



**Contribution to the knowledge of the Linyphiidae of The Maghreb.
Part XI. Miscellaneous Linyphiid genera and additions
(Araneae: Linyphiidae: Linyphiinae)**

Robert BOSMANS

Biological Departement, Terrestrial Ecology Unit, Ledeganckstraat 35, B-9000 Gent, Belgium (e-mail: robert.bosmans@lin.vlaanderen.be).

Abstract

The following new species are described from the Maghreb: *Scotargus numidicus* sp. n., *Troglohyphantes albicaudata* sp. n. and *T. saouaf* sp. n. *Linyphia pallipes* LUCAS is a junior synonym of *Neriere clathrata* SUNDEVALL and *Centromerus phoceorum* SIMON is removed from the synonymy of *C. cinctus* (SIMON) and revalidated. The unknown females of *Pecado impudica* (DENIS) and *Theonina linyphioides* (DENIS) comb. n. (removed from *Lepthyphantes*) are described. The following European species are cited for the first time in the Maghreb countries: *Bathyphantes gracilis* (BLACKWALL), *Bolyphantes nigropictus* SIMON, *Linyphia tenuipalpis* SIMON, *Meioneta mollis* (O. P.-CAMBRIDGE), *Microneta viaria* (BLACKWALL), *Scotargus pilosus* SIMON and *Theonina cornix* SIMON. *Centromerus phoceorum* SIMON and *Pecado impudica* (DENIS) are cited for the first time in Spain.

Keywords: Linyphiidae, Maghreb, new species and records.

Résumé

Les espèces inédites suivantes sont décrites du Maghreb: *Scotargus numidicus* sp. n., *Troglohyphantes albicaudata* sp. n. et *T. saouaf* sp. n. *Linyphia pallipes* LUCAS est un synonyme plus récent de *Neriere clathrata* SUNDEVALL et *Centromerus phoceorum* SIMON est enlevé de la synonymie de *C. cinctus* (SIMON) et revalorisé. Les femelles de *Pecado impudica* (DENIS) et de *Theonina linyphioides* (DENIS) comb. n. (transféré de de *Lepthyphantes*), jusqu' à ce jour inconnues, sont décrites. Les espèces européennes suivantes sont citées pour la première fois du Maghreb: *Bathyphantes gracilis* (BLACKWALL), *Bolyphantes nigropictus* SIMON, *Linyphia tenuipalpis* SIMON, *Meioneta mollis* (O. P.-CAMBRIDGE), *Microneta viaria* (BLACKWALL), *Scotargus pilosus* SIMON et *Theonina cornix* SIMON. *Centromerus phoceorum* SIMON et *Pecado impudica* (DENIS) sont cités pour la première fois d' Espagne.

Introduction

In the tenth contribution to the knowledge of the Linyphiid spiders of the Maghreb countries, BOSMANS (in press) gave an account of the species of the genus *Lepthyphantes* (sensu lato). In the present contribution, the other genera of the subfamily Linyphiinae (sensu MILLIDGE, 1977) are discussed. These are: *Bathyphantes*, *Bolyphantes*, *Frontinellina*, *Pecado*, *Linyphia*, *Meioneta*, *Microlinyphia*, *Microneta*, *Neriere*, *Scotargus*, *Tapinopa*, *Theonina* and *Troglo-*

hyphantes. Reviews of the genera *Centromerus* and *Sintula* have already been presented in BOSMANS, 1986 and 1991. For each species, all previous citations and many additional distribution data are provided.

All material is collected by the author and deposited in his collection, unless otherwise indicated. The type material is deposited in the KBIN.

Abbreviations:

BMNH: British Museum of natural History;

CJVK: Collection Johan VAN KEER;
CRB: Collection R. BOSMANS;
KBIN: Koninklijk Belgisch Instituut voor Natuur-
wetenschappen (L. Baert);
MNHNP: Muséum national d'Histoire naturel de
Paris (C. Rollard);
Fe, Pa, Ti, Mt, Ta: femur, patella, tibia, metatarsus,
tarsus; FeI, FeII, FeIII, FeIV: femur of first, second
...leg; d, pl, rl, pv, rv: dorsal, prolateral, retro-
lateral, proventral, retroventral.
G.: Gouvernorat (Tunisia);
L/B Ti = relation length/width of tibia.
P.: Province (Morocco);
Tb MtI = relative position of trichobothrium on
metatarsus I;
Wil.: Wilaya (Algeria).
Measurements are in mm.

Systematics

Genus *Bathyphantes* MENGE, 1866

The genus counts numerous species in the
palaeartic region, one of which appears to occur
in the Maghreb.

Bathyphantes gracilis (BLACKWALL, 1841) (Figs 1-4)

Linyphia gracilis BLACKWALL, 1841: 666 (descr.
♂).

Bathyphantes burgundicus SIMON, 1884: 347, f.
120-121 (descr. ♂, ♀).

Description

Male: Measurements: Male: total length 1.60-
2.0; cephalothorax 0.72-1.00 long, 0.60-0.70
wide. Female: total length 1.9-2.50; cepha-
lothorax 0.74-0.88 long, 0.60-0.76 wide.

Colour: Cephalothorax olive brown with
darkened margins; legs yellowish to orange
brown; abdomen grey, with large, pale, paired
blotches, in darker specimens sometimes entirely
black.

Leg spination: Fe I d pl, II-III d; Ti I 2d pl rl,
II 2d rl, III-IV 2d; Mt spineless; Tb MtI 0.25-0.3.

Male palp (figs 1-2): Paracymbium without
denticles, only provided with several long hairs,
directed ventrally and antero-dorsally; embolus
circular.

Epigyne (fig. 3): With slit-like postero-median
aperture, in which a short scape is protruding.

Vulva (fig. 4): Spermathecae transversely
elongated.

New records (no previous records)

ALGERIA:

Wil. Alger: Bab Ezzouar, 25m, 1♂ in pitfall in
marshy area at University Campus, 29.IV.1988.

Wil. Annaba: Annaba ('Bône'), 1♂ (MNHNP AR
14259).

Wil. Boumerdes: Reghaia, estuarium of Oued
Reghaia, 5-25m, 4.IV-13.VI.1988: 38♂♂ 21♀♀ in
pitfalls in Tamarisk marsh; 7♂♂ 9♀♀ in pitfalls in
Juncus tussocks; 2♀♀ in *Phragmites* marsh; 6♂♂
4♀♀ in pitfalls in *Olea* maquis; 1♂ 2♀♀ in pitfalls
in small *Populus alba* forest.

Wil. El Tarf: El Kala, Lake Tonga: 10m, 11♂♂ 5♀♀
in pitfalls in *Pinus halepensis* forest, 28.III.1988
and 3♂♂ 4♀♀, 1.III.1990; idem, 1♂ in *Quercus*
suber forest, 23.XI.1989; idem, 1♂ in pitfall in
Alnus forest, 28.III.1988; Berrihane, 30m, 1♂ 1♀
in wet grassland, 1.III.1990.

Wil. Tipasa: Zeralda, estuarium of Oued Mazafran,
10m, 1♂ in pitfall in *Quercus coccifera* forest,
18.II.1988.

TUNISIA:

Kasserine: Thala S., 950m, 1♀, stony steppe near
water reservoir, 4.III.2005 (CJVK).

Ecology

In the Maghreb, the species occurs in a variety
of mostly wet habitats: marshes, riverine forests,
wet grasslands and dune forests. Remarkably, it
never occurred above an altitude of 50m. Males
were collected in November and in February-
June, females from March to June. Reproduction
in the Maghreb apparently takes place in winter
and spring.

Distribution

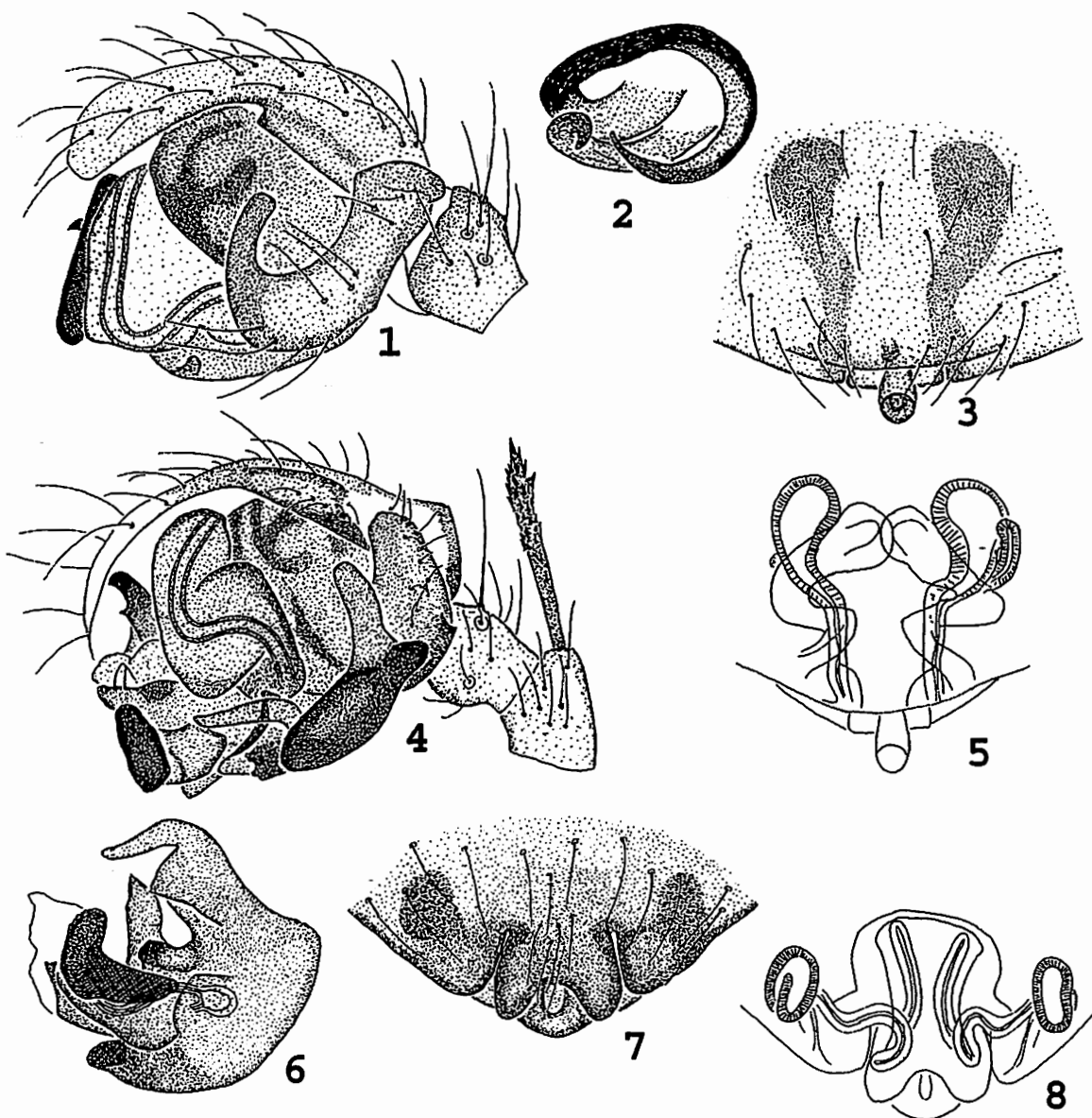
Europe. Mentioned here for the first time from
Algeria and Tunisia, where it is limited to the
humid region in the extreme north of the two
countries.

Genus *Bolyphantes* C. L. KOCH, 1837

A palaeartic genus, recently excellently
revised by HELSDINGEN *et al.* (2001). One
species appears to occur in the Maghreb.

Bolyphantes nigropictus SIMON, 1884 (Figs 5-8)

Bolyphantes nigropictus SIMON, 1884: 214
(descr. ♂, ♀); VAN HELSDINGEN, THALER &
DELTSHEV, 2001: 11, f. 75-82, 91-94, 97-98
(descr. ♂, ♀).



Figs 1-4. *Bathyphantes gracilis* (BLACKWALL) 1. Male palp, lateral view; 2. Embolic division, mesal view; 3. Epigyne; 4. Vulva.

Figs 5-8. *Bolyphantes nigropictus* SIMON. 5. Male palp, lateral view; 6. Embolic division, mesal view; 7. Epigyne, ventral view; 8. Vulva, ventral view.

Description

Male: Measurements: Male: total length 2.5-3.0; cephalothorax 1.14-1.30 long, 0.94-1.06 wide. Female: total length 3.2-3.4; cephalothorax 1.18-1.21 long, 0.94-0.95 wide.

Colour: Cephalothorax yellowish brown, median stripe and margin grey; legs yellowish brown, femora and tibiae with median and distal grey annulations; abdomen ventrally greyish black, dorsally whitish, with median dark grey stripe, the posterior part dilating into chevrons, laterally with narrow dark grey stripes.

Leg spinulation: Fe I d; Ti I-II 2d pl pv rl rv, III 2d pv, IV 2d pl pv; Mtl-IV d; Tb Mtl 0.2.

Male palp (figs 5-6) Patella with strong, denticulated dorsal spine; paracymbium with narrow basal and distal branches, basal branch with a postero-median tooth, distal branch terminally with a posterior tubercle; suprategular apophysis with basal denticle; lamella short, in lateral view visible as a fingerlike sclerite, in ventral view with strong basal tooth; embolus compact.

Epigyne (fig. 7): Visible part of scape somewhat wider than long, gradually widening, with strong postero-median incision, with rounded tip of scape with pit protruding from under it.

Vulva (fig. 8): Spermathecae small, separated by three times their diameter; copulation ducts running throughout the scape.

New records (no previous records)

ALGERIA:

Wil. Sétif: Djebel Babor, 1350m, 1♀ in *Quercus ilex* litter, 19.IV.1982; idem, 1600m, 2♀♀ in *Cedrus* litter, 19.IV.1982; idem, 1650m, 1♂ in montane grassland, 23.IV.1984; idem, 1650m, 1♂ by beating *Cedrus* branches, 21.X.1988; idem, 1950m, 2♂♂ in pitfalls in mixed *Cedrus*, *Abies* and *Quercus* forest, 22.X.1989.

Wil. Batna: Aures Massif, Monts de Belezma, Col Telmet, 1800m, 1♂ in pitfall in *Cedrus* forest, 28.II.1988; S'gag, 1650m, 1♀ in pitfall in *Cedrus* forest, 6.IV.1988; Bouhamar, Oued Taga, 1200m, 1♀ among stones in degraded *Quercus ilex* forest, 11.II.1988.

Ecology

The species was only recorded in forests at high altitudes, mostly in the relicts of the *Cedrus* forests, but also in degraded *Quercus ilex* forests. It never occurred below 1200m. Males were collected in November, February and April, females in February and April, so the reproduction period is in winter and the beginning of spring.

Distribution

This species is known from Portugal, France including Corsica, Italy including Sardinia and Austria (HELSDINGEN *et al.*, 2001). It is cited here for the first time from the Maghreb where it occurs only in a small area at higher altitudes in the regions of the Djebel Babor and the Aures Massif. Remarkably, it was absent from the *Cedrus* forests in the Djurdjura and Ouarsenis massifs.

Genus *Centromerus* DAHL, 1886

The genus *Centromerus* was already treated in a previous paper (BOSMANS, 1986), where 7 species were reported from the Maghreb. Some additions, corrections, new distribution data and figures are presented below.

Centromerus cinctus (SIMON, 1894)

(Figs 9-12)

Tmeticus cinctus SIMON, 1894: 414.

Centromerus cinctus; SIMON, 1929: 551, 724; BOSMANS, 1986: 87 (♂ only, ♀ = *C. phoceorum*).

Remark

SIMON (1894) described *Centromerus cinctus* from Corsica and its subspecies *C. cinctus phoceorum* from the South of France, Algeria and Tunisia in 1929. The only differences indicated were situated in the colour of the cephalothorax. BOSMANS (1986) stated that these differences did not justify the separation of subspecies and considered them synonyms. Newly collected material however gives proof that there are indeed two closely related species involved, not only differing in colour but also in small differences in palps and epigyne. The figures of the male palp in Bosmans (1986) refer to the male of *Centromerus cinctus*, while the figures of the female epigyne in fact refer to the female of *C. phoceorum*. Males and females of both species are redescribed here.

Diagnosis

Centromerus cinctus, *C. phoceorum* and *C. succinus* form a closely related group of very small West Mediterranean *Centromerus* species, also closely related to the Italian *Centromerus cottarellii* Brignoli, the German *C. piccolo* Weiss and the East European *C. andriescui* Weiss, *C. bulgarianus* Drensky, *C. dacicus* Dumitrescu & Georgescu, *C. serbicus* Deltshv and *C. subcaecus* Kulczyn'ski. In males, the West European species *C. cinctus* and *C. phoceorum* both differ from *C. succinus* by the presence of a strong basal concavity on the cymbium; *C. phoceorum* further differs from *C. cinctus* by the relatively smaller size of its palp. Females of *C. phoceorum* differ clearly from the two other species by the poorly developed epigyne, without yellowish or orange chitinisations and without protruding scape in lateral view.

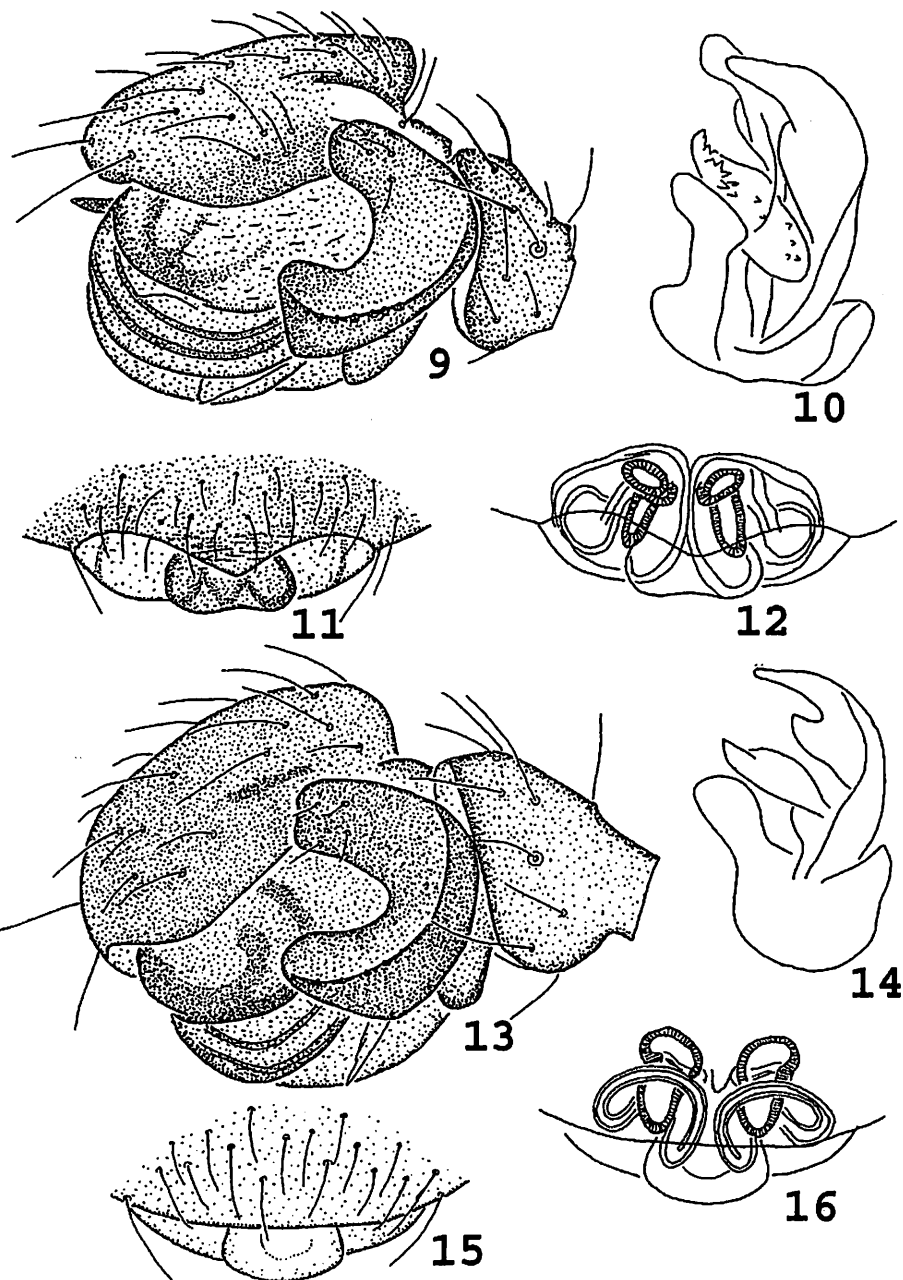
Description

Colour: Cephalothorax yellow orange, with greyish striae and margin, eyes narrowly bordered with black; legs yellowish orange, abdomen grey.

Measurements: Male: total length 1.3-1.6; cephalothorax 0.62-0.72 long, 0.50-0.56 wide. Female: total length 1.4-1.9; cephalothorax 0.60-0.74 wide, 0.42-0.54 long.

Leg spinulation: Fe I d pl, II-IV spineless; Ti I-IV 2d; MtI-II d; Tb MtI 0.25.

Male palp (figs 9-10): Patellar spine strong, as long as height of segment; tibial spine less developed, shorter than height of segment; cymbium with basal concavity, with distinct



Figs 9-12. *Centromerus cinctus* (SIMON). 9. Male palp, lateral view. 10. Embolic division, mesal view; 11. Epigyne; 12. Vulva.

Figs 13-16. *Centromerus phoceorum* SIMON. 13. Male palp, lateral view. 14. Embolic division, mesal view; 15. Epigyne; 16. Vulva.

dorsal hump, more than three times as long as the length of the tibia; paracymbium occupying half the length of the bulbus, with minutely denticulated lateral margin; embolic division well-developed, with gently rounded tegulum, rounded lamella, a complicated terminal apophysis and nearly semi-circular embolus with subterminal tooth.

Epigyne (fig. 11): Anterior margin of epigynal cavity somewhat protruding in the middle; scape relatively large, median notch and lateral

pouches recognisable, in lateral view not protruding.

Vulva (fig. 12): Spermathecae as two relatively narrow ducts; fertilisation ducts describing a wide semi-circle.

Previous records

ALGERIA

Without precise locality (SIMON, 1929).

New records

ALGERIA:

Wil. Skikda: Ben Azouz, 150m, 2♂♂, stones in wet grassland, 23.XI.1989.

Tizi Ouzou: Forêt de Mizrana, 300m, 12♂♂ 17♀♀, stones in open maquis, 26.I.1990 (CRB, MNHNP).

TUNISIA:

G. Le Kef: Touiref SE, 650m, 1♂, stones in grassland near Oued Mellègue, 5.III.2005 (CJVK).

Ecology

Centromerus cinctus was collected in grassland and open maquis. In Mizrana, it was found under large blocks, with up to 6 specimens under the same stone. Adults were present from November to March.

Distribution

Algeria, Tunisia.

Centromerus desmeti BOSMANS, 1986

Centromerus desmeti BOSMANS, 1986: 90 (descr. ♂, ♀).

Description and previous records

See BOSMANS (1986).

New records

ALGERIA:

Wil. Blida: Chiffa, 250m, 1♂, pitfalls in orange orchard, 29.II.1989; Chrea, 800-1400m, 5♂♂ 3♀♀, pitfalls in forest, 1987-1988; Meurdja, 900m, 1♂ 2♀♀, pitfalls in planted *Cedrus* forest, 9.II.1988.

Wil. Bouira: Col des deux Bassins, Djebel Tamesguida, 950m, 1♀, stones in forest clearing, 17.II.1989; massif du Djurdjura: Tala Rana, 1280m, 1♀, pitfalls in open *Cedrus* forest, III.1988; Tikjda, 1380m, 4♂♂, pitfalls in *Cedrus* forest, 24.IX.1987; Tizi Boussouil, 1400m, 15♂♂ 7♀♀, pitfalls in montane grassland, VI-XII.1996.

Wil. Boumerdes: Reghaia, 40m, 3♀♀, pitfalls in *Quercus suber* forest, 4.V.1988; Zemmouri, 10m, 1♀, pitfalls in *Pinus halepensis* forest, 7.I.1989.

Wil. Chleff: Tacheta, 800m, 1♂, pitfall in *Quercus faginea* forest, 4.IV.1984.

Wil. Medea: Col des deux Bassins, 920m, 3♂♂, pitfalls in small *Cedrus* plantation, 18.II.1989.

Wil. Oran: Forêt de Msila, 400m, 1♂, pitfall in *Quercus suber* forest, 24.V.1990.

Wil. Tipaza: Sidi Fredj, 10m, 1♂, pitfalls in dunes, 19.I.1987.

Wil. Tizi Ouzou: Azazga, 750m, 1♂, pitfalls in *Quercus suber* forest, 25.I.1989; Taguemount Azouz, 800m, 1♀, pitfalls in *Quercus ilex* forest, 7.I.1989; Yakouren, 820m, 1♂, litter in *Quercus*

faginea forest, 24.II.1988.

Wil. Tlemcen: Forêt d'Hafir, S.E. Tlemcen, 1350m, 2♂♂, pitfalls in *Quercus suber* forest, 23.V.1990; Monts de Traras, between El Arba and El Arabienne, 580m, 1♂, pitfalls in *Pistacea lentisca* maquis, 23.V.1990.

Distribution

In 1986, *Centromerus desmeti* was cited from Morocco and from the Algerian wilayas Alger, Bejaia, Blida and Sétif. The species is here cited also in the wilayas Bouira, Boumerdes, Chleff, Medea, Oran, Tizi Ouzou and Tlemcen.

Centromerus paradoxus (SIMON, 1884)

(Figs 17-20)

Cryptocleptes paradoxus SIMON, 1884: 352 (descr. ♀).

Centromerus paradoxus SIMON, 1929: 550, 557, 723, f. 817, 821 (descr. ♂, ♀).

Centromerus cfr. *paradoxus*; BOSMANS, 1986: 93 (descr. ♂, ♀).

Description and previous records

See BOSMANS (1986). In 1986, only male specimens with expanded palps were available. A figure of a non-expanded palp is presented here. I am now convinced that the species occurring in Algeria is the same as the one occurring in France, hence the use of *Centromerus* cfr. *paradoxus* as in BOSMANS (1986) is not longer necessary.

New records

ALGERIA:

Wil. Annaba: Hippone, 840 m, 1♂, pitfalls in *Quercus faginea* forest, 2.III.1990.

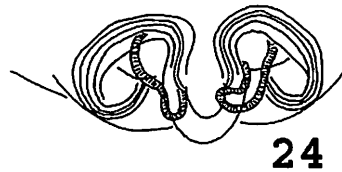
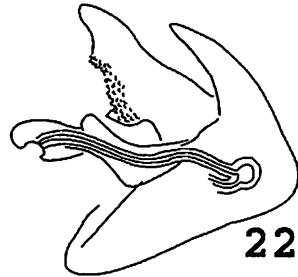
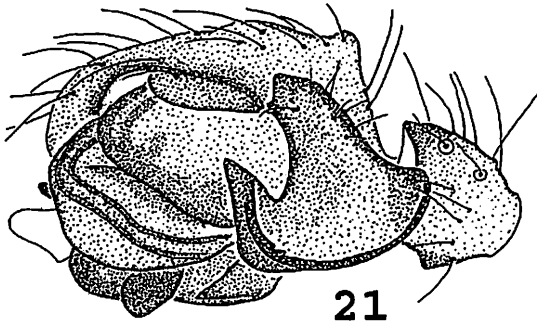
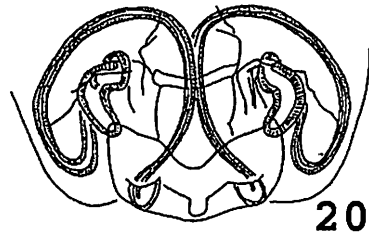
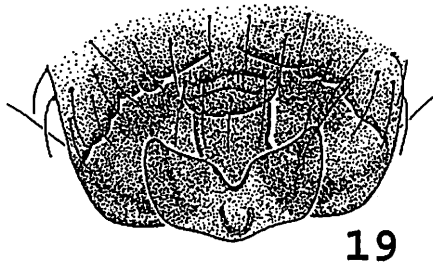
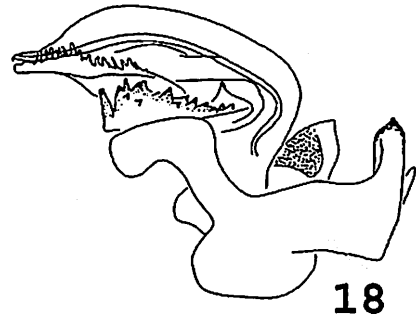
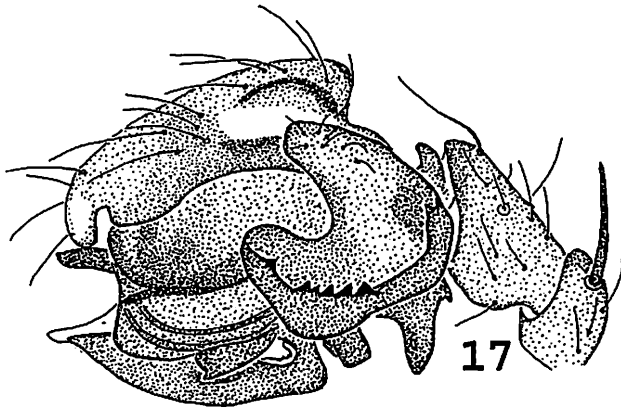
Wil. Bejaia: Bejaia, Cap Carbon, 1♀, pitfalls in *Quercus suber* and *Pinus halepensis* forest, 26.I.1988.

Wil. El Tarf: El Kala, N. Lake Tonga, 10m, 2♂♂, pitfalls in *Pinus halepensis* forest 29.IV.1988; El Kala, north side of lake Oubeira, 10m, 3♂♂ 1♀ in pitfalls in *Quercus suber* forest, 29.III.1988; Djebel Rorrha, 1100m, 1♂ 1♀, litter in *Quercus faginea* forest, 16.I.1996.

Wil. Guelma: Bouchegouf, 800m, 8♂♂ 2♀♀ in pitfalls in *Quercus suber* forest, 28.II.1990.

Wil. Sétif: Djebel Babor, 1800m, 4♂♂ in pitfalls in *Cedrus atlantica* forest, 20.V.1982, and 1♀, 15.VI.1987.

Wil. Tipasa: Bouchaoui, 95m, 23♂♂ 12♀♀, pitfalls in *Ulmus* forest, 12.I.1987; Douaouda, Oued Mazafran, 50m, 1♀, pitfall in *Populus alnus* forest, 12.II.1987.



Figs 17-20. *Centromerus paradoxus* (SIMON). 17. Male palp, lateral view; 18. Embolic division, mesal view; 19. Epigyne; 20. Vulva.

Figs 21-24. *Centromerus prudens* (O.P.-CAMBRIDGE). 21. Male palp, lateral view; 22. Embolic division, mesal view; 23. Epigyne, ventral view; 24. Vulva, ventral view.

Wil. Tizi Ouzou: Yakouren, 820m, 1♀, pitfalls in *Quercus faginea* forest, 24.II.1988 and 1♂, 27.IV.1990.

Ecology

The species occurs in natural, humid forests. Reproduction takes place in winter and early spring: males were collected from January to April, females from January to June.

Distribution

Previously, BOSMANS (1986) cited four

localities in Algeria, and several new ones are added here. The species only occurs in the extreme north of Algeria.

***Centromerus phoceorum* SIMON, 1929 N. Stat.**
(Figs 13-16)

Centromerus cinctus phoceorum SIMON, 1929: 552, 724.

Centromerus cinctus; BOSMANS, 1986: 87 (♀ only, ♂ = *C. cinctus*).

Diagnosis

See *Centromerus cinctus*.

Description

Measurements: Male: total length 1.2-1.5; cephalothorax 0.59-0.70 long, 0.46-0.55 wide. Female: total length 1.5-2.0; cephalothorax 0.61-0.73 wide, 0.47-0.54 long.

Colour: Cephalothorax yellowish brown, with grey to dark grey striae, fovea and margin, eyes widely bordered with black; legs yellowish brown, with grey markings at apices of segments; abdomen grey to dark grey.

Leg spinulation: FeI d pl, II d, III-IV spineless; Ti I-IV 2d; Mt spineless; Tb Mtl 0.28.

Male palp (figs 13-14): Generally poorly developed; patellar spine strong, as long as height of segment; tibial spine less developed, shorter than height of segment; cymbium with basal convexity, then gently rounded, dorsal hump less marked, only twice as long as the length of the tibia; paracymbium occupying 2/3 the length of the bulbus, with minutely denticulated lateral margin; embolic division small, with gently rounded tegulum, small triangular lamella, a small pointed terminal apophysis and gently curved embolus with subterminal tooth.

Epigyne (fig.15): Generally small and inconspicuous, poorly or not pigmented at all; scape hardly protruding, in ventral view only a small part can be seen protruding from under the anterior margin, nearly invisible in lateral view.

Vulva (fig. 16): Spermathecae relatively large, oval, transverse; fertilisation ducts describing a relatively large semi-circle.

Previous records

ALGERIA:

Wil. Boumerdes: Zemmouri (as *C. cinctus*; BOSMANS, 1986).

Wil. Tissemsilt: Theniet-el-Had (as *C. cinctus*; BOSMANS, 1986).

TUNISIA:

Kairouan: Kairouan (SIMON, 1929).

New records

ALGERIA:

Wil. Blida: Mouzaia, lake Mouzaia, 1500m, 8♂♂ 4♀♀, stones in grassland, 27.I.1990 (CRB, MN HNP).

Wil. Boumerdes: Reghaia, 5m, 1♂ 2♀♀, coastal Tamarisk marsh, 15.III.1988

Wil. Tipasa: Zeralda, 1♂, pitfalls in dune scrub, 28.II.1989.

Wil. Tizi Ouzou: Tizirt E., 50m, 1♀, stones bordering grassland, 26.I.1990.

SPAIN:

Almeria: Cabo de Gata, 10m, 1♂, pitfall in tamarisk marsh, 9.IV.1998.

Malaga: Benyanina, 1♂, pitfalls in dunes near beach, 10.IV.1998; Valle de Abdallails N., 2♂♂, pitfalls in *Quercus suber* forest, 10.IV.1998.

Valencia: Embalse de Cofrentes, 400m, 1♂ 1♀, in *Phragmites* litter, 3.IV.1996.

Distribution

Previously cited from the south of France, Algeria and Tunisia (SIMON, 1929). In BOSMANS (1986), the species was cited as *C. cinctus* from the Algerian wilaya's Boumerdes and Tissemsilt. Several new Algerian records are added here, and the species is also cited for the first time from Spain.

Centromerus prudens (O.P.-CAMBRIDGE, 1872) (Figs 21-24)

Linyphia prudens O. P.-CAMBRIDGE, 1873b: 538, pl. 46, f. 9 (descr. ♂, ♀).

Centromerus prudens; BOSMANS, 1986: 96.

Description and previous records

See BOSMANS (1986), but then no figures of this species were given. They are presented here (figs 21-24).

New records

ALGERIA:

Wil. Tlemcen: Monts de Traras, between El Arba and El Arabienne, 580m, 1♂, pitfalls in maquis, 24.V.1990.

Wil. Tissemsilt: Djebel Ouarsenis, Theniet-el-Had, Rond Point des Cèdres, 1600m, 2♂♂ 4♀♀, pitfalls in *Cedrus atlantica* forest, 23.III.1988.

MOROCCO:

G. Taza: Djebel Tazeka, 1850m, 1♀, pitfalls in *Cedrus* forest, 8.V.1984.

Distribution

Centromerus prudens is a species from Central and Western Europe. In the Maghreb, it occurs at high altitude in the Rif Atlas in Morocco and in the Monts de Tlemcen and the Djebel Ouarsenis in the North West of Algeria.

Centromerus sinuatus BOSMANS, 1986

Centromerus sinuatus BOSMANS, 1986: 96 (descr. ♂, ♀).

Description and previous records

See BOSMANS (1986).

New records

ALGERIA:

Wil. Annaba: Hippone, 840m, 3♂♂ 1♀, pitfalls in *Quercus faginea* forest, 2.III.1990.

Wil. Blida: Atlas Blidéen: Chrea, 1250m, 1♀, litter in *Cedrus atlantica* forest, 30.V.1987; Meurdja, 950m, 15♀♀, pitfalls in planted *Cedrus atlantica* forest, 15.I-20.IV.1988; Mouzaia, 1300m, 5♂♂ 17♀♀, pitfalls in *Quercus suber* forest, 27.I.1990; Oued Djer, forêt des Soumatas, 220m, 1♂, pitfalls in *Pistacia lentisca* maquis, 13.II.1988.

Wil. Bouira: Massif du Djurdjura: Aït Ouabane, 1400m, 2♂♂ 5♀♀, pitfalls in *Cedrus atlantica* forest, 20.X.1986; Tala Rana, 1310m, 11♂♂ 6♀♀, pitfalls in open *Cedrus atlantica* forest, 26.IX.1987-12.IV.1988; Tikjda, 1450m, 1♀, pitfalls in *Cedrus atlantica* forest, 24.IX.1987; Tizi Bous-souil, 1600m, 3♂♂ 3♀♀, pitfalls in montane grassland, VI-XII.1990.

Wil. Boumerdes: Zemmouri, 10m, 1♂, pitfalls in *Pinus halepensis* forest, 7.I.1989.

Wil. Chleff: Forêt de Tacheta, 800m, 1♂ 3♀♀, pitfalls in *Quercus faginea* forest, 14.IV.1989.

Wil. El Tarf: Sidi Embarek, N. Garaet el Mkhadaa, 10m, 7♂♂ 1♀, pitfalls in *Olea* maquis, 2.III.1990; Djebel Rorrha, 1200m, 1♀, litter in *Quercus faginea* forest, 16.I.1996.

Wil. Medea: Col des Beni Chicao, 1230m, 1♂ 4♀♀, pitfalls in *Quercus suber* forest 21.XII.1987; Col des Deux Bassins, 920m, 2♂♂, pitfalls in planted *Cedrus atlantica* forest, 16.XII.1988.

Wil. Oran: Forêt de Msila, 400m, 1♂ 1♀, pitfalls in *Quercus suber* forest, 26.V.1990.

Wil. Tissemsilt: Theniet-el-Had, Djebel Meddad, 1600m, 1♀, pitfalls in *Cedrus atlantica* forest, 12.XII.1987; idem, Rond Point des cèdres, 4♂♂, pitfalls in *Cedrus atlantica* forest, 12.I.1988.

Wil. Tizi Ouzou: Forêt de Mizrana, 300m, 2♀♀, pitfalls in *Quercus suber* forest, 27.IV.1990; Col de Tirourda, 1300m, 1♀, herbs at entrance of Maccabée cave, 27.IV.1989; Massif du Djurdjura, Tala Guilef, 1600-1700m, 17♂♂ 3♀♀, pitfalls in *Cedrus atlantica* forest, 10.XI.1988-22.III.1989.

Wil. Tlemcen: Forêt d'Hafir, 1350m, 1♂ 1♀, pitfalls in *Quercus suber* forest, 23.V.1990.

TUNISIA

G. Jendouba: Aïn Draham S., 900m, 1♀, stones in *Q. faginea* forest, 6.III.2005.

Ecology

The species occurs in all kinds of natural and planted forests and in maquis, from coastal dunes to altitudes of 1700m. It appears to be absent from forest relicts in the interior in the Aures

massif, the Hodna mountains or the region of Djelfa. Reproduction takes place in autumn, winter and spring: males and females were collected from October to May.

Distribution

Centromerus sinuatus is very common all over the north of Algeria. In Morocco, there is one locality in the Rif Atlas (BOSMANS, 1986) and a first locality in Tunisia is presented here.

Centromerus succinus (SIMON, 1884)

Sintula succinea SIMON, 1884: 451, f. 234-236 (descr. ♂, ♀)

Tapinasta biskrensis SIMON, 1894: 647 (descr. ♂, non ♀).

Centromerus succinus; BOSMANS, 1986: 99 (descr. ♂, ♀).

Description and previous records

See BOSMANS (1986).

New records

ALGERIA:

Wil. Batna: Massif de l'Aures, Forêt de S'gag, 1650m, 1♂, pitfalls in *Cedrus atlantica* forest, 26.II.1988; Monts de Belezma, Col Telmet, 1800m, 1♀, pitfalls in *Cedrus atlantica* forest, 26.II.1988.

Wil. Blida: Atlas Blidéen: Chrea, 1290-1450m, 13♂♂ 6♀♀, pitfalls in *Cedrus atlantica* forest, 11.XI.1987-24.I.1988; Meurdja, 950m, 9♂♂ 6♀♀, pitfalls in planted *Cedrus atlantica* forest, 15.XII.1987-9.I.1988.

Wil. Bouira: Massif du Djurdjura: Aït Ouabane, 1400m, 27♂♂, pitfalls in *Cedrus atlantica* forest, 24.IX.1987-23.VIII.1988; Tikjda, 1450m, 29♂♂ 4♀♀, pitfalls in *Cedrus atlantica* forest, 24.IX.1987-22.VIII.1988; Tizi Bousouil, 1600m, 8♂♂ 4♀♀, pitfalls in montane grassland, VI-XII.1990.

Wil. Medea: Col des Deux Bassins, 920m, 3♂♂ 3♀♀, pitfalls in planted *Cedrus atlantica* forest, 16.XII.1988-18.II.1989.

Wil. Sétif: Djemila, 950m, 1♀, stones in roman ruins, 6.II.1988; Djebel Babor, 1800m, 4♂♂, pitfalls in *Cedrus atlantica* forest, 2.XII.1988.

Wil. Skikda: Ben Azouz, 150m, 3♂♂, in marshy grassland, 23.XI.1989; between Djendel and Larbi Ben Mhid, 1♂, litter in *Quercus ilex* maquis, 2.III.1990.

Wil. Tissemsilt: Theniet-el-Had, Djebel Meddad, 1350-1500m, 12♂♂ 2♀♀, pitfalls in *Cedrus atlantica* forest, 12.XII.1987-17.VI.1988.

Wil. Tizi Ouzou: Massif du Djurdjura: Tala Guilef, 1600-1700m, 112♂♂ 42♀♀, pitfalls in *Cedrus atlantica* forest, 10.XI.1988-22.III.1989.

Wil. Tlemcen: Forêt d'Hafir, 1350m, 1♂, pitfall in *Quercus suber* forest, 23.V.1990; forêt de Tal Terny, 1300m, 1♂, pitfalls in *Quercus suber* forest, 24.V.1990.

Distribution

In 1986, cited from the wilayas of Blida, Bouira, Sétif and Tizi Ouzou and cited here from several more wilayas: Batna, Medea, Skikda, Tissemsilt and Tlemcen. It is the only *Centromerus* species also occurring more inland.

Genus *Frontinellina* VAN HELSDINGEN, 1969

A relatively recently created genus by VAN HELSDINGEN (1969) with three species, of which one is easily recognised and very widespread in the mediterranean region.

Frontinellina frutetorum (C. L. KOCH, 1834) (Figs 25-28)

Linyphia frutetorum C. L. KOCH, 183: 127 (descr. ♂, ♀).

Linyphia fastuosa LUCAS, 1846: 255.

Linyphia frutetorum; PAVESI, 1884: 458; DENIS, 1937: 1046; DENIS, 1955: 202.

Frontinellina frutetorum; VAN HELSDINGEN, 1970: 70.

Diagnosis

As only representant of the genus in the Maghreb, it is easily recognised by the abdominal pattern, the male palp with most peculiar sclerites and the shape of the female epigyne.

Description

Measurements: Male: total length 3.5-5.0; cephalothorax 1.8-2.4 long, 1.3-1.55 wide. Female: total length 3.6-5.6; cephalothorax 1.5-1.9 long, 1.05-1.35 wide.

Colour: Cephalothorax orange-brown, faintly suffused with black and with narrow grey lateral margin; legs yellow-brown to pale brown, coxae and basal part of femora orange-brown; abdomen in males beige, in females with a distinct pattern of strongly contrasting white and black blotches in varying density.

Leg spinulation: Fe spineless; Ti I 2d pl rl rv, II 2d rl rv, III-IV 2d pl rv; Mt I-II spineless, III-IV d pl v; Tb MtI 0.19-0.23.

Palp (figs 25-26): Patella as long as high, dorsal spine 1.5 times as long as height of segment; tibia higher than long, dorsal spine as long as height of segment; cymbium strongly

narrowing to its tip; paracymbium a flat, nearly rectangular sclerite, with some scattered hairs and with distinct anterior concavity; lamella with long, curved lateral arm, lodging part of the embolus; tegular apophysis in the form of a whitish, bladder-like structure, protecting the terminal part of the embolus; embolus long, curving around tegulum, ribbon-like at its base, thread-like towards the tip.

Epigyne (fig. 27): With large, protruding rounded scape with short stalk, twice as wide as long.

Vulva (fig. 28): With 5 coils of unsclerified tubes reaching to small, rounded spermathecae, which are separated by slightly more than twice their diameter.

Previous records

ALGERIA:

Wil. Annaba: Djebel Edough (VAN HELSDINGEN, 1970).

Wil. El Tarf: Lake Tonga (LUCAS, 1846).

Wil. Tlemcen: Tlemcen (LUCAS, 1846).

Wil. Mila: N. Zeraïa, Forêt de Zouagha (DENIS, 1937).

MOROCCO:

P. Taza: Region of Taza (DENIS, 1955).

TUNISIA:

G. Tunis: Tunis (PAVESI, 1884).

New records

ALGERIA:

Wil. Bejaïa: E. Cap Sigli, Oued Daas, 3♀♀ in low bushes, 22.V.1988.

Wil. Blida: Atlas Blidéen: Arboretum de Meurdja, 950m, 3♀♀, 13.VI.1985, 3♀♀ 21.V.1987 and 1♂ 1♀ 23.V.1990; Chrea, 750m, 1♀, on *Erica* in *Pinus halepensis* forest, 20.VI.1987; idem, 1200m, 3♂♂ 5♀♀ between herbs in *Quercus ilex* forest, 19.V.1986; Djebel Mouzaïa, 1250m, 2♀♀, herbs along Lake Mouzaïa, 14.V.1988; Djebel Zerouela, Meftah, 480m, 1♂ 1♀, in herbs in *Q. ilex* forest, 6.V.1987.

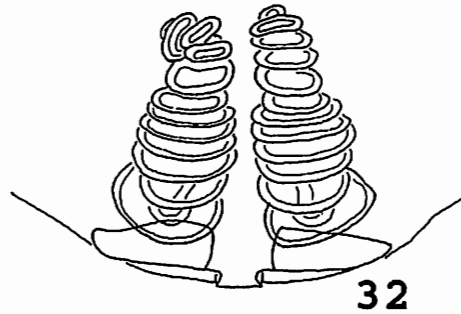
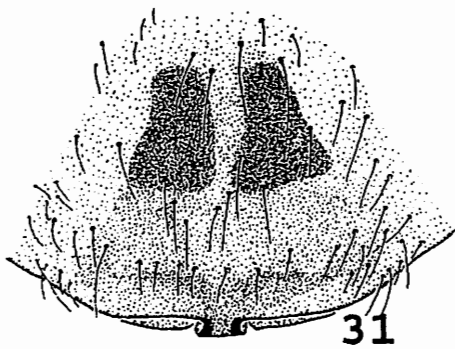
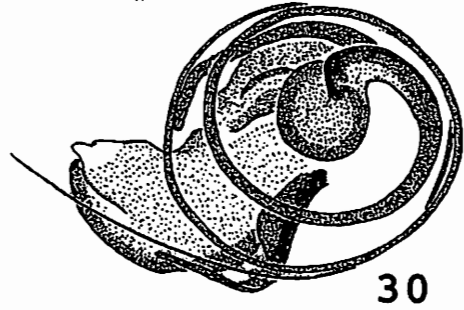
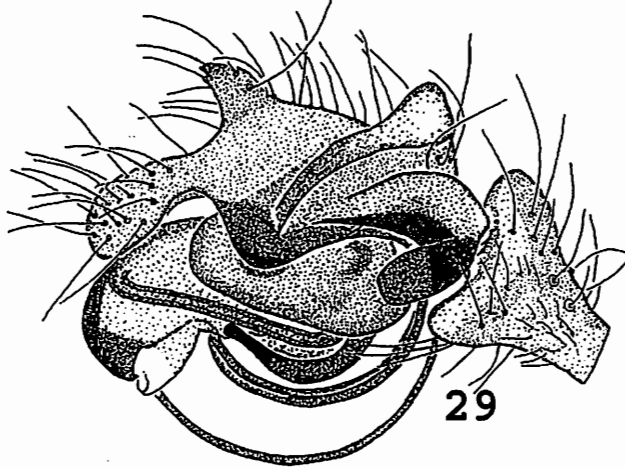
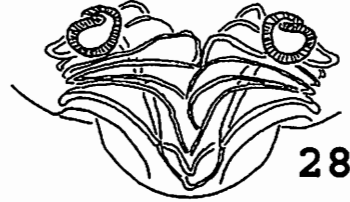
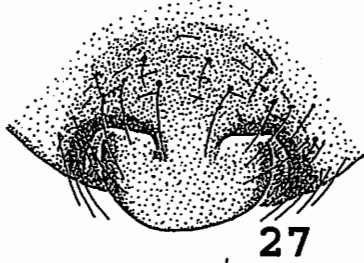
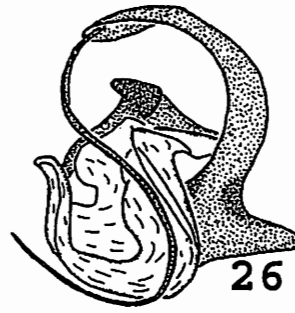
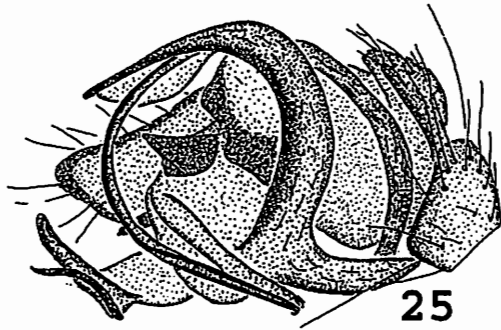
Wil. Bouira: Djurdjura Massif: Tala Rana, 1280m, 1♀, in pitfalls in *Cedrus* forest, 22.VIII.1988; Tikjda, 1400m, 1♂ 2♀♀ in low herbs in grassland, 11.VI.1984; idem, 1600m, 2♂ 3♀♀, between herbs in montane grassland, 24.V.1986.

Wil. Chleff: W. Damous, 5m, 1♀, in *Pistacea* bushes, 17.IV.1987; forêt de Tacheta, 800m, subadult ♂♂ and ♀♀ in *Quercus faginea* forest, 19.IV.1987.

Wil. El Tarf: El Kala, Kef oum Teboul, 200m, 1 subadult ♂ in *Quercus suber* forest, 5.IV.1982.

Wil. M'sila: Djebel Maadid, S. slope, 1350m, 1♂ in low *Quercus ilex* bushes, 29.IV.1988.

Wil. Skikda: W. Collo, Tamanart, 14m, 4♀♀ by



Figs 25-28. *Frontinellina frutetorum* (C. L. KOCH). 25. Male palp, lateral view; 26. Embolic division, ventral view; 27. Epigyne, ventral view; 28. Vulva, ventral view.
Figs 29-32. *Pecado impudica* (DENIS). 29. Male palp, lateral view; 30. Embolic division, mesal view; 31. Epigyne, ventral view; 32. Vulva, ventral view.

beating low bushes, 6.VI.1987.
Wil. Tissemsilt: Djebel Ouarsenis, Theniet-el-Had,
1550m, 1 subadult ♀ in grassland, 3.V.1984.
Wil. Tizi Ouzou: Beni Yenni, 850m, 5♂♂ 2 subadult
♀♀ in olive orchards, 14.IV.1982; Tizi Ghenif,

125m, 1♂, sweeping herbs along Oued Djemaa,
1.V.1984.
Wil. Tlemcen: Forêt d'Hafir, 1350m, 1♂ 3 subadult
♀♀ on *Erica* bushes, 6.V.1984.

Ecology

The species constructs its saucer-shaped net between all kinds of herbs and bushes, from sea level up to 1600 m. Adult males were found from the end of april to mid may, adult females from mid april to the end of July; subadult specimens were found in april; the same reproduction period has been observed in the south of France and in Portugal (VAN HELSDINGEN, 1970).

Distribution

A European and Mediterranean species, reported from the three Maghreb-countries. In Algeria, it is very common all along the coast and it becomes rare to absent more to the interior.

Genus *Linyphia* Latreille, 1804

This genus of large, sheetweb-weavers formerly also included the genera *Frontinellina*, *Microlinyphia* and *Neriene* until VAN HELSDINGEN (1969) reduced it to its actual limits. There are five species in Europe, of which two also occur in the Maghreb.

Linyphia maura THORELL, 1875 (Figs 33-36)

Linyphia maura THORELL, 1875: 18 (descr. juv., Algeria); VAN HELSDINGEN, 1969: 42 (descr. ♂, ♀).

Description

Measurements: Male: total length 4.1-5.4; cephalothorax 1.7-3.0 long, 1.2-2.1 wide. Female: total length 3.9-4.9; cephalothorax 1.6-2.1 long, 1.05-1.4 wide.

Colour: Cephalothorax brown, with broad submarginal band and bifurcate median stripe grey; legs yellow-brown, dark specimens sometimes with narrow black apical rings; abdomen beige with complicated pattern of black and white bars and blotches.

Leg spinulation: Fe I 1-2d 2-3pl, II d pl, III d, IV 2d; Ti I-II 2d pl rl pv, III-IV 2d pl pv; Mt I-II 2d pl rl pv, III-IV 2d pl pv; Tb MtI 0.16-0.25.

Palp (figs 33-34): Patella short, dorsal spine as long as height of segment; tibia as long as high, dorsal spine as long as height of segment; paracymbium U-shaped, basal branch with a row of hairs, distal branch widening and curved in antero-lateral direction; tegulum with distinct incision along its antero-ventral margin; suprategular apophysis with terminal lobe and

hook, in lateral view visible dorsally of the tegulum; lamella an elongate sclerite, with bluntly pointed posterior and anterior branches and large, dorsally curved lateral branch; tegular apophysis cone-shaped, with 7 chitinous ridges; embolus circular, broad at base, linear terminally, distal half protected by a sheet-like embolic membrane.

Epigyne (fig. 35): Atrium small, triangular, filled almost entirely by a small knob-shaped scape, with coils of spiral fertilisation ducts visible through integument.

Vulva (fig. 36): With about 6 oblique coils forming two cones, directed to small spermathecae.

Previous records

ALGERIA

Without precise locality (THORELL, 1875).

MOROCCO:

Pr. Tanger: Tanger (VAN HELSDINGEN, 1969).

New records

ALGERIA;

Wil. Batna: S. Tazoult-Lambese, S'gag, 1800m, 1♀ in low bushes in *Cedrus* forest, 27.IX.1985.

Wil. Bejaïa: Bordj Mira, 700m, 1♂ in pitfall in *Eucalyptus* plantation in dense maquis, 2.XII.1988.

Wil. Blida: Atlas Blidéen, Chréa, 750m, 2♂♂ in pitfall in *Pinus halepensis* forest, 1.XII.1987.

Wil. Bordj-Bou-Argeridj, between Ras-el-Oued and El Tetla, 1400m, 1♀ in herbs in degraded *Q. ilex* forest, 20.IV.1989.

Wil. Djelfa: Djelfa, Djebel Sénalba, 1450m, 1♀ in pitfall in *Pinus halepensis* forest, 19.V.1990.

Wil. El Tarf: El Kala, Lake Tonga, 6m, 1♀ in pitfall in *Pinus halepensis* forest, 1.III.1990.

Wil. Souk Ahras: Bou Hadjar, 900m, 1♀, maquis in degraded *Quercus ilex* forest, 9.II.1988.

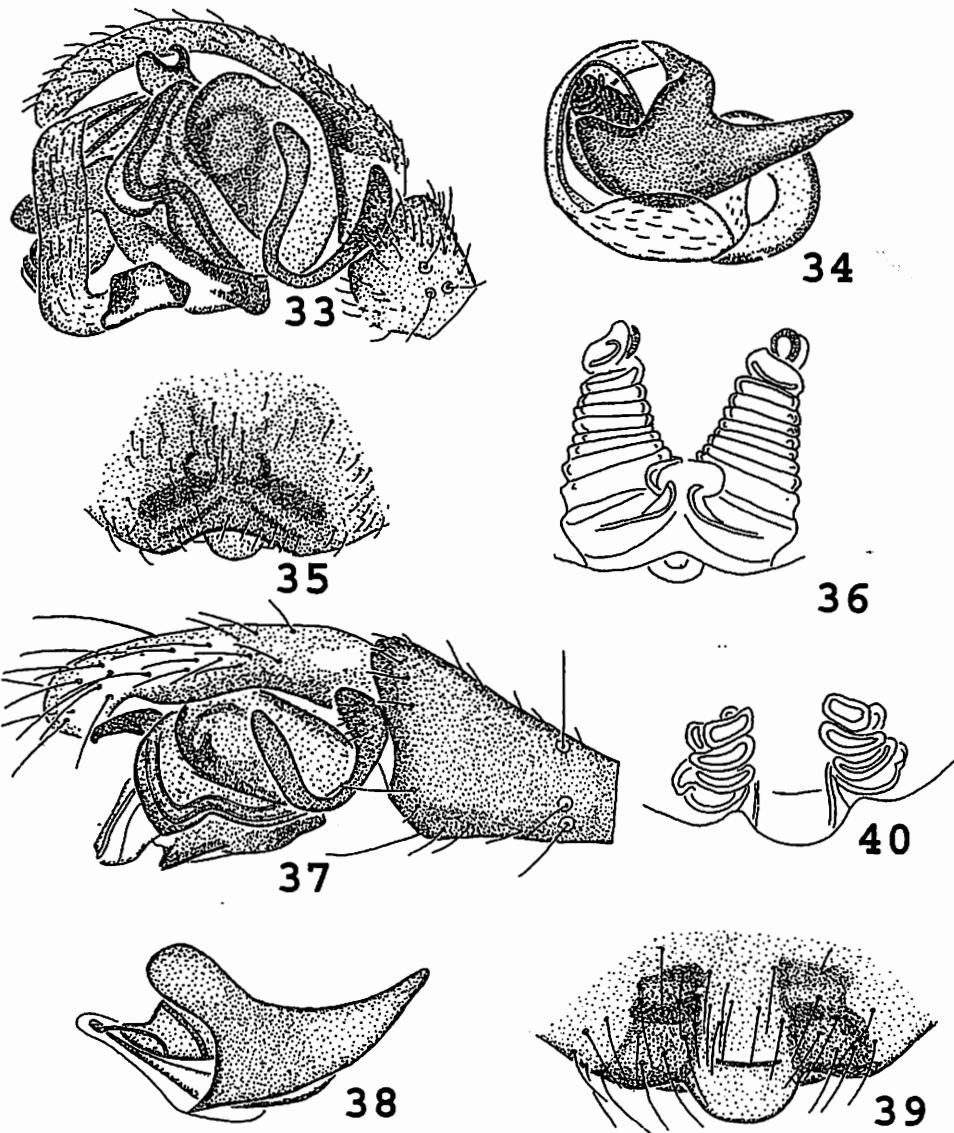
Wil. Tipasa: Sidi Rached, 100m, 4♀♀ in low maquis, 2.I.1988.

Ecology

The species constructs its sheet web in low bushes in maquis or forest, from low altitude up to 1800m. Males were collected only in december, females from January to May and once, at high altitude, in september. Apparently the copulation period is in winter, after which females can survive for a very long time, even until septémber at high altitude.

Distribution

France, Portugal, Spain, Morocco and Algeria. THORELL (1875) described it originally from Algeria, but since then it was never cited from



Figs 33-36. *Linyphia maura* THORELL. 33. Male palp, lateral view; 34. Embolic division, mesal view; 35. Epigyne, ventral view; 36. Vulva, ventral view.

Figs 37-40. *Linyphia tenuipalpis* SIMON. 37. Male palp, lateral view; 38. Embolic division, mesal view; 39. Epigyne, ventral view; 40. Vulva, ventral view.

there again. VAN HELSDINGEN (1969) cited it from Morocco. The species appears to occur near the coast, and in mountainous areas more to the interior of the country.

***Linyphia tenuipalpis* SIMON, 1884**
(Figs 37-40)

Linyphia triangularis tenuipalpis SIMON, 1884a: 230 (descr. ♂).

Linyphia tenuipalpis; VAN HELSDINGEN, 1969: 48.

Description

Measurements: Male: total length 4.6-6.3; cephalothorax 2.25-2.9 long, 1.6-1.95 wide. Female: total length 4.0-7.5; cephalothorax 1.75-2.9 long, 1.2-1.9 wide.

Colour: Cephalothorax pale brown, broad submarginal band and bifurcate median stripe grey; legs yellow-brown; abdomen beige with complicate pattern of white and black blotches and bars.

Leg spinulation: Fe I d, 3pl, II d 2-3pl, III d 1-3pl, IV 2d; Ti I-II 2d pl rl pv, III-IV 2d pl pv; Mt I-II d pl rl v, III-IV 2d pl rl v; Tb MtI 0.11-0.15.

Palp (figs 37-38): With relatively small palp

compared to other *Linyphia* and *Nerienne* species; patella with dorsal spine of two third the height of segment; tibia more than twice as long as broad at its base, widening distally, dorsal spine two-thirds the height of the segment; paracymbium U-shaped, basal branch with scattered hairs, distal branch with parallel margins; suprattegular apophysis a large hook, in lateral view visible at antero-dorsal margin of tegulum; lamella with pointed anterior and posterior processes, laterally with large rounded lobe; tegular apophysis cone-shaped with two dispersed chitinous ridges; embolus relatively short, describing somewhat more than half a circle, all along its length accompanied by an embolic membrane.

Epigyne (fig. 39): Covered by a large median, rounded scape, anteriorly marked by a transverse groove and laterally with two small openings.

Vulva (fig. 40): With three spiral coils, connected to oblique, oval spermathecae.

New records (no previous records)

ALGERIA:

Wil. Bejaïa: Col de Talmetz, 825m, 2♀♀ between herbs in *Quercus suber* forest, 20.X.1988.

Wil. Blida: Atlas Blidéen: Chréa, 1520m, 1♀, 14.XI.1986, 2♀♀, in low bushes in *Cedrus atlantica* forest, 20.X.1987; idem, 1200m, 4♀♀, 1.XI.1985; Meurdja, 900m, 6♂♂ in pitfalls in *Cedrus* plantation, 13.IX.1987, 1♀, 15.I.1988 and 1♀, 14.XI.1986. Djebel Mouzaia, 1350m, 1♀ in maquis of *Quercus ilex*, 6.X.1985.

Wil. Bouira: Djurdjura Massif, Aït Ouabane, 1500m, 2♀♀ on low bushes in *Q. faginea* forest, 20.X.1986.

Wil. Tizi Ouzo: Aïn-el-Hammam, 1080m, 1♀ in low bushes in a garden, 9.X.1987; Yakouren, 820m, 1♀ in mixed *Quercus faginea* - *Q. suber* forest, 24.II.1988.

Ecology

Like *Linyphia maura*, *L. tenuipalpis* constructs its sheet web in low bushes in maquis or forest, but apparently only at higher altitudes: it was never collected below 800m. The reproduction period also seems earlier, as males were only collected in September and females in January-February. The species occurs also in temperate Europe, where it is adult from May to August (HEIMER & NENTWIG, 1991).

Distribution

West and South-West Europe, from S. Finland in the North to Italy and Portugal in the south

(VAN HELSDINGEN, 1969). Its distribution area is very well comparable with that of *Improphantes decolor* (WESTRING) (BOSMANS, 1985). Cited here for the first time from the Maghreb, and from Algeria in particular.

Genus *Meioneta* Hull, 1920

A large genus of small, dark coloured linyphiids with some 15 species in Europe of which three occur in the Maghreb.

Meioneta fuscipalpa (C. L. KOCH, 1836)

(Figs 41-45)

Micryphantes fuscipalpus C. L. KOCH, 1836: 46.

Meioneta fuscipalpis; DENIS, 1955: 205; DENIS, 1957: 296; DENIS, 1964: 389.

Diagnosis

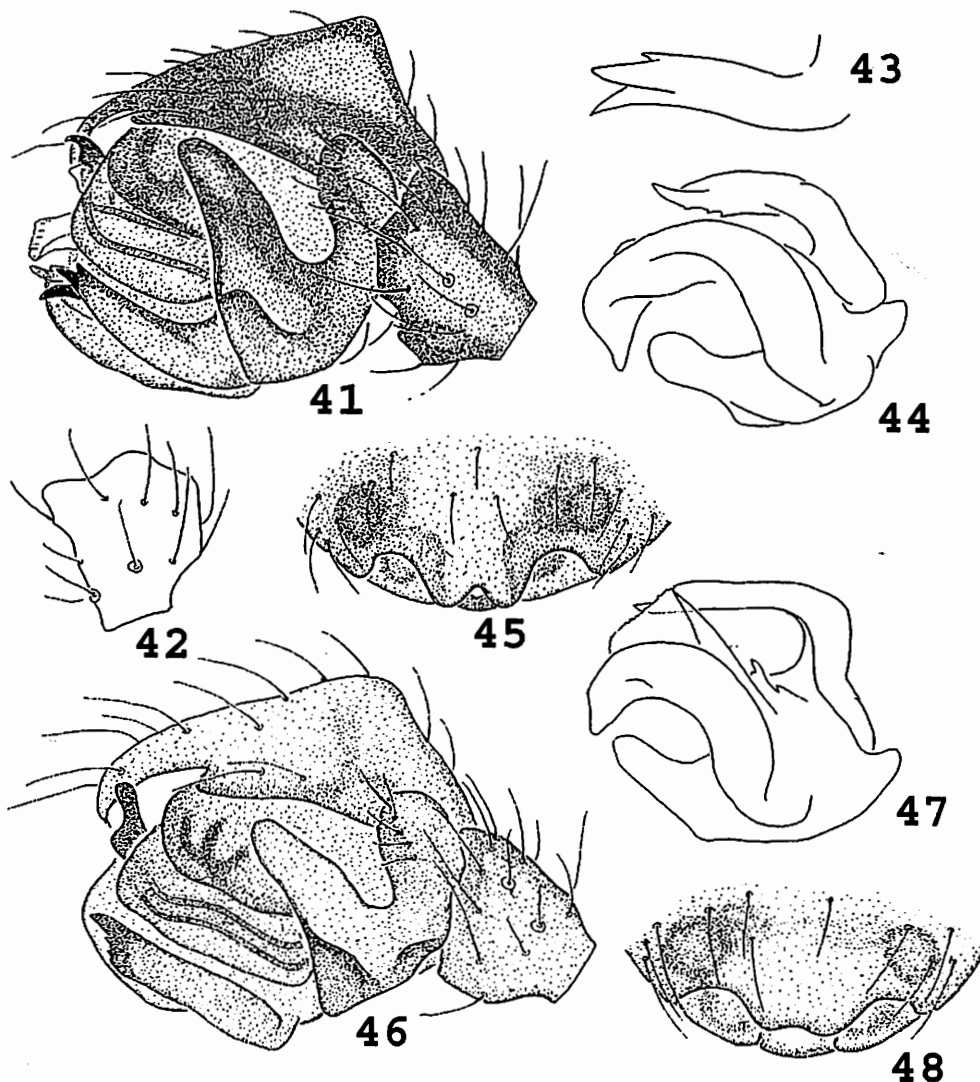
Males of *Meioneta fuscipalpa* are closely related to *M. rurestris* and *M. pseudorurestris* but differ clearly by the denticulate distal part of the lamella. As can be seen in the figures published by SIMON (1929), MILLER (1947), WIEHLE (1956), DENIS (1957), THALER (1983a), WUNDERLICH (1987), THALER & NOFLATSCHER (1990) and HEIMER & NENTWIG (1991), based on specimens from different parts of Europe, there is some variation in the number and the size of the teeth in the distal part of the lamella. Further research is necessary to point out if there is only one species involved.

For the moment, females of *M. fuscipalpa* are not distinguishable with certainty from *M. pseudorurestris* and *M. rurestris*. In the past, the colour of the palpi were considered to distinguish the species, but this seems not reliable. DENIS (1937), when identifying some specimens from Algeria as *M. rurestris*, wrote: "Would not be a male accompanying the collected specimens, I should have determined the female as *M. fuscipalpa* (C. L. KOCH)".

Description

Measurements: Male: total length 1.6-2.2; cephalothorax 0.76-0.92 long, 0.54-0.64 wide. Female: total length 1.95-2.5; cephalothorax 0.76-0.92 long, 0.56-0.62 wide.

Colour: Cephalothorax yellowish brown suffused with grey; legs pale yellowish to brown, femora and tibiae often streaked with grey; palp in males brown to nearly black, in females generally with femora and patellae yellowish



Figs 41-45. *Meioneta fuscipalpa* (C. L. KOCH). 41. Male palp, lateral view; 42. Male palpal tibia, dorsal view; 43. Lamella, lateral view; 44. Embolic division, mesal view; 45. Epigyne, ventral view.
 Figs 46-48. *Meioneta mollis* (O.P.-CAMBRIDGE). 46. Male palp, lateral view; 47. Embolic division, mesal view; 48. Epigyne, ventral view.

brown, tibiae and tarsi brown; abdomen grey brown to black.

Leg spinulation: Ti 2d; Fe and Mt spineless; Tb MtI 0.25.

Palp (figs 41-44): Patellar spine twice as long as height of segment; tibia distinctly widening distally, antero-dorsal margin with concavity; cymbium with small prolateral tubercle and dorsal cone; paracymbium with two wide branches, basal part with a row of five hairs, distal part limiting an anterior pocket, terminally rounded; lamella L-shaped, terminally with 4-5 teeth; embolus semi-circular.

Epigyne (fig. 45): Scape sigmoid, visible part gradually narrowing, terminally incised; distal part of scape visible in incision, with bulging lateral lobes.

Previous records

MOROCCO

P. Casablanca: Ain Sebaa (DENIS, 1955); Oued Mellah (DENIS, 1955).

P. Taza: Cascade de Ras el Ma (DENIS, 1955).

Unknown provinces: Oued Djerrat (DENIS, 1955); Ait Ourir (DENIS, 1955); M'senrir (DENIS, 1964).

TUNISIA

G. Tunis: Gammarth (DENIS, 1964).

New records

ALGERIA

Wil. Laghouat: Laghouat, Oued M'zi, 750m, 1♂ 1♀ in *Phragmites* litter, 23.XII.1987.

Wil. Tlemcen: between Bordj Arima and Remchi, 300m, 1♀, 19.I.1990; Maghnia, Oued Tafna, 350m, 1♂ 1♀, among stones, 23.IV.1984; S. Col d'Hafir, 900m, 1♂ 1♀, in flooded orchard, 5.V.

1984; S. Tlemcen, Djebel Ouargla, 1250m, 1♀ among stones, 5.V.1984.

MOROCCO

P. Casablanca: Casablanca, 1♂, V.1984, J. Mertens leg.

P. Er Rachidia: 20 km E. Tinerhir, 1♂, 6.II.1996.

P. Ifrane: E. Ifrane, Lake Ifra, 1♀, among stones in grassland, 11.V.1984.

P. Khenifra: Khenifra E., source Oum el Rbia, 1450m, 1♂ 3♀, among stones, 13.V.1984; E. Khenifra, Lake Azigza, 1575m, 2♀♀ in *Cedrus* forest, 13.V.1984.

P. Marrakech: Gueliz, 2♂♂, in flooded grassland in hotel garden, 7.VI.1999.

P. Settat: Mechra-Bennabou N., 3♂♂ 2♀♀, 9.II.1986.

P. Taza: Djebel Tazeka, 1575m, 1♂ 1♀ in pitfalls in *Cedrus* forest, 8.V.1984; ditto, 1850m, 1♀, stones in montane grassland, 22.IV.1984; S. Taza, 1000m, Cascade de Ras el Oued, 100m, 1♂ 1♀, among herbs, 21.IV.1984.

P. Tetouan: S. Tetouan, 10m, 1♀, dunes along Oued Hadjera, 10m, 20.IV.1984.

TUNISIA:

G. Gabes: Zarat, 3♂♂ 1♀, litter in oasis orchard, 19.XII.2000.

Distribution

Widespread throughout the palaerctic region. In the Maghreb, it has a remarkable distribution: it occurs in Morocco, the extreme north west of Algeria and the south of Tunisia, but it is absent from the central and eastern part of Algeria.

Meioneta mollis (O. P.-CAMBRIDGE, 1871)

(Figs 46-48)

Neriere mollis O. P.-CAMBRIDGE, 1871: 439 (descr. ♂).

Description

Measurements: Male: total length 1.4-1.6; cephalothorax 0.63-0.68 long, 0.49-0.54 wide. Female: total length 1.5-1.8; cephalothorax 0.65-0.72 long, 0.52-0.56 wide.

Colour: Cephalothorax brown, fovea and striae darker greyish brown; legs yellow brown; abdomen grey to grey black.

Leg spinulation: Ti I-II 2d rl, III-IV 2d; Tb MtI 0.25-0.27 (retrolateral tibial spine on Ti I-II absent in other *Meioneta* species from the Maghreb).

Palp (figs 46-47): Cymbium with blunt dorsal tubercle; paracymbium in basal part with a row of 5 hairs, median part with pouch, distal part rounded terminally; lamella elongate, L-shaped, distal part straight with one dorsal tooth and

some accompanying ventral denticules; embolus sigmoid.

Epigyne (figs 48-49): Scape with short anterior part, with strongly converging margins; no visible stretcher, only small distal part of lateral pouches protruding from under the anterior part of the scape.

New records (no previous records)

MOROCCO:

P. Ifrane: S. Azrou, 1250m, 1♂ 2♀♀ in wet grassland, 11.V.1984.

Distribution

Western and Central Europe, including the Balkan and the Iberian peninsula. It is cited here for the first time in the Maghreb, at high altitude in the Rif Atlas in Morocco. It lives in mosses and herbs in wet, warm places.

Meioneta pseudorurestris (WUNDERLICH, 1980)

(Figs 49-54)

Microneta rurestris; SIMON, 1884: 436; SIMON, 1885: 27; DENIS, 1937: 1049 (misidentifications).

Meioneta cfr *rurestris*; THALER, 1977: 560.

Agyneta pseudorurestris WUNDERLICH, 1980: 319 (descr. ♂, ♀, Spain, Cyprus).

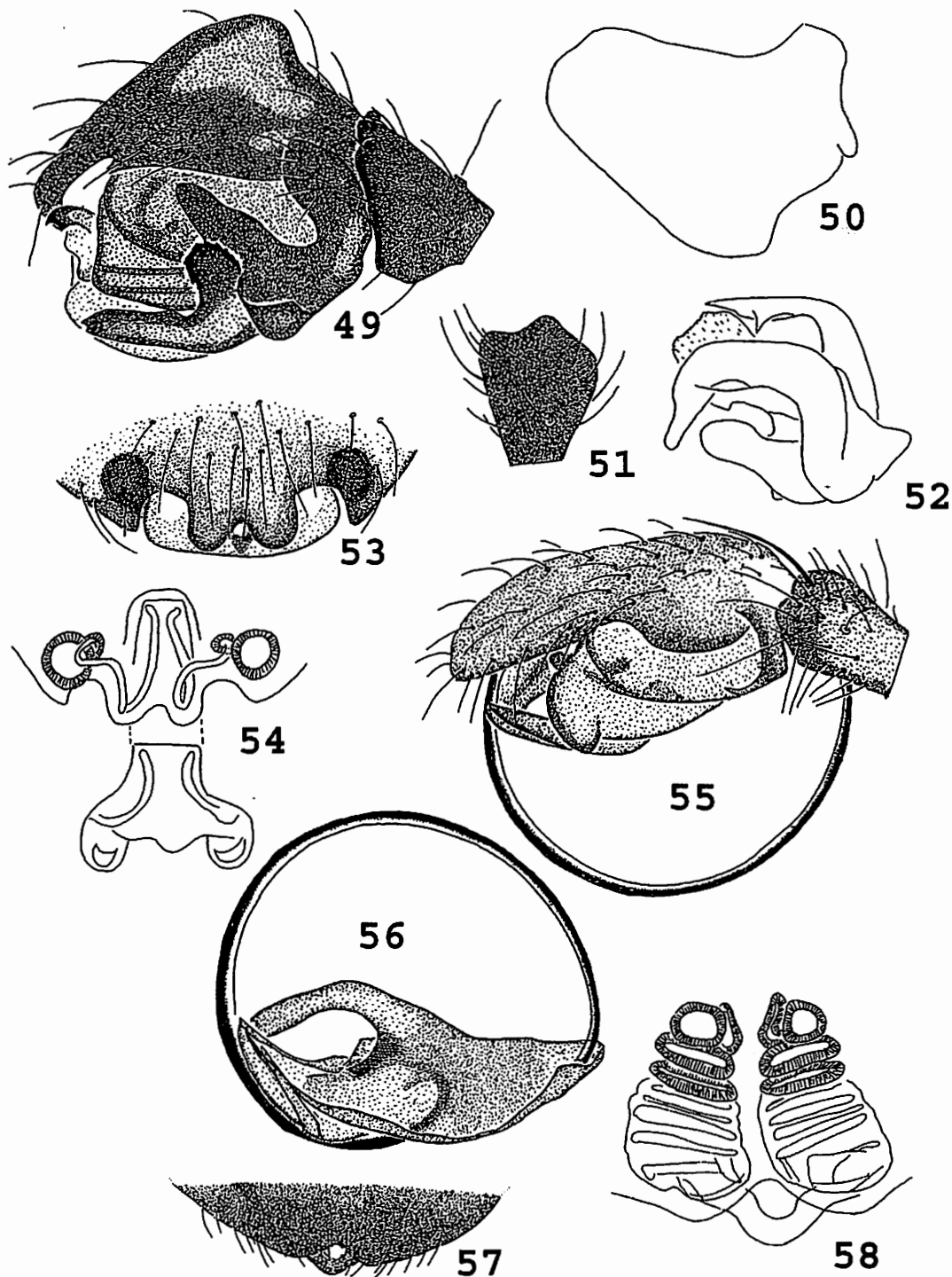
Diagnosis and comments

Males of *Meioneta pseudorurestris* are distinguished from related species by the shape of the lamella: there is no terminal denticulation, as in *M. fuscipalpa*, and there is a mesal tooth on its distal part, absent in *M. rurestris*; to observe this mesal tooth, examination in ventral view of the palp is necessary (fig. 44). At the moment, females of the three species cannot be distinguished (see also diagnosis of *M. fuscipalpa*).

Meioneta rurestris was cited several times from the Maghreb, but it was not once present in our abundant material. As *M. pseudorurestris* was only described in 1980, I consider all citations from before 1980, including THALER's citation (1977) of specimens from Tunisia of "*M. cfr. rurestris*", as belonging to *M. pseudorurestris*.

Description

Measurements: Male: total length 1.6-2.2; cephalothorax 0.66-0.86 long, 0.46-0.62 wide. Female: total length 1.6-2.9; cephalothorax 0.68-0.92 long, 0.48-0.68 wide.



Figs 49-54. *Meioneta pseudorurestris* WUNDERLICH 49. Male palp, lateral view; 50. Male palpal cymbium, dorsal view; 51. Male palpal tibia, dorsal view; 52. Embolic division, mesal view; 53. Epigyne, ventral view; 54. Vulva, ventral view.

Figs 55-58. *Microlinyphia pusilla* (SUNDEVALL). 55. Male palp, lateral view; 56. Embolic division, mesal view; 57. Epigyne, ventral view; 58. Vulva, ventral view.

Colour: Cephalothorax brown to dark brown, fovea and striae darkened; legs yellowish brown, palp dark brown in male, brown in female, patella somewhat paler; abdomen dark grey to

blackish.

Leg spinulation: Ti I-IV 2d; Tb MtI 0.21-0.27.

Palp (figs 49-52): As in *M. fuscipalpa*, except for the terminal part of the lamella (see

diagnosis).

Épigyne-vulva: (figs 53-54): As in *M. fuscipalpa*.

Previous records (all as *Meioneta rurestris*):

ALGERIA

Without precise locality (SIMON, 1884).

W. Mila: Oued Endja (DENIS, 1937).

TUNISIA

G. Le Kef: Le Kef (SIMON, 1885).

G. Kairouan: Kairouan (THALER 1977, sub *M. cfr. rurestris*).

G. Tunis: Tunis (SIMON, 1885).

New records

ALGERIA:

Wil. Aïn Defla: Djebel Zaccar, Aïn N'sour, 900m, 1♀ in pine litter, 18.V.1988.

Wil. Aïn Temouchent: Aïn Tolba, 250m, 1♀ among stones, 19.I.1990; between El Malah and El Ghellah, Rio Salado, 1♀, between *Salicornia*, 24.IV.1984.

Wil. Alger: Bainem, 300m, 3♀♀ in litter of *Pinus maritimus*, 12.V.1986; El Harrach, 25m, 8♂♂ 5♀♀, in pitfalls in garden, 30.V.1984; Eucalyptus, 35m, 3♂♂ in pitfalls in wasteland, 15.I.1990.

Wil. Annaba: Aïn Barbar, Oued Abdellah, 600m, 1♀ among stones, 23.XI.1989; Chetaibi, 810m, 1♂ among stones, 1.III.1990; Seraidi, 810m, 1♀ in *Quercus faginea* forest, 24.XI.1989; Massif de l'Edough, 1♂ (MNHNP 13182).

Wil. Bejaia: Adekar, 800m, 1♀, among stones in grassland, 17.IV.1982; Aokas, 10m, 3♀♀ in grassland, 22.X.1989; Bordj Mira, 70m, 2♀♀ in pitfalls in Eucalyptus plantation, 2.XII.1989; mouth of Oued Daas, 5m, 1♂ among stones, 22.V.1988; Tichy, 5m, 1♂ among herbs in dunes, 18.IV.1982.

Wil. Biskra: Biskra, 125m, 1♀, litter in garden of hotel, 3.XI.1987; Tolga, 125m, 2♀♀ in palm orchard, 10.IV.1982.

Wil. Blida: Atlas Blidéen, Meurdja, 950m, 3♂♂ among stones, 12.IV.1985; Chrea, 1650m, 2♂♂, pitfalls in *Cedrus* forest, 20.VI.1987; Djebel Mouzaia, 1200m, 3♂♂ among stones, 10.IV.1987; Hammam Melouane, 125m, 1♂ among stones, 23.V.1989; Meftah, Djebel Zerouela, 480m, 4♂♂ 4♀♀, among stones, 3.IV.1987.

Wil. Bordj Bou Arreridj: El Mehira, 900m, 1♀ in pitfall in *Pinus halepensis* plantation, 21.VI.1990.

Wil. Bouira: Col de Dirah, 900m, 1♀ among stones, 11.IV.1982; Er Rich, 450m, 1♂ among stones, 15.IV.1990; massif du Djurdjura, Tikjda, 1400m, 2♂♂ 9♀♀, among stones, 11.VI.1984.

Wil. Boumerdes: Bordj el Bari, 10m, 1♀, in garden, 25.IV.1982; Cap Djinet, barrage de l'Oued Arbaa, 150m, 3♂♂ among stones, 4.II.1987; between Larbaa and Col des deux Bassins, 800m, 1♀

among stones, 21.V.1987; Reghaia, 10m, 2♀♀ in salt marsh, 8.V.1989; Sidi Daoud, Oued Sebaou, 35m, 1♂ 1♀, among stones, 4.XII.1987; Zemmouri, 10m, 4♂♂ 5♀♀, litter in dunes, 13.IV.1984.

Wil. Chleff: Damous, 50m, 2♂♂ 1♀, litter in dunes, 13.IV.1987.

Wil. Constantine: Aïn Sissaoui, Oued Boumerzouk, 550m, 1♂ 1♀, among stones, 22.XI.1989; El Khroub, 1♀ (MNHNP 13312).

Wil. Djelfa: Aïn Oussera, 680m, 1♀ in pitfall in cultivated fields, 21.IV.1989.

Wil. El Bayadh: E. Les Arbaouattes, 900m, 1♀ among stones around guelta, 18.I.1988.

Wil. El Oued: El Oued, 5m, 2♀♀ in palm orchard, 11.IV.1990.

Wil. El Tarf: El Frin, 1♀, 27.III.1996, K. De Smet leg; El Kala, Lake Melah, 5♂♂ 20♀♀, pitfalls in *Quercus suber* forest, 23.XI.1989; idem, 3♂♂ 2♀♀, litter along the lake, 6.IV.1982; El Kala, 50m, among stones in *Quercus suber* forest, 28.IV.1988; Sidi Embarek, Garaet el Mkhada, 5m, 1♀ in dunes, 24.XI.1989.

Wil. Ghardaia: Ghardaia, 1♂ 1♀ in pitfall in palm orchard, 23.XII.1987.

Wil. Guelma: Hammam Meskoutine, 420m, 1♂ in grass tussocks, 2.XI.1989.

Wil. Jijel: Ziama Mansourah, 15m, 1♀ among herbs, 24.XI.1989.

Wil. Laghouat: Laghouat, Oued M'zi, 750m, 1♂ in *Phragmites* litter, 22.XII.1987.

Wil. Mascara: N. Mascara, Ouled Naïr, 600m, 1♂ 3♀♀, 13.V.1979, J. Mertens leg.

Wil. M'sila: Aïn el Hadjel, réserve de Mergueb, 540m, 9♂♂ 9♀♀ in pitfalls in steppe, 3.XI.1988; Baniou, Chott el Hodna, 400m, 1♀ in dunes, 13.V.1988; Bou Saada, 1♀ in palm orchard, 21.V.1987.

Wil. Oran: Hasasna E., 1♀ in dunes bordering Macta marsh, 5m, 20.I.1990; Misserghin, 200m, 1♀, in flooded orchard, 25.IV.1984; Forêt de Msila, 400m, 1♀ in *Quercus suber* forest, 15.IV.1984; N. Oued Tlelat, Lac Gharabs, 130m, 2♀♀, 20.I.1990; Sebkhia Daiet el Bagrat, 100m, 1♀, among *Salicornia*, 25.IV.1984.

Wil. Saida: Maison forestière de Merdja, 725m, 1♂ 5♀♀ in flooded orchard, 4.V.1984; E. Saida, Djebel Tenfeld, 850m, 1♂ in pitfall in *Pinus halepensis* forest, 23.V.1990; between Saida and Merdja, 850m, 1♂ 2♀♀, among stones, 18.I.1990; Cascades de Tifrit, 825m, 1♀, in herbs, 4.V.1984.

Wil. Sétif: NE. Aïn Oulmene, 725m, 1♂ 1♀, among stones, 15.IV.1990; Djebel Babor, 1750m, 1♂ 2♀♀, in litter in *Quercus faginea* forest, 15.VI.1987; Djebel Bouthaleb, 1450m, 3♀♀ in pitfalls in *Cedrus* forest, 15.IV.1990.

Wil. Sidi Bel Abbes: 20 km W. Merine, 1♀, stones, 20.I.1977, C. Deeleman leg. (in her collection); Mezaourou, 900m, 1♂ 2♀♀, in *Pinus halepensis*

forest, 23.V.1990.

Wil. Skikda: Ben Azouz, 200m, 1♀ in Eucalyptus plantation, 2.III.1990; Bouchata, 400m, 3♀♀ among stones, 12.II.1990; Collo, Tamanart, 25m, 1♂♂ 2♀♀ in pitfalls in *Q. suber* forest, 6.VI.1987.

Wil. Tebessa: Tebessa, Bekkaria, 1100m, 2♀♀, among grasses, 29.X.1985.

Wil. Tiaret: E. Frenda, 1075m, 1♂ 1♀ in grassland, 26.IV.1984.

Wil. Tipasa: Cherchel, 5m, 1♂ in litter on the beach, 11.VIII.1979; Douaouda, 50m, 1♂ 2♀♀ in pitfall, 21.V.1989; Sidi Fredj, 10m, 2♂♂ in pitfall in dunes, 19.I.1987; Staoueli, 100m, 2♀♀ among stones, 27.II.1988; Tipasa, roman ruins, 20m, 1♀ among stones, 2.II.1987.

Wil. Tissemsilt: Theniet-el-Had, 5 km N., 2♀♀ in flooded orchard, 26.IV.1984; Theniet el Had, 1550m, 1♂ in pitfall in *Cedrus* forest, 17.XI.1987; idem, 8♀♀, in grassland, 3.V.1984.

Wil. Tizi Ouzou: Aïn El Hammam, 1400m, 2♂♂ 6♀♀, among stones, 10.X.1987; NE Aïn El Hammam, Oued Boubehir, 240m, 1♂ 1♀, among stones, 10.X.1987; Forêt d'Akfadou, 1250m, 1♀ among stones, 22.IV.1982; Beni Yenni, 850m, 1♂ 2♀♀ among *Oxalis*, 14.IV.1982; Boghni, 180m, 2♀♀, among stones, 27.IV.1989; Massif du Djurdjura, Lake Goulmin, 1750m, 1♀, in litter, 22.IV.1982 and 2♂♂ 8♀♀, 22.VI.1984; Tala Guilef, 1400m, 1♂ 7♀♀ in grassland, 23.IV.1984; Col de Tizi n' Kouillal, 1400m, 1♀, in grasses, 14.IV.1982; Timizar Laghbar, 210m, 3♀♀ among stones, 25.I.1990; between Tizi Ghenif and Chabet-el-Ameur, 125m, 1♀, among stones, 1.V.1984.

Wil. Tlemcen: Souk el Tnine, 150m, 1♂ among stones, 24.V.1990; S. Tlemcen, source de la Tafna, 350m, 1♂ 1♀ among stones, 23.IV.1984; Monts de Traras, Bordj Arima E., 300m, 2♀♀ along rivulet, 23.V.1990.

TUNISIA:

G. Beja: Beja 15 km N., 250m, 2♀♀, stones bordering fields, 28.II.2005; Oued Zerga, 1♂ beating olive trees, 17.III.1986.

G. Bizerte: between Fejja and Aïn Ghellal, 1♂, stones bordering fields, 29.I.2003.

G. Gafsa: Gafsa oasis, 300m, 1♀, litter in oasis, 2.III.2005 (CJVK).

G. Jendouba: Chemtou roman ruins, 2♀♀, stones, 6.III.2005; forêt de Feidja, 600m, 1♂, stones in open *Quercus suber* forest, 5.II.2005 (CJVK); Tabarka, 1♂, litter around fortress, 7.II.2005.

G. Kasserine: Haidra S., 1♀, stones in *Pinus* forest, 4.III.2005.

G. Monastir: Monastir, 1♂, among stones on the beach, 12.VIII.1979; Oued Essouk, 2♂♂ 3♀♀, stones in dry river bed, 13.VIII.1979.

G. Nabeul: Aïn Tebournok, 1♂, stones at border of fields, 18.I.2003; El Haouaria, 3♂♂ 1♀, 19.IV.

1993, K. De Smet leg.; Hammamet 5 km NE, 1♂ 1♀, stones in olive orchard, 30.I.2003; Korba, 1♀, stones bordering salt marsh, 31.I.2003; Nabeul 10 km N., 2♂♂ 1♀, litter in hedges bordering fields, 30.I.2003; Tazerka, 1♀, litter at border of salt marsh, 26.I.2003; Zaïouet el Mgalez, 1♂, stones in *Pinus* forest, 26.I.2003.

G. Sousse: Sousse, 1♂ in hotel garden, 22.IV.2004, K. De Smet leg.

G. Tunis: La Goulette, 3♂♂ 4♀♀, stones in *Pinus* plantation, 30.I.2003.

G. Zaghouan: Oued-ez-Zit, 2♀♀, stones in *Juniperus* forest, 28.I.2003; Saouaf E, 1♂, stones in *Juniperus* maquis, 24.I.1995, 2♀♀, 28.II.2005.

Ecology

Together with *Tenuiphantes tenuis*, *M. pseudorurestris* is one of the commonest Linyphiid spiders of the Maghreb. It occurs in all kind of natural, semi-natural and even man-made habitats, from the coast to the high mountains and the desert oasis. Generally it lives in the litter layer, but aeronauting specimens were often captured sweeping herbs or beating trees. Males and females were captured all over the year, so there is probably no distinct reproduction period.

Distribution

Meioneta rurestris has frequently been cited from Algeria and Tunisia, but according to us, all these records refer to the poorly known mediterranean *M. pseudorurestris*. *Meioneta rurestris* is limited to temperate Europe. So far, *M. pseudorurestris* was recorded in Spain (type locality) and Cyprus (WUNDERLICH, 1980), Sardinia (WUNDERLICH, 1995), and as *Meioneta* cf *rurestris* from Tunisia (THALER, 1977). The species appears to be very common in Algeria and Tunisia, but absent from Morocco.

Genus *Microlinyphia* Gerhardt, 1928

A genus of large sheetweb-weevers with few species, of which three occur in Europe and one in the Maghreb.

Microlinyphia pusilla (SUNDEVALL, 1830)

(Figs 55-58)

Linyphia pusilla SUNDEVALL, 1830: 27 (descr. ♂, ♀); PAVESI, 1884: 459.

Microlinyphia pusilla; VAN HELSDINGEN, 1970: 17, figs 1-8.

Description

Measurements: Male: total length 2.8-4.0;

cephalothorax 1.4-2.0 long, 0.85-1.2 wide. Female: total length 3.0-4.8; cephalothorax 1.3-1.8 long, 0.9-1.25 wide.

Colour: Cephalothorax brown, cephalic part darker; legs yellow brown; abdomen in male greyish or black, with two basal white spots, in female dorsally white to yellowish white, with median and lateral brown stripe, venter dark brown to metallic black.

Leg spinulation: Fe I 2pl d, II-IV d; Ti I-IV generally 2 d, 2 p, 2 rl, 2 pv, 2 rv; Mt I-II d pl rl pv rv, III-IV d pl v; Tb Mtl 0.19-0.23.

Palp (figs 55-56): Tibia twice as long as patella, both with dorsal spines; paracymbium small, distal part only a short denticle; lamella a large, elongate sclerite, directed to and reaching the tip of the palp, terminally rounded; embolus long and threadlike, forming a large, conspicuous loop.

Epigyne (fig. 57): Small and inconspicuous, consisting of a small rounded scape with median pit, lying in small triangular incision of the epigastric furrow.

Vulva (fig. 58): With 4 unsclerified and 3 sclerified spiral coils; spermathecae at the end of the coils, small.

Previous records

TUNISIA:

G. Tunis: Carthage (VAN HELSDINGEN, 1970); Tunis (PAVESI, 1884).

New records

ALGERIA:

Wil. Bejaïa: Aokas, 10m, 1♀, in grassland, 22.X.1989.

Wil. Bouira: between Dirah and Sour-el-Gozlane, 800m, 1♂ in herbs in grassland, 10.III.1990.

Wil. Guelma: Hammam Meskoutine, 410m, 1♀ in grass tussocks, 28.II.1990.

Wil. Laghouat: Laghouat, Oued M'zi, 750m, 1♂ in *Phragmites* litter, 22.XII.1987.

Wil. M'sila: 10 km S. Hammam Delaa, 800m, 1♀ in herbs along a permanent oued, 13.V.1988.

Wil. Sétif: Ain Arnat, 950m, 1♀ in *Juncus* vegetation around a lake, 3.XI.1988.

Wil. Tipasa: Sidi Fredj, 10m, 1♀ by sweeping vegetation in dunes, 20.III.1987.

Wil. Tizi Ouzou: Sebaou-el-Kedim, 50m, 4♀♀ in grassland, 10.V.1988; 5 km E. Tizi Ouzou, 190m, 1♀ in wet grassland, 11.III.1990.

Ecology

In the Maghreb, *M. pusilla* occurs in open habitats, mainly in grassland and marshy areas, from the coast up to 800m. Adult males were

captured in December-March, females in October-May.

Distribution

Palearctic region, western part of North America. In the Maghreb, already known from Tunisia (PAVESI, 1884; VAN HELSDINGEN, 1970), and cited here for the first time from Algeria.

Genus *Microneta* MENGE, 1869

A rather small genus with 15 species from all over the world of which probably several are misplaced. Only one occurs in Europe and also in North Africa.

Microneta viaria (BLACKWALL, 1841)

(Figs 59-62)

Neriene viaria BLACKWALL, 1841: 645 (descr. ♂).

Microneta viaria; SIMON, 1929: 716 (descr. ♂, ♀).

Description

Measurements: Male: total length 2.2-3.0; cephalothorax 1.02-1.31 long, 0.82-1.06 wide. Female: total length 2.1-2.8; cephalothorax 0.86-0.95 long, 0.68-0.80 wide.

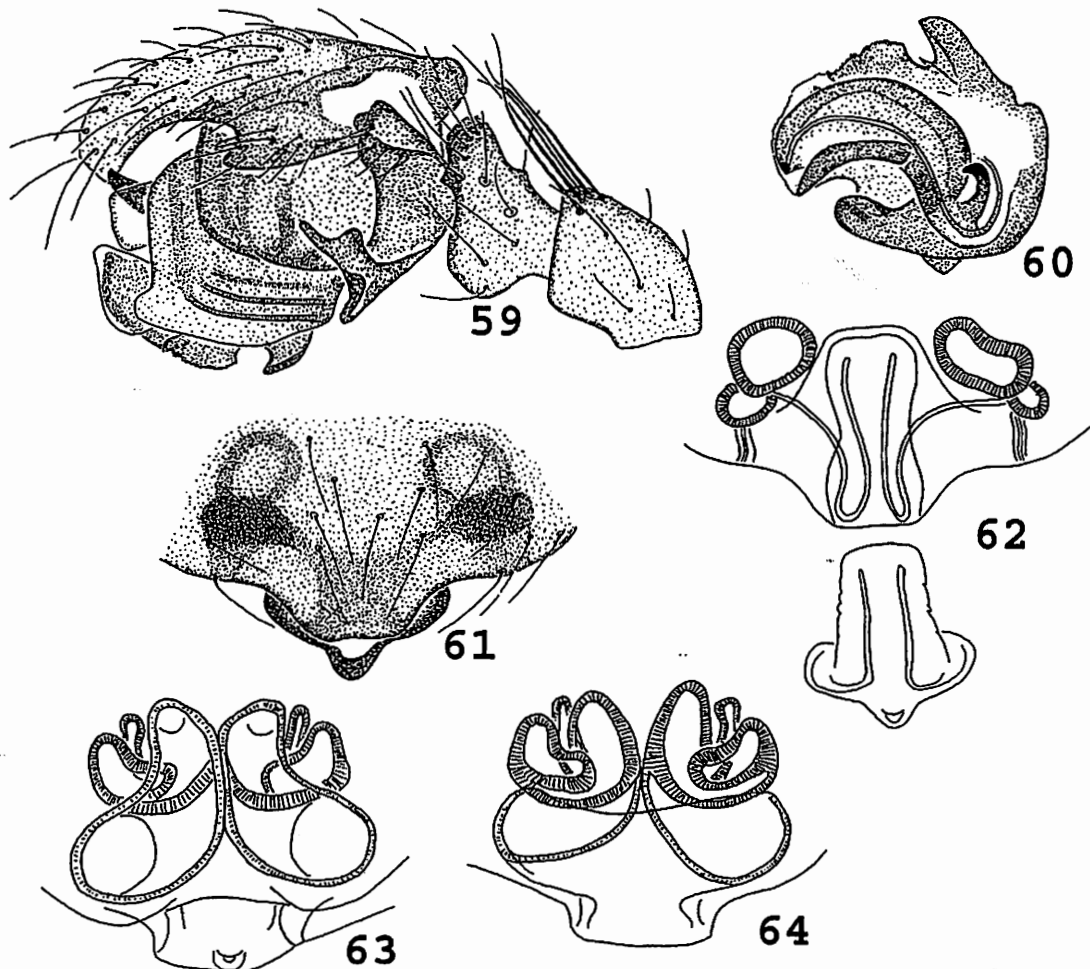
Colour: Cephalothorax yellow to orange brown; legs orange brown, paler at apices of segments, femora mostly darkened; abdomen grey to black.

Leg spinulation: Fe I-IV pl (at base); TiI 2d pl, II-IV 2d; Mt spineless; Tb Mtl 0.66-0.71.

Palp (figs 59-60): Patella with a group of long spines dorsally; tibia distinctly widening distally, with short dorsal spine; cymbium with rounded basal tubercle; paracymbium with wide basal part, proximally with a row of 7 hairs, distal part abruptly narrowing, terminally rounded; lamella a short, triangular sclerite; embolus S-shaped, with terminal sperm-duct tooth and curved tooth at its base.

Epigyne (fig. 61): With typical folded scape, proximal part reddish and gradually narrowing, distal part with poorly detached stretcher and large lateral pouches protruding from under the proximal part.

Vulva (fig. 62): Spermathecae obliquely elongated, sperm ducts running throughout the scape.



Figs 59-62. *Microneta viaria* (BLACKWALL). 59. Male palp, lateral view; 60. Embolic division, mesal view; 61. Epigyne, ventral view; 62. Vulva, ventral view.
Figs 63-64. *Porrhomma indecorum* SIMON. 63. Vulva, ventral view; 64. Vulva, dorsal view.

Previous records

ALGERIA

Without precise locality (SIMON, 1929).

New records

ALGERIA:

Wil. Tizi Ouzou: Yakouren forest, 850m, 1♂ 3♀♀, in *Quercus faginea* litter, 24.V.1988; idem, 4♂♂ 1♀, in pitfalls at same site, 27.IV.1990.

Distribution

Holarctic, recorded in Algeria without precise locality by SIMON (1929); it was recollected only at one site in Algeria in humid, deciduous forest.

Genus *Neriene* BLACKWALL, 1833

A large genus of *Linyphia*-like spiders with 7 species occurring in Europe of which two occur in the Maghreb.

Neriene clathrata (SUNDEVALL, 1830)

(Figs 65-68)

Linyphia clathrata Sundevall, 1830: 30 (descr. ♂, ♀).

Linyphia pallipes LUCAS, 1846: 255. N. Syn.

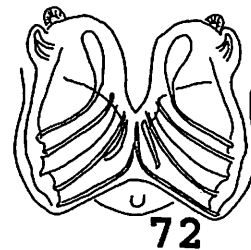
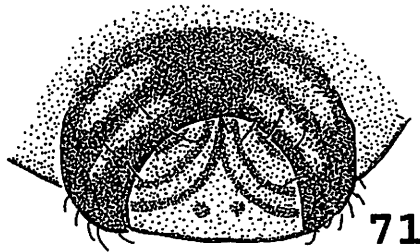
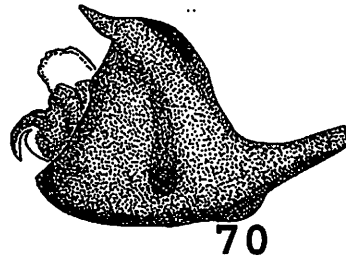
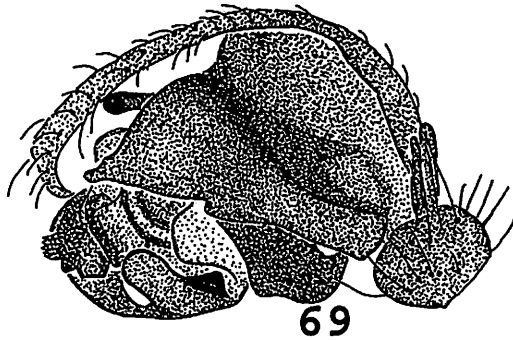
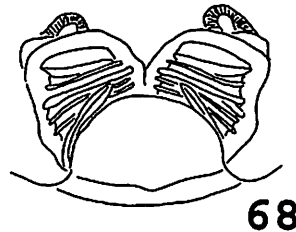
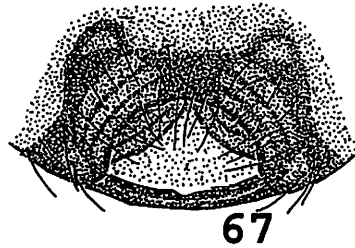
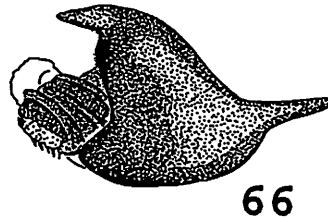
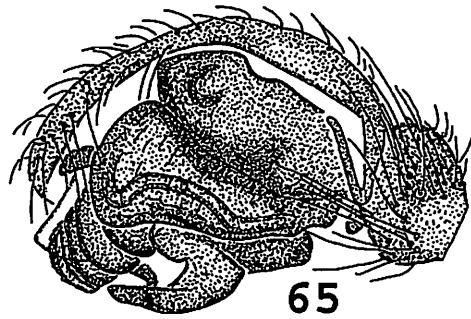
Neriene clathrata; VAN HELSDINGEN, 1969: 85, figs 79-91.

Type material

Holotype subadult male of *Linyphia pallipes* LUCAS, from Lake Tonga, Algeria; examined (MNHNP).

Remarks on synonymy

The subadult holotype male of *Linyphia pallipes* in the MNHNP was examined and compared with subadult males of *Neriene clathrata*, and general morphology and colour pattern appears to be identical. Furthermore, we



Figs 65-68. *Neriene clathrata* (SUNDEVALL). 65. Male palp, lateral view; 66. Embolic division, mesal view; 67. Epigyne, ventral view; 68. Vulva, ventral view.
Figs 69-72. *Neriene furtiva* (O.P.-CAMBRIDGE). 69. Male palp, lateral view; 70. Embolic division, mesal view; 71. Epigyne, ventral view; 72. Vulva, ventral view.

recollected *Neriene clathrata* at exactly the same site as LUCAS did (border of Lake Tonga), and we conclude that this synonymy cannot be doubted. ROEWER (1954) considers *Linyphia pallipes* as "nicht zu deuten".

Description

Measurements: Male: total length 3.4-3.8; cephalothorax 1.8-2.4 long, 1.15-1.45 wide. Female: total length 3.1-5.0; cephalothorax 1.55-2.0 long, 1.05-1.3 wide.

Colour: Cephalothorax orange brown to

brown, slightly suffused with grey; legs pale brown to orange brown, often annulated, especially the femora; abdomen in males black-brown with a pair of dorsal white spots on basal fourth, in females with a broad leaf-shaped band with complex markings, flanked by beige-coloured dorso-lateral bands with white blotches.

Leg spinulation: Fe: I-II 2d 1-2pl, III d 0-1pl, IV 2-3d; Ti I-II and IV 2d pl pv rv rl, III 2d pv rv pl; Mt I-II d, III-IV d pl pv rv; Tb MtI 0.19-0.24.

Palp (figs 65-66): Patella short, dorsal spine

somewhat shorter than height of segment; tibia higher than long, with a group of about 25 dorsal spine-hairs; paracymbium U-shaped, basal branch with some hairs, distal branch pointed; suprategular apophysis with a rather broad, hooked tip at anterior margin of tegulum; lamella a broad sclerite, with a bluntly pointed anterior process, a sharp posterior process and a large lateral arm; tegular apophysis with three transverse grooves.

Epigyne (fig. 67): Epigastric region elevated, somewhat depressed at sides, encircling a large aperture, 1.5 times as wide as long, its posterior margin well marked and level with anterior margin.

Vulva (fig. 68): Spiral groove with about three spiral coils, connected to small spermathecae.

Previous records

ALGERIA:

El Kala: Lake Tonga, « sous les pierres humides près les marais du Lake Tonga » (type locality of *Linyphia pallipes*; LUCAS, 1846).

New records

ALGERIA:

Wil. Boumerdes: Reghaïa, marshes of the Oued Reghaïa, 10m, 3♂♂ 3♀♀ in high herbs among tamarisks, 4.IV.1988; idem, 2♂♂ 2♀♀, 13.VI.1988; Reghaïa, 25m, 1♀ in pitfall in *Quercus suber* forest, 3.III.1988.

Wil. El Tarf: El Kala, Lake Tonga, 1♀, 27.III.1988; idem, 2♀♀, pitfalls in *Pinus halepensis* forest near Lake Tonga, 28.III.1988; Lake Melah S., 2m, 1♂ in *Alnus* forest, 5.IV.1982.

Wil. Tipasa: Zeralda, dunes of the river Mazafran, 5m, 1♀ by sieving litter of *Quercus coccifera*, 24.II.1989.

Ecology

Neriere clathrata was only collected in marshy areas and dunes near the sea. Adults were found from February to July.

Distribution

North America, Europe, Siberia, China and Japan, from the Maghreb already known from Algeria as *L. pallipes*, and cited here for the first time from Morocco.

Neriere furtiva (O. P. – CAMBRIDGE, 1871)
(Figs 69-72)

Linyphia furtiva O. P.-CAMBRIDGE, 1871: 425 (descr. ♂); SIMON, 1884: 246.

Neriere furtiva; VAN HELSDINGEN, 1969: 106.

Description

Measurements: Male: total length 4.3-5.0; cephalothorax 2.2-2.3 long, 1.3-1.45 wide. Female: total length 3.1-4.6; cephalothorax 1.5-1.9 long, 1.3-1.7 wide.

Colour: Cephalothorax yellow-brown to brown, suffused with black; legs pale brown to brown, femora dark brown; abdomen in males mostly completely dark brown to black with only a pair of anterior and posterior cream white spots, in females dark brown to black, dorsally with interconnected grey spots sprinkled with cream white, laterally with a row of 6 cream white spots.

Leg spinulation: Fe I d pl, II-IV d; Ti I 2d pl pv rv rl, II d pv rv rl d, III 2d pv rv, IV 2d pv pl; Mt I-II d, III-IV d pl v; Tb MtI 0,22-0.24.

Palp (figs 69-70): Patella short, dorsal spine one and a half times as long as height of segment; tibia with dorsal spine as long as height of segment; paracymbium U-shaped, basal and distal arms narrow; tegulum with distinct ventral concavity, terminally pointed; suprategular apophysis a broad hook; lamella with marked posterior process, anterior process less marked, lateral branch terminally rounded; tegular apophysis with three transverse grooves, distal part forming a hook.

Epigyne (figs 71): Epigastric region elevated, not depressed at sides, encircling a large aperture which is 1.5 x as wide as long, its posterior margin narrow and not level with anterior margin.

Vulva (fig. 72): Spiral groove with 3 oblique, curved coils, with very small spermathecae.

Previous records

MOROCCO:

P. Tanger: Tanger (VAN HELSDINGEN, 1969).

New records

ALGERIA:

Wil. Alger: El Harrach, 25 m, 1 subadult ♂, herbs in park, 30.V.1984.

Wil. Bejaïa: Bejaïa S., Oued Soumam, 20m, 1 subadult ♀ in herbs, 18.IV.1982; Tichy, 5m, 2♂♂ 1♀ in dune shrub, 18.IV.1982.

Wil. Tizi Ouzou: Beni Yenni, 850m, 1 subadult ♂ in olive orchard, 14.IV.1982.

Ecology

The species only occurs in the humid part of the Maghreb and is adult in spring.

Distribution

Europe, to the East up to Poland and West Turkey; cited once from the Maghreb (Morocco) by VAN HELSDINGEN (1969), and here cited for the first time in Algeria from coastal areas.

Genus *Pecado* HORMIGA & SCHARFF, 2005

A monotypic genus of large to medium-sized Linyphiidae, recently created by HORMIGA & SCHARFF (2005).

Pecado impudica (DENIS, 1945) (Figs 29-32)

Labulla impudica DENIS, 1945: 53 (descr. ♂).

Pecado impudica; HORMIGA & SCHARFF, 2005: 397.

Type material:

Holotype male from Algeria, Alger, C. Hirst leg. (BMNH; examined). The tube contains a label "Cape Verde islands", in contrast to the data in Denis (1945) original description; HORMIGA & SCHARFF (2005) also pointed out that the type locality is Alger. The holotype is identical to a specimen collected in Morocco and a female collected in Spain has the same size, colour pattern and spinulation as the males from Algeria and Morocco. It also has a vulva with highly wound (convoluted) ducts, corresponding with the thread-like embolus of the male. I consider them conspecific.

Diagnosis

Males of *P. impudica* are easily distinguished from their congeners by the presence and the shape of the cymbial tubercles, females by the presence of the small postero-median septum in the epigyne.

Description

Measurements: Male: total length 5.2; cephalothorax 2.72 long, 1.96 wide. Female: total length 7.6; cephalothorax 3.52 long, 2.29 wide.

Colour: Cephalothorax with dark brown cephalic part, orange brown clypeus, and olive brown thoracic part with broad dark brown margin; legs orange brown to yellowish brown with Pa dark brown, Fe with basal, median and distal dark brown annulations, Ti with median and distal annulation; abdomen in male greyish black, indistinctly mottled with grey and some

small cream white spots, in female uniformly dark grey.

Leg spinulation: FeI-IV 2d pl; TiI-IV 2d 2pl 2r1 2pv 2 rv; MtI-IV pl pv rv; Tb MtI not observed.

Palp (figs 29-30): Tibia with 4 trichobothria; cymbium with two distinct tubercles, a blunt basal one and a bluntly pointed median one, anteriorly provided with an angularity; paracymbium U-shaped, basal part with a small spine, distal part truncate; tegulum prolonged into a hook-like prottegulum, accompanied by a membrane; suprattegular apophysis a long, distally rounded sclerite, directed from the ventral part of the tegulum to the prottegulum; conductor a flat, L-shaped sclerite at the pro-lateral side of the bulb; embolus very long and twisted, describing 2.5 circles.

Epigyne (fig. 31): Posterior margin distinctly raised, covering a large transverse cavity, divided by a median septum.

Vulva (fig. 32): Copulation ducts strongly wound.

Previous records

Only the type locality.

New records

MOROCCO:

P. Ifrane: S. Azrou, 1450m, 1♂ in litter in dense *Quercus ilex* forest, 7.II.1996.

SPAIN:

P. Malaga: N. Alozaina, 250m, 1♀ in litter in small *Quercus suber* forest, 11.IV.1998.

Distribution

Algeria, Morocco and S. Spain.

Genus *Porrhomma* SIMON, 1884

Small linyphiids generally of pale colour and with reduced eyes, most of them living in caves or deep litter.

Porrhomma indecorum SIMON, 1910 (Figs 63-64)

Porrhomma indecorum SIMON, 1910: 56 (description ♀).

Type material

Holotype male labeled "Algérie, Constantine, Djebel Taya, grotte El Djemaa, grotte de l'Ours, X.1906, Jeannel & Racovitza leg." (deposited in

MNHNP; examined, the material is completely bleached).

Description

As the type material is completely bleached, I repeat here the relevant parts of SIMON's original description.

Colour pale yellowish; anterior and posterior median eyes separated from each other and from the laterals by twice their diameter; Fe I with two dorsal spines, Fe II with 1 dorsal spine; tibial spines and trichobothria not observed.

Vulva (figs 63-64): A typical *Porrhomma*-like vulva. According to SIMON (1910), the species is closely related to *Porrhomma rosenhaueri*.

Distribution

Only known from the type locality in Algeria. *Porrhomma* species are rarely collected in the mediterranean region. In the absence of males, the status of *P. indecorum* remains unclear.

Genus *Scotargus* SIMON, 1913

Medium-sized, yellowish brown spiders living in forest litter. For a long time, the genus only included its type species, but recently, WUNDERLICH (1987, 1992) described four new species from the Canary Islands. A sixth species is described below.

Scotargus pilosus SIMON, 1913 (Figs 73-79)

Scotargus pilosus SIMON, 1913: 367.

Scotargus inerrans; FAGE, 1931: 148.

Oreonetides firmus; DENIS, 1937: 1044 (misidentification).

Remark

DENIS (1937) reported two females from the Djebel Daya as "*Oreonetides firmus* or a related species". *Scotargus pilosus* has a scape similar to that of *O. firmus*, occurs in this region (see records) and was not recorded by Denis. Denis' record is therefore treated as referring to this species. There are no verified records of *O. firmus* from the Maghreb.

Description

Measurements: Male: total length 2.7-3.1, cephalothorax 1.32-1.46 long, 1.10-1.22 wide. Female: total length 2.5-3.8; cephalothorax 1.27-1.40 long, 1.00-1.16 wide.

Colour: Cephalothorax and legs yellowish orange, abdomen pale grey.

Posterior eyes separated by their diameter.

Spinulation: Fe I d pl; TiI-II 2d rl, III-IV 2d; Mt I-II d, III-IV spineless; Tb MtI 0.36.

Palp (figs 73-76): Tibia with three apophyses, the lateral and the median one conical, the mesal one larger and obtuse; cymbium with basal hump; basal part of paracymbium distinctly swollen, median part wide, distal part recurved and terminally rounded; embolus large, describing a semi-circle, at the tip curved in an angle of 45° in dorso-lateral direction; Fickert's gland marked by small swelling of sperm duct.

Epigyne (figs 77-78): Genital tubercle large, with folded scape; proximal part of scape wide, median part much narrower with nearly parallel margins, distal part bell-shaped.

Vulva (fig. 79): Spermathecae transversely elongate; sperm ducts running throughout the scape; copulation openings situated at lateral side of bell-shaped terminal part of scape.

Previous citations

ALGERIA:

Wil. Mila: Djebel Daya, Zouagha forest, 1♂ (sub *Oreonetides firmus*; DENIS, 1937).

Wil. Tizi Ouzou: Massif du Djurdjura, Anou Tahalouant (FAGE, 1931).

New records

ALGERIA:

Wil. Batna: Massif de l'Aures, Djebel Belezma, Col Telmet, 1820m, 1♂ in pitfalls in *Cedrus atlantica* forest, 28.II.1988.

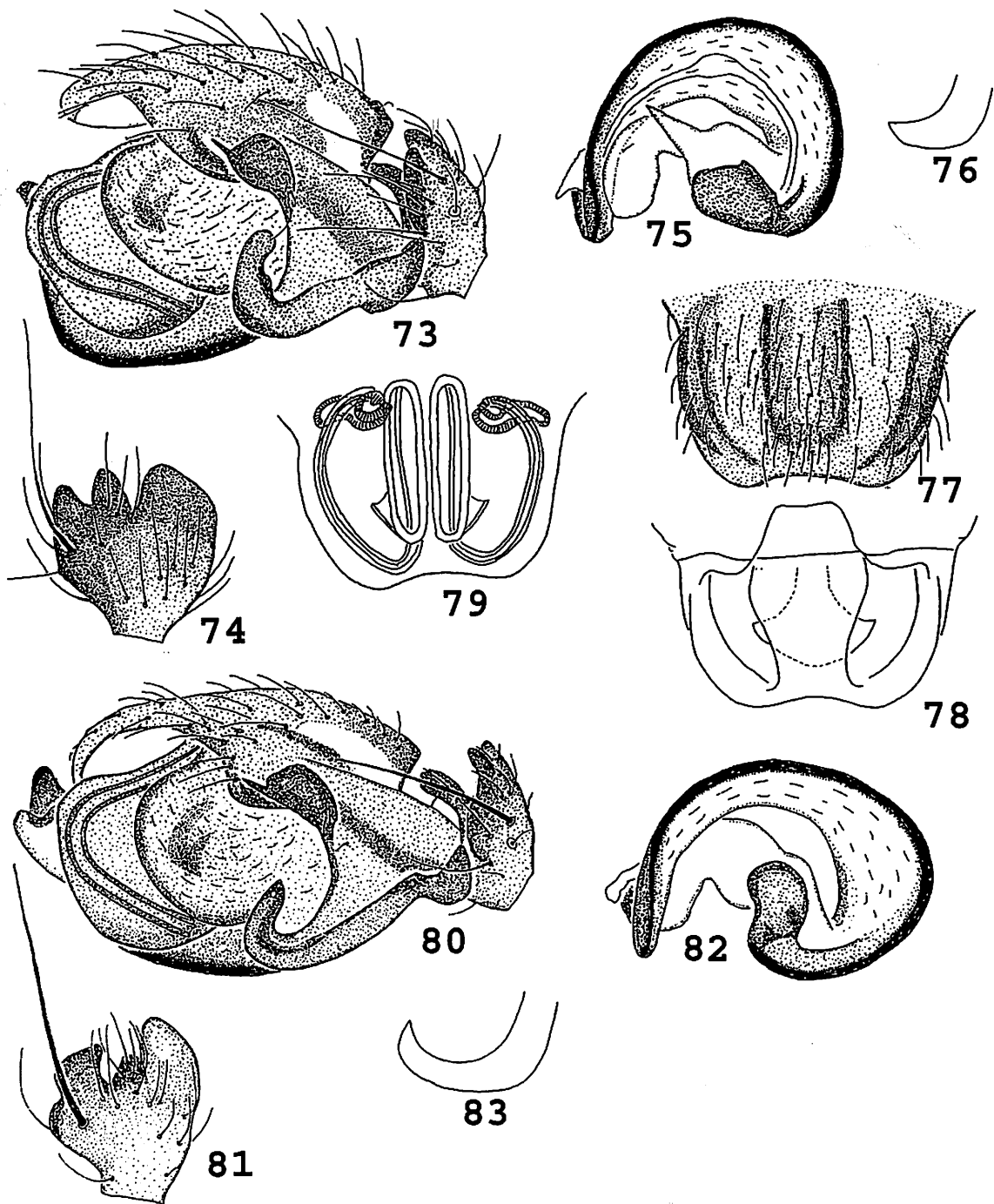
Wil. Sétif: Djebel Babor, 1850m, 4♂♂ 2♀♀ in mixed *Cedrus*, *Quercus* and *Abies* forest, 22.X.1989; idem, 1550m, 1♂ in pitfalls in open *Cedrus atlantica* forest, 22.X.1989, and 1♂, 11.VI.1989; monts de Hodna, Djebel Bouthaleb, 1450m, 1♂ in pitfalls in open *Cedrus atlantica* forest, 15.IV.1990.

Ecology

The species was collected in late autumn and spring in forests and caves at high altitude.

Distribution

Originally described from a cave in the Spanish Pyrénées (SIMON, 1913), but later it appeared to have a large distribution in the palaeartic. It was cited from mountains in Central and Eastern Europe (SIMON, 1914, SCHENKEL, 1934, MILLER & KRATOCHVIL, 1939, DENIS, 1966, MORITZ, 1973, PALMGREN, 1973, CZAJKA, 1976, WOZNY *et al.*, 1988, LEDOUX,



Figs 73-79. *Scotargus pilosus* SIMON. 73. Male palp, lateral view; 74. Male palpal tibia, dorsal view; 75. Embolic division, mesal view; 76. Tip of embolus, ventral view; 77. Epigyne, ventral view; 78. Epigyne, dorsal view; 79. Vulva, ventral view.

Figs 80-83. *Scotargus numidicus* n. sp. 80. Male palp, lateral view; 81. Male palpal tibia, dorsal view; 82. Embolic division, mesal view; 83. Tip of embolus, ventral view.

1996), Italy (PESARINI, 1996), the Algerian Atlas (FAGE, 1931), the Caucasus (TANASEVITCH, 1987), Nepal (THALER, 1987) and Siberia (TANASEVITCH, 1989).

***Scotargus numidicus* sp. n.**
(Figs 80-83)

Type material

Holotype ♂ from Algeria, wil. Sétif, Djebel Babor, 1950m, pitfalls in *Cedrus atlantica* forest, 22.X.1989; deposited in the KBIN.

Diagnosis

Closely related to the preceding species, differing by the smaller eyes, the truncate anterolateral apophysis of the palpal tibia and the more elongated paracymbium and embolus. The female is unknown.

Etymology

The species occurs in a region corresponding to the ancient Numidia, hence the name *numidicus*.

Description

Measurements: Total length 2.7-3.1, cephalothorax 1.32-1.46 long, 1.10-1.22 wide.

Colour and spinulation as in the preceding species.

Posterior eyes separated by 1.75 their diameter.

Palp (figs 80-83): Tibia with three anterior apophyses, the lateral one truncate, the median one the smallest and conical, the mesal one conical and the largest; distal part of paracymbium very elongated, basal part excavated; embolus elongated, semi-oval with recurved tip in an angle of 90°.

Female: Unknown.

Other material examined

ALGERIA:

Wil. Batna: Massif de l'Aures, Djebel Belezma, Col Telmet, 1820 m, 1♂, pitfalls in *Cedrus atlantica* forest, 28.II.1988.

Ecology

The new species occurs in cedar forests at high altitudes, together with its congener *S. pilosus*. It is adult in autumn and winter.

Distribution

Only known from high altitudes in the Djebel Babor and the Aures Massif.

Genus *Sintula* SIMON, 1884

See BOSMANS, 1991. The genus is easily recognised by the cymbial horns in the male, and by the unfolded, protruding scape in the female. Five species have been observed in the Maghreb: *Sintula peniciliger* (SIMON, 1884), *S. pseudocorniger* BOSMANS, 1991, *S. orientalis* BOSMANS, 1991 and *S. subterminalis* BOSMANS, 1991 in Algeria, and *Sintula furcifer* (SIMON, 1912) in Morocco and Algeria. New records of one species are presented.

Sintula pseudocorniger BOSMANS, 1991

Sintula pseudocorniger BOSMANS, 1991: 109 (descr. ♂, ♀).

Description and previous records

See BOSMANS, 1991.

New records

TUNISIA:

G. Nabeul: Zaoulet el Mgaïez N., stones in *Pinus* forest, 1♀, 26.I.2003.

Distribution

Algeria, and cited here for the first time in Tunisia.

Genus *Tapinopa* Westring, 1851

The genus *Tapinopa* is easily diagnosed by the elongated cheliceral teeth. Actually, seven species are known in the genus, of which one occurs in the Maghreb.

Tapinopa disjugata SIMON, 1884

(Figs 94-98)

Tapinopa disjugata SIMON, 1884: 205 (descr. ♀); SIMON, 1929: 566, 726 (citation); THALER, 1983b: 461, figs 1-8 (descr. ♂, ♀).

Diagnosis

Males of this species are recognised by the strong patellar spine and the large basal horn of the cymbium, females by the shape of the bulging scape.

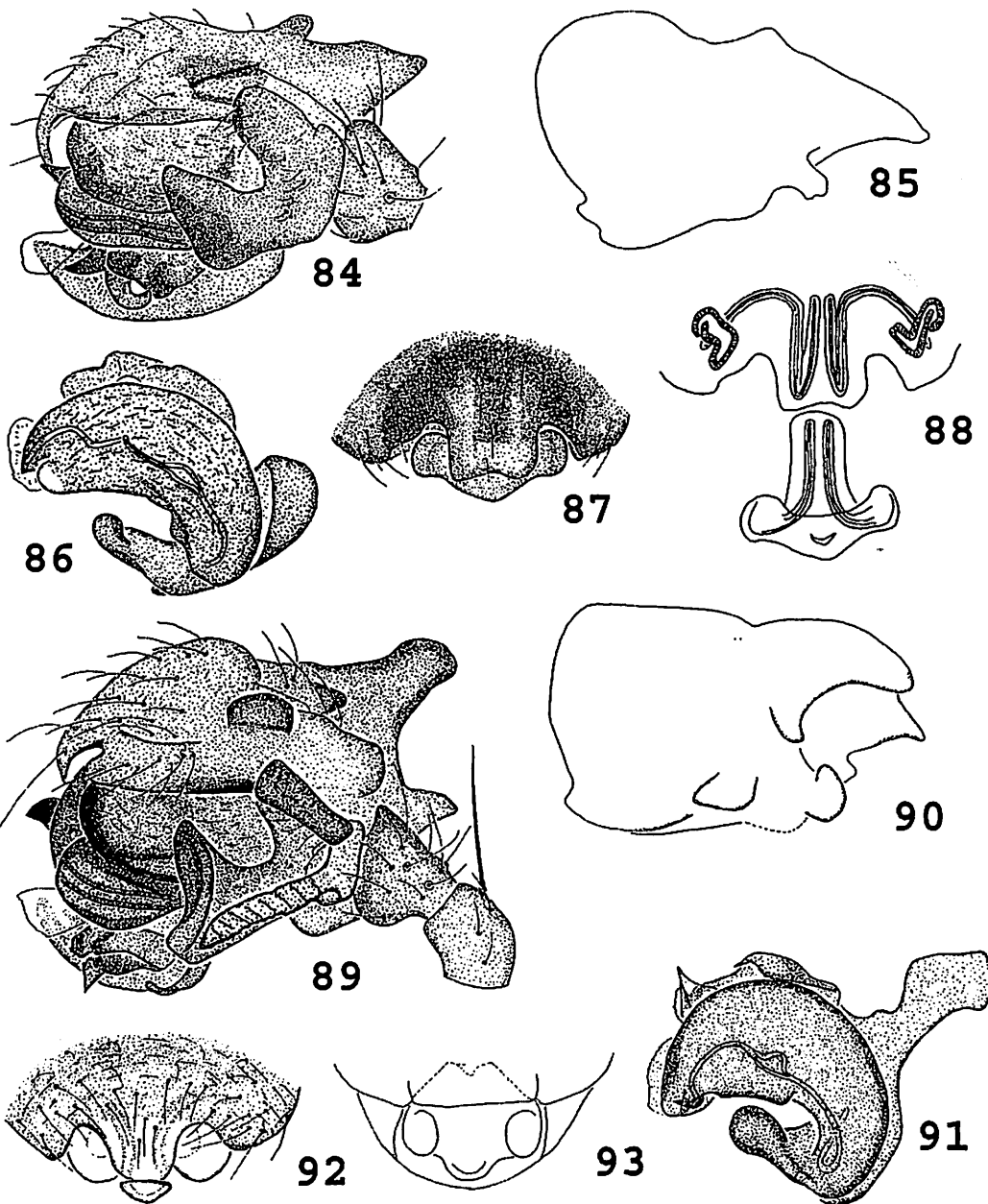
Description

Measurements: Male: total length 3.2-3.6, cephalothorax 1.51-1.72 long, 1.20-1.30 wide. Female: total length 2.9-3.6, cephalothorax 1.31-1.64 long, 0.96-1.16 wide.

Colour: Cephalothorax dark olive brown, laterally widely darkened; legs olive brown, femora and tibiae each with two dark annulations; abdomen dorsally pale grey, with four pairs of dark spots, the posterior ones fused, followed by some oblique stripes.

Leg spinulation: Fe d, pl; Ti I-II 2d 2v 2pl 2rl, III-IV 2d; Mt I-IV d; Tb MtI 0,23.

Palp (figs 94-96): Patella with strong spine, placed on a large tubercle; cymbium with large and blunt basal horn; paracymbium with distal part distinctly concave; suprategular apophysis strongly elongated, pointed; embolus as in figure 96.



Figs 84-88. *Theonina cornix* (SIMON). 84. Male palp, lateral view; 85. Male palpal cymbium, dorsal view; 86. Embolic division, mesal view; 87. Epigyne, ventral view; 88. Vulva, ventral view.
 Figs 89-93. *Theonina linyphioides* (DENIS). 89. Male palp, lateral view; 90. Male palpal cymbium, dorsal view; 91. Embolic division, mesal view; 92. Epigyne, ventral view; 93. Epigyne, ventral view.

Epigyne (fig. 97): A large, protruding reddish tubercle, covering a large cavity; scape short, basal part widening, distal part slightly wider than basal part.

Vulva (fig. 98). Fertilisation ducts running throughout the scape.

Previous records

ALGERIA

Wil. Alger: Alger (SIMON, 1929).

New records

ALGERIA:

Wil. Alger: Bainem, 200m, 1♀, litter in *Quercus faginea* forest, 10.I.1987.

Wil. Blida: Meftah, Djebel Zerouela, 480m, 1♀, litter of *Quercus suber*, 1.II.1983.

Wil. Bouira: Massif du Djurdjura, Aït Ouabane, 1520m, 1♂, pitfalls in *Cedrus atlantica* forest, 16.II.1988.

Wil. Boumerdes: Arbatache, Djebel Bou Zegza, 750m, 1♀, litter of *Quercus ilex* and *Q. faginea*, 4.XI.1983.

Wil. Médéa: Col des deux Bassins, 920m, 1♂, pitfall in small *Cedrus atlantica* plantation, 23.X.1988.

Wil. Skikda: Collo, Tamanart, 25m, 6 juveniles in litter of *Quercus suber* forest, 20.VI.1985.

Wil. Tissemsilt: Théniet-el-Had, Massif de l'Ouarsenis, 1650m, 1♂, pitfall in *Cedrus atlantica* forest, 17.XI.1987.

Ecology

The species is apparently adult in winter. Males were collected from October to February, females from November to February. In Corsica, THALER (1983b) observed adults from September to October.

Distribution

Described from Corsica by SIMON (1884), the species was recollected there by THALER (1983b). SIMON (1929) cited it from Algeria and DENIS (1933) from the SW of France (Banyuls). In Algeria, the species appears to have a wide distribution but it is rare everywhere. At each of the sites where the species was collected, never more than one specimen was found.

Genus *Theonina* SIMON, 1929

Small Linyphiid spiders with characteristic male palpal organs, living in the litter layer, until now with only two species described, both from Europe.

Theonina cornix SIMON, 1881

(Figs 84-88)

Theonoe cornix SIMON, 1881a: 133 (descr. ♂).

Bathyphantes mastodon SIMON, 1884: 333, f. 99-101 (descr. ♂, ♀).

Description

Measurements: Male: total length 1.4-1.7; cephalothorax 0.70-0.80 long, 0.62-0.70 wide. Female: total length 1.3-1.6; cephalothorax 0.57-0.64 long, 0.48-0.54 wide.

Colour: Cephalothorax dark brown to black; legs yellowish brown, femora with darker base; abdomen dark brown to black.

Leg spinulation: FeI pl; Ti I-II 2d rl, III-IV 2d; Tb MtI 0,25.

Palp (figs 84-86): Cymbium with large basal and smaller subbasal horn; paracymbium with wide proximal and distal branches, proximal part with 14-15 scattered hairs; lamella a relatively short, rounded lobe; embolus bean-shaped, with

terminal sperm duct tooth; Fickert's gland situated in the embolus, marked by an asymmetric swelling of the sperm duct.

Epigyne (fig. 87): Visible part of scape with rectangular grey spot, with the tip whitish; scape flat and folded, proximal part rectangular, distal part with poorly developed stretcher and large lateral pouches.

Vulva (fig. 88): Sperm ducts running throughout the anterior, median and distal parts of the folded scape, ending into the lateral pouches; spermathecae elongated U-shaped.

New records (no previous records)

ALGERIA:

Wil. Blida: Atlas Blidéen, Chréa: 650m, 1♀ in pitfall in *Pinus halepensis* forest, 18.IV.1985; idem, 850m, 2♂♂ 2♀♀ in *Quercus suber* forest, 18.IV.1985; idem, 1000m, 1♂ in *Quercus faginea* forest, 1.VI.1985; idem, 1200m, 2♀♀ in *Quercus ilex* forest, 18.IV.1985; idem, 1250m, 1♀ in pitfall in *Cedrus atlantica* forest, 28.IV.1987; Meftah, Djebel Zérrouela, 480m, 1♂ in pitfall in *Quercus suber* forest, 23.VI.1988; Meurdja, 950m, 1♂ in pitfall in *Quercus ilex* forest, 21.IV.1983.

Wil. Bouira: Dirah, 900m, 1♀ in *Juncus* along Oued Djenane, 11.IV.1982.

Wil. Boumerdes: Lakhdaria, Oued Olla, 115m, 1♂ in litter in *Olea maquis*, 20.IV.1990; Zemmouri, 20m, 1♂ in *Pinus halepensis* forest, 10.X.1985.

Wil. Chleff: Damous, 15m, 2♀♀ in *Pinus halepensis* forest, 11.IV.1989.

Wil. Djelfa: Djelfa, Djebel Sénalba, 1450m, 1♂ in pitfall in *Pinus halepensis* forest, 23.II.1989.

Wil. Médéa: Tablat, Col des deux Bassins, 1200m, 2♂♂ in litter of *Quercus ilex*, 11.IV.1982.

Wil. Sétif: Djebel Babor, 1550m, 2♂♂ in litter of *Quercus ilex*, 20.IV.1983; 1850m, 1♂ in pitfall in *Cedrus* forest, 18.XII.1989.

Wil. Tizi Ouzou: Massif du Djurdjura, Col de Tizi n'Kouillal, 1400m, 1♂ in *Quercus ilex* litter, 15.IV.1982; idem, Tizi Boussouil, 10♂♂ in pitfalls in grassland, 1-XII.1991.

MOROCCO:

P. Chechaouen: S. Bab Bered, 1400m, 1♂ in litter of *Quercus ilex* forest, 15.V.1984.

TUNISIA

G. Nabeul: Kerkouana S., 1♀, litter in pine forest, 26.I.2003; Nabeul, 10 km NE, 1♀ in hedges bordering fields, 30.I.2003.

G. Siliana: Sidi Saïd NE., 1♂, pitfalls in *Pinus* forest, 8.III.2005.

Ecology

Males were collected from October to June, females from January to April, so the reproduction period is mainly in winter and spring.

The species was mostly collected in pine forest, from the coast up to the mountains, in the interior however only at higher altitudes.

Distribution

West and Central Europe, Balkan. Cited for the first time in Algeria, Morocco and Tunisia, where it is apparently not uncommon.

Theonina linyphioides (DENIS, 1937) comb. n.
(Figs 89-93)

Lepthyphantes linyphioides DENIS, 1937: 1044
(descr. ♂).

Type material

Holotype ♂ from Algeria, Djebel Daya, forêt de Zouagha; not examined, unavailable (DENIS, 1937).

Diagnosis

Theonina linyphioides is quite dissimilar from *T. cornix* in colour and in shape of the sternum, but by the structure of the male palp and the female epigyne, the species is placed here in *Theonina*. It differs from *T. cornix* by the shape of the cymbial tubercles in males and by the converging margin of the anterior part of the scape in females.

Description

Measurements: Male: total length 2.1-2.3; cephalothorax 0.84-1.00 long, 0.70-0.80 wide. Female: total length 2.10-2.50; cephalothorax 0.84-0.95 long, 0.66-0.78 wide.

Colour: Cephalothorax orange to olive brown, fovea, radiating stripes and margin greyish; legs yellowish orange; abdomen in females with dark grey median stripe and 4-6 transverse bars of the same colour, separated by pale grey spots, laterally with pale stripe, whitish in its basal part, getting greyish posteriorly, venter dark grey; the male has generally the same abdominal pattern, but with the lateral pale band cream white in its basal part.

Sternum: Not bulging and posterior part not twice as wide as the diameter of the coxae as in other *Theonina* species.

Legs: FeI pl; TiI-II 2d, rl, III-IV 2d; Mt I-IV d; Tb MtI 0.16.

Male palp (figs 89-91): Spine of patella twice as long as height of segment, tibial spine less developed, as long as height of segment; cymbium highly modified, with 2 large prolateral

horns and 2 small retrolateral tubercles; paracymbium very large, basal part with an oblique crest, on the crest with 5 hairs and 6 hairs below it, median part elongated with lateral excrescence limiting a deep pouch, distal part oblique and crested; suprategular apophysis straight and pointed; lamella a long, rounded lobe, ventrally of the paracymbium; embolus very large, sickle-shaped, with small subterminal sperm tooth; Fickert's gland situated in the embolus, marked by an asymmetric swelling of the sperm duct.

Epigyne (figs 92-93): With flat, folded scape, anterior visible part gradually narrowing, distal part with wide lateral pouches and short, poorly developed stretcher.

Previous records

ALGERIA:

Wil. Mila: Djebel Daya, Zouagha forest, 1♂ (DENIS, 1937).

New records

ALGERIA:

Wil. Annaba: Annaba (MNHNP 14259).

Wil. Bouira: S. Sour-el-Gozlane, Col de Dirah, 900m, 1♂, *Juncus* tussocks along Oued Djenane, 13.VI.1982.

Wil. Ksar El Boukhari: Boghar, 1♂ (MNHNP 5778).

Wil. Tissemsilt: Massif de l'Ouarsenis, Théniet-el-Had, 1550m, 1♂, pitfalls in *Cedrus atlantica* forest, 17.VI.1988.

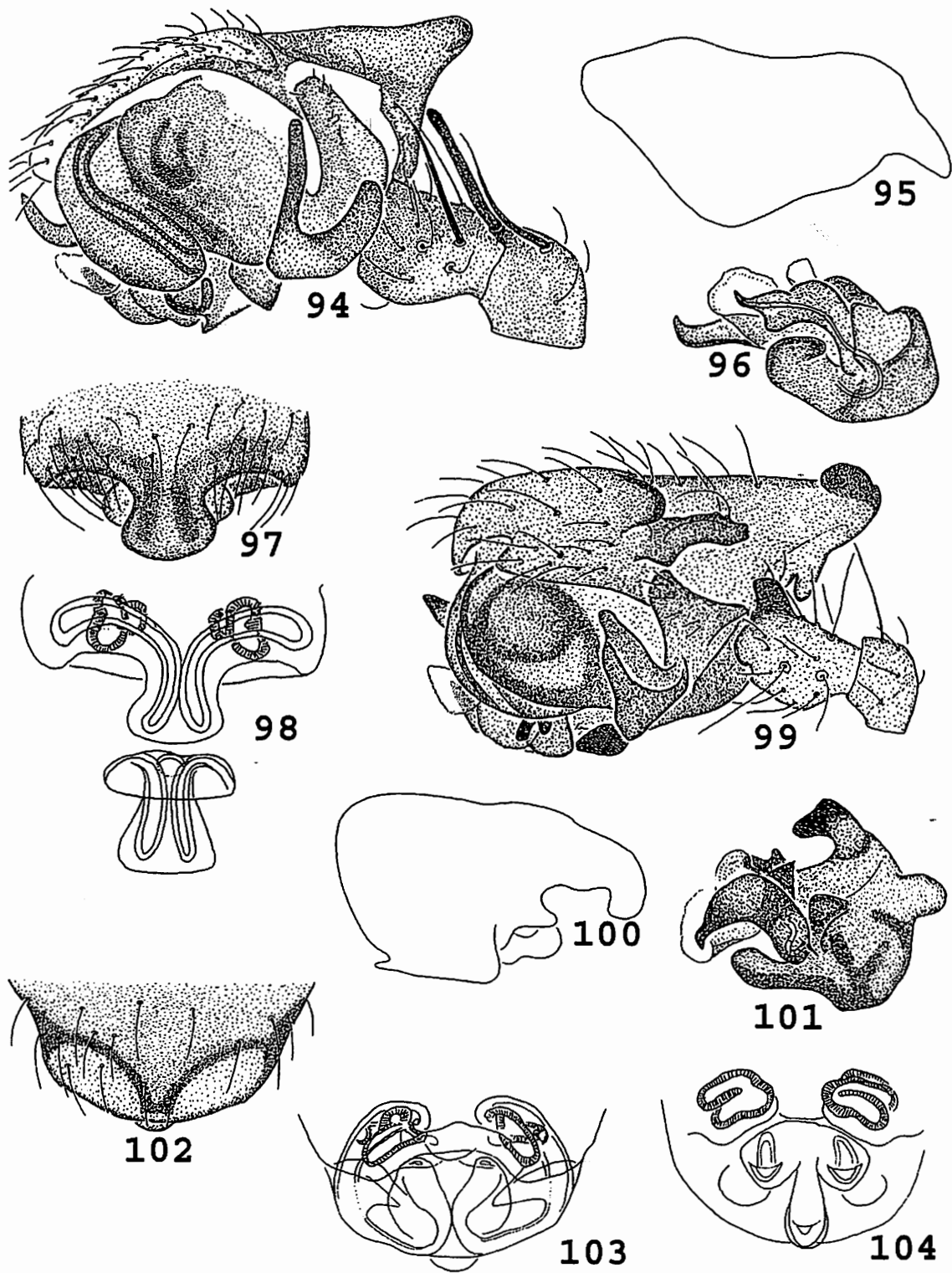
Wil. Tizi Ouzou: Takdempt, 30m, 1♂, stones in abandoned fields, 26.I.1990; 5 km E. of Tizi Ouzou, 190m, 1♂ 1♀, herbs on wet slope, 11.III.1990; between Tizi Ghenif and Chabet-el-Ameur, 125m, 1♀, sweeping vegetation along the Oued Djemaa, 1.V.1984; E. Yakouren, Lake Agoulmin Aberkane, 1750m, 1♀, stones in *Quercus faginea* forest, 22.VI.1984.

Ecology

The species occurs from low altitudes up to the high mountains but was never collected in large numbers. Adult males were found from January to March at low altitude, and in June at higher altitudes; females were found from March to June.

Distribution

The species was originally described from a single male in the region of Constantine (DENIS, 1937). We recollected it in the wilaya's Bouira, Tissemsilt and Tizi Ouzou, all to the west of the type locality. In the MNHNP, I found some



Figs 94-98. *Tapinopa disjugata* SIMON. 94. Male palp, lateral view; 95. Cymbium, dorsal view; 96. Embolic division, mesal view; 97. Epigyne, ventral view; 98. Vulva, ventral view.

Figs 99-104. *Troglodyphantes albicaudata* n. sp. 99. Male palp, lateral view; 100. Male palpal cymbium, dorsal view; 101. Embolic division, mesal view; 102. Epigyne, ventral view; 103. Vulva, ventral view; 104. Vulva, dorsal view.

unidentified specimens from Ksar el Boukhari and from Annaba, the latter being now the most eastern locality of the species.

Genus *Troglohyphantes* JOSEPH, 1881

A palaeartic genus with more than 100 described species, which live mostly in caves and generally have small distribution areas; those living outdoors only occur in damp places.

***Troglohyphantes albicaudata* sp. n.**
(Figs 99-104)

Diagnosis

The species is easily recognized by a pair of postero-dorsal cream white abdominal spots; males are further distinguished by the peculiar cymbial tubercle, females by the shape of the epigyne with elongated stretcher, as seen in lateral view. Males and females were never collected together, but the presence of the white spots on the abdomen matches them perfectly.

Type material

Holotype ♂ from Algeria, wil. Tizi Ouzou, Takdempt, 30m, among stones in abandoned crop fields, 26.I.1990; paratypes: wil. Tizi Ouzou, 5 km E. Tizi Ouzou, 180m, 3♀♀ in wet grassland, 25.I.1990; deposited in KBIN.

Description

Measurements: Male: total length 1.8-2.1; cephalothorax 0.82-0.91 long, 0.68-0.72 wide. Female: total length 1.8-2.2; cephalothorax 0.70-0.80 long, 0.54-0.72 wide.

Colour: Cephalothorax olive brown, spot behind fovea, radiating striae and margin greyish; chelicerae yellowish brown; sternum dark olive brown; legs orange brown; abdomen dark grey, with two cream white postero-dorsal spots.

Eyes: Posterior eyes separated by 1.5x their diameter.

Chelicerae: Elongated, in males anterior margin of fang groove with 2 teeth, the basal one on a tubercle, posterior margin without teeth, in females anterior margin with 3 teeth, posterior margin with 3 small teeth; stridulating file composed of 15-16 moderately developed ridges.

Leg spinulation: Fe I pl; Ti I-II 2d pl rl, III-IV 2d; Mt spineless; Tb MtI 0.15.

Leg measurements of male holotype:

	Fe	Pa	Ti	Mt	Ta	L/W Ti I
I	1.16	0.25	1.21	1.08	0.72	16.4
IV	1.12	0.22	0.96	0.96	0.59	

Male palp (figs 99-101): Dorsal spine of patella longer than height of segment, dorsal spine of tibia shorter than height of segment; cymbium very peculiar, with curved, basal horn with small ventral tubercle, retro-laterally with rounded tubercle; paracymbium with broad basal and distal branches, distal part with oblique crest; lamella a relatively short tooth, terminally truncate; terminal apophysis compact, terminally bifid; embolus L-shaped with pointed tip.

Epigyne (fig. 102): Atrium covered by a large, rounded plate, without chitinisations, hiding the scape completely; course of ducts clearly visible at posterior part of scape; small stretcher protruding from below the plate, in lateral view clearly visible and elongated.

Vulva (figs 103-104): Ducts descending from oval, transverse spermathecae to margin of plate covering the epigynal cavity, then passing into the scape; distal part of scape with large lateral lobes and elongated stretcher.

Other material examined

ALGERIA:

Wil. Blida: Meftah, Djebel Zerouela, 400m, 2♀♀, stones in rough grassland, 7.IV.1987.

Wil. Tizi Ouzou: Sebaou-el-Kedim, 50m, 1♀, in grassland, 10.V.1988; Sidi Daoud, 30m, 1 male in grass tussocks in abandoned grassland, 26.I.1990.

Ecology

All collecting sites were situated at low altitudes, in grasslands or in abandoned fields. Adult males were found in January; adult females in January-May.

Distribution

The species is known from four localities in Grande Kabylie, and one near Algiers.

***Troglohyphantes cirtensis* (SIMON, 1910)**

Lepthyphantes cirtensis SIMON, 1910: 58 (descr. ♂, ♀).

Troglohyphantes cirtensis; BOSMANS, 1985: 139 (descr. ♂, ♀).

Description and diagnosis

See BOSMANS (1985) and additional data below.

Additional data on description

Measurements: Male: total length 2.2-3.5; cephalothorax 0.98-1.12 long, 0.82-1.04 wide. Female: total length 2.6-2.9; cephalothorax 0.90-1.10 long, 0.84-0.90 wide.

Colour: Cephalothorax pale yellowish brown, margin, striae and region of fovea grey; sternum dark grey; legs pale yellowish brown, femora and tibiae streaked with grey; abdomen dark grey, broad lateral stripe and postero-dorsal chevrons pale grey.

Leg spinulation: Fe I d pl, II-IV d; Ti I 2d pl rl v, II 2d rl v, III-IV 2d pl-rl (subterminal); Mtl-IV d.

New material examined

ALGERIA

Wil. Sétif: Djebel Babor, 1900m, 1♂, pitfall in mixed *Abies*, *Cedrus* and *Quercus* forest, 22.X.1989.

Wil. Tizi Ouzou: Yakouren, 820m, 1♀ in litter of *Quercus faginea*, 24.II.1988, and 1♀ 24.I.1990; idem, 6♂♂ 1♀ in pitfalls in *Alnus* forest along rivulet, 25.XI.1988.

Ecology

Troglohyphantes cirtensis was described as a pale cave species, but the newly collected material gives proof it lives also outdoors in wet forests and these specimens have a distinct colour pattern. Males were collected in November and December, females in November, January and February.

Distribution

Until now, this species was known from the wilaya's Bejaia and Jijel (SIMON, 1910; BOSMANS, 1985). Additional records are given here more to the west (wilaya Tizi Ouzou) and more to the east (wilaya Sétif).

Troglohyphantes numidus (SIMON, 1911)

Lepthyphantes numidus SIMON, 1911: 188 (descr. ♂, ♀).

Troglohyphantes numidus; BOSMANS, 1985: 164 (descr. ♂, ♀).

Description and diagnosis

See BOSMANS (1985) and additional data below.

Additional description data

Measurements: Male: total length 2.3-2.8; cephalothorax 1.08-1.20 long, 0.89-1.00 wide.

Female: total length 2.3-2.8; cephalothorax 0.92-1.08 long, 0.76-0.96 wide.

Colour: Male: Cephalothorax and legs yellowish orange; sternum yellowish orange suffused with grey; abdomen dark grey, with broad lateral stripe pale grey. Female: one collected specimen as the male, 1 specimen entirely greyish white.

Leg spinulation: FeI d pl, II-IV d; TiI 2d pl rl v, II 2d rl v, III-IV 2d pl-rl (subterminal); Mtl-IV d; Tb Mt 0.16.

New material examined

ALGERIA

Wil. Annaba: Djebel Edough, Seraidi, 810m, 1♀ in litter in *Quercus faginea* forest, 24.XI.1989; idem, 700m, 1♂ in pitfalls, 30.II.1990; Hippône, 830m, 1♂ 1♀ in *Quercus faginea* forest, 2.III.1990.

TUNISIA

G. Beja: Nefza, road to Cap Negro, 300m, 1♂ stones in grassland, 28.II.2005 (CJVK).

G. Jendouba: Aïn Draham S., 900m 2♂♂, stones in *Quercus faginea* forest, 6.III.2005 (CJVK); Fernana N., 450m, 2♂♂, stones in maquis, 6.III.2005 (CJVK); Tabarka, 50m, 1♂, stones around fort, 7.III.2005 (CJVK); Tabarka, at E. entrance of the city, 1♀, stones in wasteland, 28.II.2005.

Ecology

Until now, the species was only known from a cave near Constantine (SIMON, 1911). It is now also cited from the open air. Males and females were collected from November to March.

Distribution

Formerly only known from the type locality near Constantine (SIMON, 1911); new records are presented more to the east in Algeria, and also in Tunisia near the Algerian border.

Troglohyphantes saouaf sp. n.

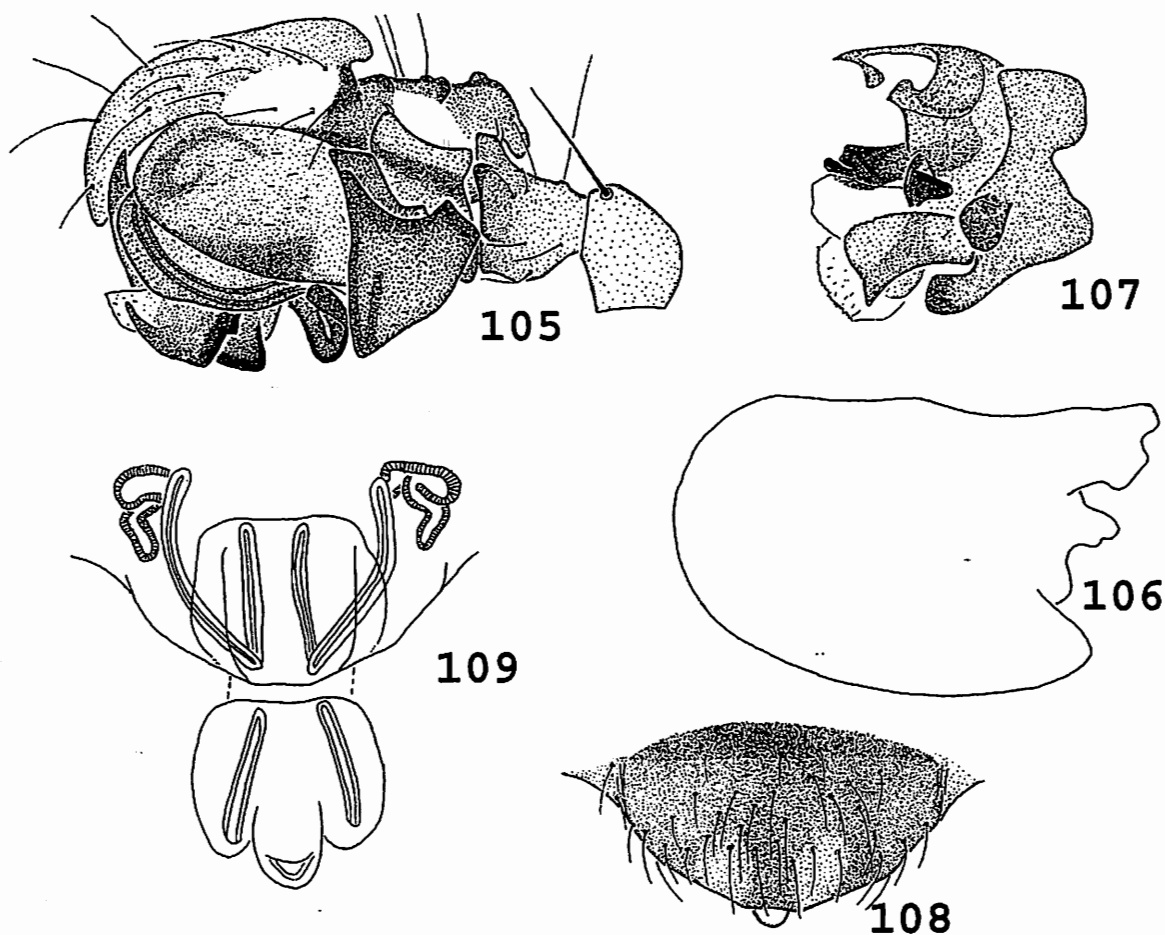
(Figs 105-109)

Type material

Holotype ♂, paratype ♀ from Tunisia, Go. Zaghouan, Saouaf E., 250m, stones in maquis, 27.II.2005; deposited in KBIN.

Diagnosis

Males of this species are easily recognised by the shape of the cymbial horn, females less readily by the rounded plate completely covering the epigynal region.



Figs 105-109. *Troglodyphantes saouaf* sp. n. 105. Male palp, lateral view; 106. Male palpal cymbium, dorsal view; 107. Embolic division, ventral view; 108. Epigyne, ventral view; 109. Vulva, ventral view.

Etymology

The name is derived from the type locality and is a noun in apposition.

	Fe	Pa	Ti	Mt	Ta	L/W Ti I
I	1.26	0.23	1.41	1.29	0.82	17.6
IV	1.26	0.22	1.06	1.12	0.64	

Description

Measurements: Male: total length 1.5-2.0; cephalothorax 0.71-0.96 long, 0.66-0.76 wide. Female: total length 1.5-1.9; cephalothorax 0.66-0.75 long, 0.52-0.75 wide.

Colour: Cephalothorax olive brown, fovea, margin and striae suffused with dark grey; legs with Fe pale yellowish brown, other segments pale yellowish white; abdomen grey to greyish black.

Eye disposition: PM separated by 1.5 their diameter, from PL by slightly more than their diameter.

Leg spinulation: FeI pl; Ti I 2d pl rl, II 2d rl, III-IV 2d; Mt spineless; Tb MtI 0.15.

Leg measurements of male holotype:

Male palp (figs 104-106): Cymbium with large, curved horn, at base accompanied by a smaller tubercle, and at retrolateral side with a rounded tubercle; paracymbium with wide basal and distal branches, forming a deep pouch, basal part with 5 spines; suprategular apophysis long and pointed; lamella with wide base and curved, narrow basal prong; terminal apophysis a short, blunt, heavily sclerotised sclerite, distally bifid; embolus J-shaped, at base with rounded lobe, distal part gradually narrowing and pointed.

Epigyne (fig. 107): Covered by a large, rounded plate, without chitinisations, hiding completely the scape; small stretcher protruding from below the plate.

Vulva (fig. 108): Sperm ducts running from the lobed spermathecae to the posterior part of the epigyne, recurving into a rectangular median

(interior) scape, then recurving into the distal scape, with broad stretcher and small lateral pockets.

Other material examined

ALGERIA:

Wil. Skikda: Ben Azouz, 150m, 1♂ in wet grassland, 23.XI.1989.

TUNISIA

G. Bizerte: Lake Ichgeul national park, 1♂, 3♀, under large blocks along the road crossing a marshy part of the lake, 25.I.1995; idem, 1♀, stones in maquis near the lake, 29.I.2003.

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

G. Zaghuan: Saouaf E., 250m, 1♂, stones in maquis, 27.II.2005 (CJVK).

Ecology

The species was collected in quite different habitats but always under big stones, so the species lives probably mostly subterranean. Males were collected in December, January and March, females in January and March, so the species is adult in winter.

Distribution

The NW of Tunisia and the NE of Algeria.

Species erroneously cited from the Maghreb:

The following species were cited erroneously from the Maghreb:

{*Linyphia triangularis* (Clerck, 1757)}

Linyphia triangularis; SIMON, 1926: 743 (misidentification).

According to SIMON (1926), this very common European species occurs also in The Maghreb, but this was not repeated by VAN HELSDINGEN (1969) in his revision of *Linyphia*. SIMON (1926) considered *L. maura* and *L. tenuipalpis* as subspecies of *L. triangularis* and often misidentified them (VAN HELSDINGEN, op. cit.). Until proof of the contrary, we consider *L. triangularis* absent from the Maghreb.

{*Meioneta rurestris* (C. L. KOCH, 1836)}

Microneta rurestris; SIMON, 1884: 436; SIMON, 1885: 27; DENIS, 1937: 1049 (misidentifications).

As indicated above, all citations of *Meioneta rurestris* from the Maghreb refer to *M. pseudorurestris*. The species does not occur in the Maghreb.

{*Nerienne peltata* (Wider, 1834)}

Linyphia peltata; DENIS, 1937: 583 (misidentification).

DENIS (1937) reported a young specimen from the Zouagha forest in the wilaya Mila: "A young specimen resembles this species, which has not yet been found in Africa; doubtful though it may be, this identification is not unlikely, since I have captured some northern species in the Zouagha forest". The same region was well prospected by us, and *Nerienne peltata* was never collected. The juvenile specimen collected by DENIS could be other large *Linyphia*-like species such as *Linyphia maura*, *L. tenuipalpis*, *Nerienne clathrata* or *N. furtiva*, all four occurring in this region and not mentioned in DENIS' paper. *Nerienne peltata* is deleted from the list of Algeria.

{*Saaristoa firma* (O.P.-CAMBRIDGE, 1905)}

Oreonetides firmus; DENIS, 1937: 1044 (misidentification).

DENIS (1937) reported two females from the Djebel Daya as "*Oreonetides firmus* or a related species". This related species could very well be *Scotargus pilosus*, occurring in this region, as pointed out above. *Saaristoa firma* is a species of Western and Central Europe (THALER, 1981), to the North up to Norway (AAKRA, 2000); it does not occur in the Maghreb.

Acknowledgements

Christine ROLLARD (MNHN) and Paul HILLYARD (BMNH) are thanked for the loan of specimens from their Museums, Koen DE SMET, Johan MERTENS and Johan VAN KEER are thanked for collecting some specimens, and Johan VAN KEER for comments on a first draft of the paper.

References

- AAKRA, K. 2000. - New records of spiders (Araneae) from Norway with notes on epigynal characters of *Philodromus fuscomarginatus* (DE GEER) and *Araneus sturmi* (HAHN). *Norwegian journal of Entomology*, 47: 77-88.
- BOSMANS, R. 1985. - Les genres *Troglohyphantes*

- JOSEPH et *Lepthyphantes* MENGE en Afrique du Nord (Araneae: Linyphiidae). *Revue arachnologique*, 6: 135-178.
- BOSMANS, R. 1986. - Études sur les Linyphiidae Nord-Africaines IV. Le genre *Centromerus* DAHL (Araneae: Linyphiidae). *Biologisch Jaarboek Dodonaea*, 54: 85-103.
- BOSMANS, R. 1991. - Le genre *Sintula* SIMON en Afrique du Nord (Araneae, Linyphiidae): Etudes sur les Linyphiidae nord-africaines, VI. *Revue Arachnologique*, 9: 103-117.
- BOSMANS, R. (in press). - Studies on North-African Linyphiidae nr. X. New data on *Lepthyphantes* MENGE (sensu lato) species in the Maghreb countries (Araneae, Linyphiidae). *Belgian Journal of Zoology*.
- CZAJKA, M. 1976. - New records of rare spider (Aranei) species in Poland. *Opolskie Towarzystwo Przyjaciół Nauk (Zeszyty przyrodnicze)*, 16: 119-130.
- DENIS, J. 1937. - On a collection of spiders from Algeria. *Proceedings of the zoological Society of London*, 1936: 1027-1060.
- DENIS, J. 1945. - Descriptions d'araignées nord-africaines. *Bulletin de la Société d'Histoire naturelle de Toulouse*, 79: 41-57.
- DENIS, J. 1955. - Notes d'aranéologie marocaine. IV. Araignées recueillies à Ifrane par M. L. Chopard. *Bulletin du Muséum d'Histoire naturelle de Paris*, 27: 207-211.
- DENIS, J. 1957. - Zoologisch-systematische Ergebnisse der Studienreise von H. Janetschek und W. Steiner in die spanische Sierra Nevada 1954. VII. Araneae. *Sitzungsberichte der österreichischen Akademie der Wissenschaften (I)* 166: 265-302.
- DENIS, J. 1964. - On a collection of erigonid spiders from North Africa. *Proceedings of the zoological Society of London*, 142: 379-390.
- DENIS, J. 1966. - Notes sur les érigonides. XXXIII. A propos du genre *Scotargus* Simon (Araneae, Erigonidae). *Bulletin du Muséum national d'Histoire naturelle de Paris*, 37: 975-982.
- FAGE, 1931. - Araneae, 5e série, précédée d'un essai sur l'évolution souterraine et son déterminisme. In *Biospeologica*, LV. *Archives de zoologie expérimentale et générale*, 71: 91-291.
- HEIMER, S. & W. NENTWIG 1991. - *Spinnen Mitteleuropas: Ein Bestimmungsbuch*. Verlag Paul Parey, Berlin, 543 pp.
- HELSDINGEN, P. J. VAN. 1969. - A reclassification of the species of *Linyphia* Latreille based on the functioning of the genitalia (Araneida, Linyphiidae), I. *Zoologische Verhandelingen*, 105: 1-303.
- HELSDINGEN, P. J. VAN 1970. - A reclassification of the species of *Linyphia* based on the functioning of the genitalia (Araneida, Linyphiidae), II. *Zoologische Verhandelingen*, 111: 1-86.
- HELSDINGEN, P. J. VAN, THALER K. & DELTSHEV C., 2001. - The European species of *Bolyphantes* with an attempt of a phylogenetic analysis (Araneae Linyphiidae). *Memorie della Società entomologica italiana*, 80: 3-35.
- HORMIGA, G. & N. SCHARFF, 2005. - Monophyly and phylogenetic placement of the spider genus *Labulla* Simon, 1884 (Araneae: Linyphiidae) and description of the new genus *Pecado*. *Zoological Journal of the Linnean Society*, 143: 359-404.
- LEDOUX, J.-C. 1996. - Rapport sur les araignées récoltées en 1995 au massif des Aiguilles Rouges. *Office pour l'Information éco-entomologique du Languedoc-Rousillon*, 1-11.
- LUCAS, H. 1846. - Histoire naturelle des animaux articulés. In: *Exploration scientifique de l'Algérie pendant les années 1840, 1841, 1842 publiée par ordre du Gouvernement et avec le concours d'une commission académique*. Paris, *Sciences physiques, Zoologie*, 1: 89-271.
- MILLER, F. 1947. - Pavouci zvířena hadcových stepí u Mohelna. *Archiv Svazu na Výzkum a ochranu přírody i krajiny v zemi Moravskoslezské*, 7: 1-107.
- MILLER, F. & J. KRATOCHVÍL 1939. - Einige neue Spinnen aus Mitteleuropa. *Sborník ent. oddeleni Národního Musea v Praze*, 17(164): 32-38.
- MILLIDGE, A. F. 1977. - The conformation of the male palpal organs of linyphiid spiders, and its application to the taxonomic and phylogenetic analysis of the family (Araneae: Linyphiidae). *Bulletin of the British arachnological Society*, 4: 1-60.
- MORITZ, 1973. - Neue und seltene Spinnen (Araneae) und Weberknechte (Opiliones) aus der DDR. *Deutsche entomologische Zeitung (N.F.)*, 20: 173-220.
- PALMGREN, P. 1973. - Beiträge zur Kenntnis der Spinnenfauna der Ostalpen. *Commentationes biologicae*, 71: 1-52.
- PAVESI, P. 1884. - Materiali per lo studio della fauna tunisina raccolti da G. e L. Doria: Aracnidi. *Annali del Museo civico di Storia naturale di Genova*, 20: 446-486.
- PESARINI, C. 1996. - Note su alcuni Erigonidae italiani, con descrizione di una nuova specie (Araneae). *Atti della Società italiana di Scienze naturali del Museo civico di Storia naturale di Milano*, 135: 413-429.
- ROEWER, C.F. 1954. - *Katalog der Araneae von 1758 bis 1940, bzw. 1954*. 2. Band, Abt. b. Bruxelles, 1-1751.
- SCHENKEL, E. 1934. - Kleine Beiträge zur Spinnenkunde. *Revue suisse de Zoologie*, 41: 85-104.
- SIMON, E. 1884. - *Les arachnides de France*. Paris, 5: 180-885.
- SIMON, E. 1885. - Etudes sur les Arachnides recueillis

- en Tunisie en 1883 et 1884 par MM. A. Letourneux, M. Sédillot et Valéry Mayet, membres de la mission de l'Exploration scientifique de la Tunisie. In: *Exploration scientifique de la Tunisie*. Paris, pp. 1-55.
- SIMON, E. 1910. - Araneae et Opiliones (Seconde Série). In: *Biospeologica*. XV. *Archives de Zoologie expérimentelle et générale*, (5) 5(2): 49-66.
- SIMON, E. 1911. Araneae et Opiliones (Troisième série). In: *Biospeologica*. XXIII. *Archives de Zoologie expérimentelle et générale*, (5) 9(2): 177-206.
- SIMON, 1913. - Araneae et Opiliones (Quatrième série). In *Biospeologica*, XXX. *Archives de zoologie expérimentelle et générale*, 52(2): 359-386.
- SIMON, E. 1914. - Descriptions de plusieurs espèces d'araignées récemment découvertes en France. *Bulletin de la Société entomologique de France*, 1914: 469-471 (1.note), 478-479 (2.NOTE).
- SIMON, E. 1926. - *Les araignées de France. Synopsis générale et catalogue des espèces françaises de l'ordre des Araneae*; 2e partie. Paris, 6: 309-532.
- SIMON, E. 1929. - *Les araignées de France. Synopsis générale et catalogue des espèces françaises de l'ordre des Araneae*; 3e partie. Paris, 6: 533-772.
- TANASEVITCH, A. V. 1987. - The linyphiid spiders of the Caucasus, USSR (Arachnida: Araneae: Linyphiidae). *Senckenbergiana biologica*, 67: 297-383.
- TANASEVITCH, A. V. 1989. - The linyphiid spiders of Middle Asia (Arachnida: Araneae: Linyphiidae). *Senckenbergiana biologica*, 69: 83-176.
- THALER, K. 1977. - Einige Linyphiidae (sensu lato) aus Tunisien (Arachnida, Aranei). *Revue suisse de Zoologie*, 84: 557-564.
- THALER, K. 1981. - Über *Oreonetides quadridentatus* (WUNDERLICH, 1972) nov. comb. (Arachnida: Aranei, Linyphiidae). *Archives des Sciences. Genève*, 34: 143-152.
- THALER, K. 1983a. - Bemerkenswerte Spinnenfunde in Nordtirol (Österreich) und Nachbarländern: Deckennetspinnen, Linyphiidae (Arachnida: Aranei). *Veröffentlichungen des Museum Ferdinandeum Innsbrück*, 63: 135-167.
- THALER, K. 1983b. - Über *Tapinopa disjugata* SIMON (1884) (Arachnida: Aranei, Linyphiidae). *Archives des Sciences. Genève*, 36: 461-468.
- THALER, K. 1987. - Über einige Linyphiidae aus Kashmir (Arachnida: Araneae). *Courier Forschungs-Institut Senckenberg*, 93: 33-42.
- THALER, K. & M. Th. NOFLATSCHER 1990. - Neue und bemerkenswerte Spinnenfunde in Südtirol (Arachnida: Aranei). *Veröffentlichungen des Museum Ferdinandeum Innsbrück*, 69: 169-190.
- THORELL, T. 1875. - Descriptions of several European and North African spiders. *Konglige Svenska Vetenskaps-Akademiens Handlingar*, 13(5): 1-203.
- WIEHLE, H. 1956. - Spinnentiere oder Arachnoidea (Araneae). 28. Familie Linyphiidae-Baldachinspinnen. *Tierwelt Deutschlands*, 44: i-viii, 1-337.
- WOZNY, M., A. CZAJKA, J. PILAWSKI & S. BEDNARZ, 1988. - Pajaki (Aranei) polskich sudetów. *Acta Universitatis Wratislaviensis*, 972: 53-130.
- WUNDERLICH, J. 1980. - Linyphiidae aus Süd-Europa und Nord-Afrika (Arachn.: Araneae). *Verhandlungen der naturwissenschaftlichen Verein in Hamburg (N.F.)*, 23: 319-337.
- WUNDERLICH, J. 1987. - *Die Spinnen der Kanarischen Inseln und Madeiras: Adaptive Radiation, Biogeographie, Revisionen und Neubeschreibungen*. Triops Verlag, Langen, West Germany.
- WUNDERLICH, J. 1992. - Die Spinnen-Fauna der Makaronesischen Inseln: Taxonomie, Ökologie, Biogeographie und Evolution. *Beiträge zur Araeologie*, 1: 1-619.
- WUNDERLICH, J. 1995. - Zur Kenntnis der Endemiten, zur Evolution und zur Biogeographie der Spinnen Corsicas and Sardiniens, mit Neubeschreibungen. *Beiträge zur Araeologie*, 4: 353-384.