretcher.

Vulva (Figs 44-45) : Spermathecae oval; sperm ducts running throughout the scape, terminating just before the stretcher in poorly defined copulation pores.

Material examined

ALGERIA

W. Blida : Atlas Blidéen, Meurdja, 950m, 3 males 4 females in pitfalls in planted *Cedrus atlantica* forest, 13.II.1987-22.IX.1988.

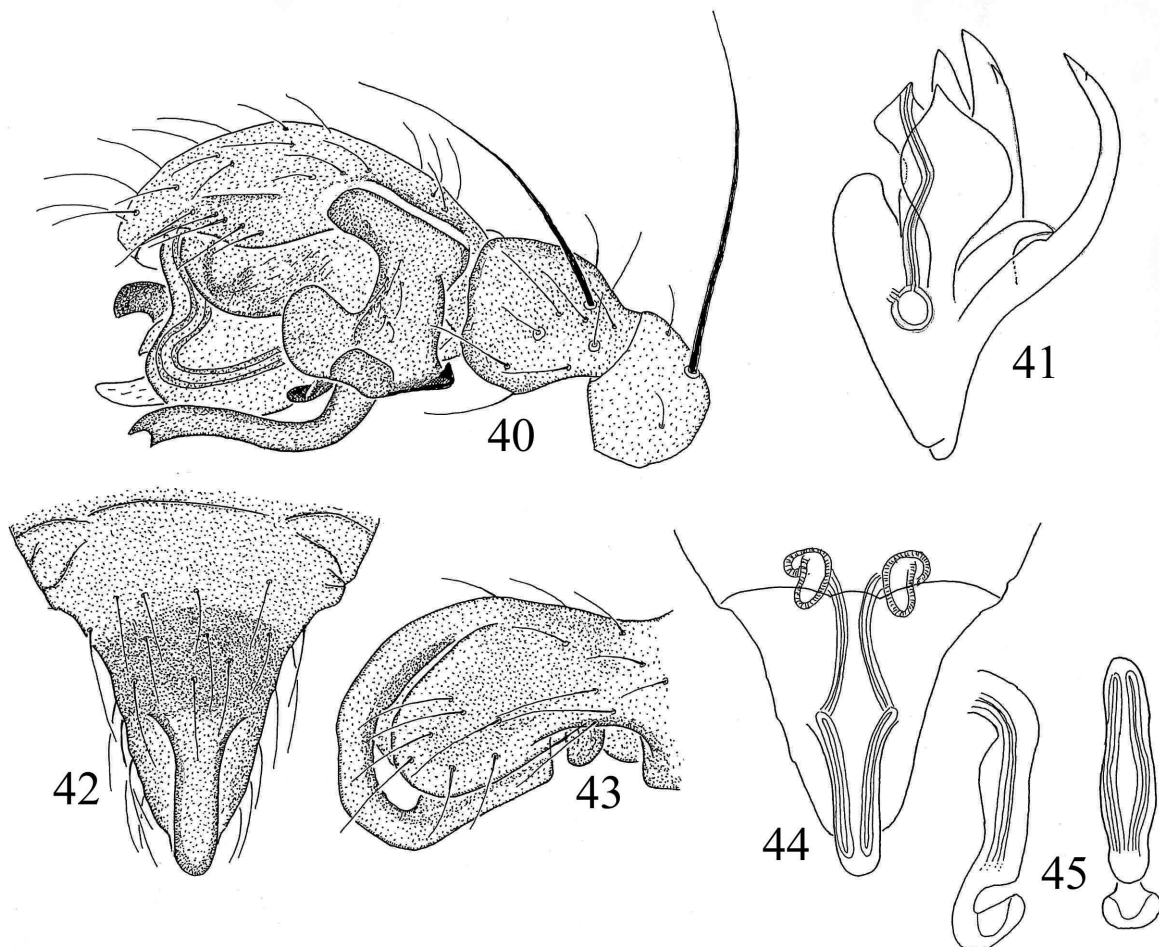
W. Boumerdes : between Zougara and Toulmout, 350m, 2 females in abandoned mine, 18.X.1989.

W. Ech Chleff : forêt de Tacheta, 850m, 1 male 1 female in litter in *Quercus faginea* forest, 29.IV.1987.

W. Tizi Ouzou : forêt d'Akfadou, S. Col de Tagma, 910m, 1 female in litter of mixed *Quercus faginea* and *Q. suber* forest, 25.II.1988; forêt de Yakouren, 820m, 3 females in litter in forest of *Quercus faginea*, 24.II.1988; idem, 850 m, 1 male 5 females in litter in mixed *Quercus faginea* and *Q. suber* forest, 4.XII.1986.

Distribution

The extreme central north of Algeria, from Ech Chleff in the west to Tizi Ouzou in the east.



Figs 40-45. – *Palliduphantes yakourensis* sp. n. 40. Male palp, lateral view; 41. Embolic division, ventral view; 42. Epigyne, ventral view; 43. Epigyne, lateral view; 44. Vulva, ventral view; 45. Distal part of scape, lateral and dorsal view.

Tenuiphantes
(Saaristo & Tanasevitch, 2001)

The genus *Tenuiphantes* was recently created by SAARISTO & TANASEVITCH (2001) for several species formerly included in the well-known tenuis group of *Lepthyphantes* (see Van HELSDINGEN et al., 1977). In the Maghreb, *Lepthyphantes herbicola* Simon and *Lepthyphantes tenuis* (Blackwall) have been included in it.

Tenuiphantes herbicola
(Simon, 1884)

Lepthyphantes herbicola; van Helsdingen et al., 1977 : 16, figs 13-15, 57 (redescr. male, female) Bosmans 1985 : 143 (citation).

Tenuiphantes herbicola; Saaristo & Tanasevitch, 1996 : 182 (transfer from *Lepthyphantes*).

Description and diagnosis

See Van HELSDINGEN et al., 1977.

New material examined

ALGERIA

W. Alger : Forêt de Bainem, 300m, 2 females, litter in *Pinus canariensis* forest, 30.IV.1984.

W. Blida : Atlas Blidéen, Chrea, 1000m, 2 males in pitfalls in *Quercus faginea* forest, 20.V.1985 and 1290m, 1 male in pitfalls in *Cedrus atlantica* forest, 16.VII.1988; Meftah, 450m, 4 females in litter of *Arbutus unedo*, 7.III.1985.

W. Boumerdes : Reghaia, 20m, 2 females in pitfalls in *Olea* maquis, 15.I.1984; Reghaia, 45m, 8 females in pitfalls in *Quercus suber* forest, 2.V.1984.

W. El Tarf : El Kala, Lake Tonga N., 10m, 6 males 5 females in pitfalls in *Pinus halepensis* forest, 28.III.1988; El Kala, Lake Oubeira, 10m, 2 males 1 female in pitfalls in *Quercus suber* forest, 30.III.1988 and 1 female, 15.I.1996, K. de Smet leg.; Haddada, 6 males 10 females, 5.IX.1996, K. De Smet leg.

W. Tipasa : Bouchaoui, 95m, 4 males 7 females in pitfalls in *Ulmus* forest, 27.I.1987; Sidi Fredj, 25m, 10 males 13 females in pitfalls in *Pinus halepensis* forest, 18.XII.1986-20.XII.1987; idem, 10m, 3 males 7 females in pitfalls in *Olea* maquis, 19.I.1987; Zeralda, Oued Mazafra, 5m, 2 males 3 females in litter of *Quercus faginea* forest, 24.II.1988.

W. Tizi Ouzou : Yakouren E., 820m, 4 females in litter in *Quercus faginea* forest, 4.XII.1986; idem, 4 females in pitfalls in *Alnus* forest, 27.IV.1990.

Distribution

Occurring in the humid zone of Algeria, in BOSMANS (1985) only cited from the wilaya's of Alger and El Tarf, here also cited from the wilaya's of Blida, Boumerdes, Tipasa and Tizi Ouzou.

Tenuiphantes tenuis
(Blackwall, 1852)

Lepthyphantes tenuis; van Helsdingen et al., 1977 : 17, figs 16-18, 58 (redescr. male, female) Bosmans 1985 : 143 (citation).

Tenuiphantes tenuis; Saaristo & Tanasevitch, 1996 : 182 (transfer from *Lepthyphantes*).

Description and diagnosis

See Van HELSDINGEN et al., 1977.

New material examined

ALGERIA

W. Aïn Temouchent : between El Malah and Hassi El-Ghellah, 80m, 3 females in *Salicornia* along Rio Salado, 24.IV.1984.

W. Alger : Bainem, 100m, 1 male 1 female in *Pinus maritimus* forest, 12.V.1986; Beaulieu, 50m, 1 female in garden, 19.V.1988; Houssein Dey, 50m, 3 females in litter in park, 29.XII.1987.

W. Bejaia : Aokas, 10m, 2 females in grassland in dunes, 22.X.1989; mouth of Oued Daas, 10m, 1 female, stones bordering maquis, 22.V.1988.

W. Blida : Aïn-el-Hammam, 125m, 1 female, stones along Oued Bou Maan, 23.V.1989; Atlas Blidéen, Chrea : 850m, 2 males 2 females, pitfalls in *Quercus suber* forest, 27.III.1985, K. De Smet leg.; idem, 1045m, 7 males 5 females, pitfalls in *Quercus ilex* forest, 28.IV.1987; idem, 1200m, 1 male 1 female, stones near fountain in forest, 8.IV.1985, K. De Smet leg.; idem, les Glacières, 1290m, 12 males 2 females, pitfalls in *Cedrus atlantica* forest, 15.II.1987-9.V.1988; idem, Ghellai, 1350m, 16 males 10 females in pitfalls in planted *Cedrus atlantica* forest, 20.VI.1987-9.V.1988; idem, Pic Fertasse, 1450m, 25 males 7 females, pitfalls in *Cedrus atlantica* forest, 12.IV.1987-9.V.1988; Djebel Mouzaia, 1200m, 1 female, stones around lake, 10.IV.1987, and 1350m, 1 male 1 female, stones in maquis, 6.X.1987, K. De Smet leg.; Meftah, Djebel Zerouela, 480m, 2 males 2 females in pitfalls in *Quercus suber* forest, 6.V.1987; Meurdja, 1000m, 6 males 6 females in pitfalls in planted *Cedrus atlantica* forest, 15.VI.1987-22.IX.1988.

W. Bouira : Djurdjura massif, Tigounatine, 1460m, 24 males 7 females in pitfalls in *Cedrus atlantica* forest, 11.IV-13.VII.1987; S. Sour el Gozlane, Col de Dirah, 900m, 1 female in pitfall in grassland, 10.IV.1988.

W. Boumerdes : Reghaia, 5m, 15 males 17 females, pitfalls in salt marsh, 3.V.1989; idem, 15m, 2 males 2 females in pitfalls in *Populus alba* forest, 13.VI.1989.

W. Ech Chleff : Damous, 5m, 1 male 2 females, stones near beach, and 1 female, pitfall in *Pinus halepensis* forest.

W. El Tarf : El Kala, 50m, 1 female, litter in *Quercus suber* forest, 28.II.1988; Lake Oubeira, 10m, 1 female, litter along lake, 28.XII.1984, K. De Smet leg.; Lake Tonga, 10m, 4 males 2 females in pitfalls in *Pinus halepensis* forest, 28.III.1987 and 1 female, litter in *Quercus suber* forest, 23.XI.1989.

W. Laghouat : Oued M'zi, 750m, 1 male 1 female, *Phragmites* litter, 12.XII.1987.

W. Medea : Col des Deux Bassins, 920m, 1 male 1 female, pitfalls in *Cedrus atlantica* plantation, 23.X.1988.

W. Oran : Daïet el Bragat, 100m, 2 females, dry *Salicornia* tufts, 25.IV.1984.

W. Saida : maison forestière de Merdja, 750m, 2 females, litter in *Populus alba* forest, 4.V.1984; Cascades de Tifrit, 925m, 7 males 12 females, in herbs near water, 4.V.1984.

W. Setif : Djemila, 950m, 1 male, stones in ruins, 6.II.1988; Djebel Babor, 1850m, 2 males 3 females, litter in *Cedrus atlantica* forest, 20.VI.1986 and 1550m, 4 males in pitfalls in *Cedrus atlantica* forest, 2.XII.1988.

W. Skikda : W. Collo, Tamanart, 15m, 1 female, beating *Alnus* branches, 6.VI.1987.

W. Souk Ahras : Bou Hadjar, 900m, 1 female, litter in degraded *Quercus ilex* forest, 9.II.1988.

W. Tipasa : Bouchaoui, 95m, 8 males 12 females, pitfalls in *Ulmus* forest, 1.I.1987-12.I.1988; Douaouda, Oued Mazafran, 50m, 1 male 4 females, pitfalls in *Populus alba* forest, 5.I.1987; Sidi Fredj, 10m, 1 male 1 female, pitfalls in dunes, 19.I.1987 and 25m, 1 male 1 female in pitfalls in *Pinus halepensis* forest, 19.I.1987; Zeralda, 10m, 1 female, pitfall in maquis in dunes, 23.II.1988.

W. Tissemsilt : Theniet-el-Had, 1540m, 1 male, pitfall in *Cedrus atlantica* forest, 18.V.1988.

W. Tizi Ouzou : Azeffoun S., Alma Guechtoum, 600m, 1 female, litter in maquis, 27.IV.1990; El Tetla, 180m, 1 male, litter along Oued Boghni, 10.V.1986; Hammam Melouane, 200m, 1 female, stones along Oued El Har-rach, 15.III.1987; forêt de Mizrana, 300m, 1 female, stones bordering *Quercus suber* forest, 26.I.1990; Sebaou-el-Kedim, 50m, 2 females, stones in dry grassland, 10.V.1988; Tizirt, 50m, 1 female, stones in grassland, 26.I.1990; Djurdjura massif : Aït Ouabane, 1410m, 8 males 7 females, pitfalls in *Cedrus atlantica* forest, 24.IX.1987-23.VII.1988; idem, Tizi Bousouil, 1750m, 8 males 5 females, I-XII.1989; idem, Col de Tizi 'n Kouil-lal, 1480m, 7 males 3 females, pitfalls in alpine grassland, I-XII.1999; Tala Guilef, 1400m, 9 males 5 females, pitfalls in *Cedrus atlantica* forest, 18.IX.1989.

MOROCCO :

P. Chechaouen : Chechaouen E., 500m, 1 male 1 female, litter in *Quercus suber* forest, 15.V.1984; Bab Bered W., 1525m, 5 males 4 females, stones in *Quercus faginea* forest, 15.V.1984.

P. Ifrane : Dayet Ifrah, 1780m, 1 female, grasses around lake, 14.V.1984.

P. Khenifra : Aguelmane Azigza, 1550m, 3 females, stones bordering lake, 13.V.1984.

P. Marrakech : road Asni-Imlil, 1 female, herbs along rivulet, 3.VII.1999.

P. Taza : Cascades de Ras-el-Oued, 1000m, 4 females, grasses near water, 22.IV.1984; Djebel Tazeka, 1850m, 1 male, pitfall in *Cedrus atlantica* forest, 8.V.1984.

P. Tetouan : Tetouan, Oued Hadjera, 10m, 1 female in abandoned garden, 20.IV.1984.

TUNISIA

G. Aïn Draham : Djebel Rhorra, 1 male 1 female, 18.IX.1996, K. De Smet leg.

Distribution

Cosmopolitan. In the Maghreb, it is one of the most common linyphiid spiders.

REVIEW OF SPECIES OF THE MAGHREB

The following species of *Lepthyphantes sensu lato* occur in the Maghreb countries :

Genus *Lepthyphantes sensu stricto*

Lepthyphantes minutus Blackwall

The *afér* complex

Lepthyphantes afér (Simon)

Lepthyphantes brevihamatus Bosmans

Lepthyphantes emarginatus Fage

Lepthyphantes longihamatus Bosmans

Lepthyphantes ritae Bosmans

Lepthyphantes strinatii Hubert

Lepthyphantes venereus Simon

Not placed in any complex by SAARISTO & TANASE-VITCH (1996) :

Lepthyphantes aelleni Denis

Lepthyphantes ajoti Bosmans

Lepthyphantes exvaginatus Deeleman

Lepthyphantes lagunculus Denis

Lepthyphantes linyphioides Denis

Lepthyphantes maurusius Brignoli

Lepthyphantes pieltaini Machado

Genus *Canariphantes*

Canariphantes atlassahariensis (Bosmans) **Comb. n.**

Canariphantes homonymus (Denis)

Canariphantes naili (Bosmans & Bouragba)

Canariphantes zonatus (Simon) **Comb. n.**

Genus *Improphantes*

Improphantes decolor (Westring)

Improphantes djazairi (Bosmans)

Genus *Megalepthyphantes*

Megalepthyphantes auresensis **sp. n.**

Megalepthyphantes bkheitae (Bosmans & Bouragba)

Megalepthyphantes hellinckxorum **sp. n.**

Genus *Palliduphantes*

Palliduphantes cadiziensis (Wunderlich)

Palliduphantes chenini Bosmans

Palliduphantes kalaensis (Bosmans)

Palliduphantes labilis (Simon)

Palliduphantes tricuspis **sp. n.**

Palliduphantes yakourensis **sp. n.**

Genus *Tenuiphantes*

Tenuiphantes herbicola (Simon)

Tenuiphantes tenuis (Blackwall)

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