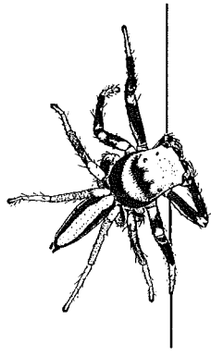


Dépôt légal : 4ème trimestre 1999

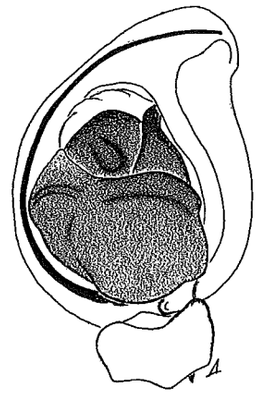
J.-C. LEDOUX
imprimeur éditeur
30390 Aramon (France)

ISSN 0398-4346

REVUE ARACHNOLOGIQUE

Tome 13, fasc. 3 **paru le 31 octobre 1999**

D. V. LOGUNOV, Redefinition of the genera *Marpissa* C.L. Koch, 1846 and *Mendoza* Peckham & Peckham, 1894 in the scope of the Holarctic fauna (Araneae, Salticidae)



J.-C. LEDOUX IMPRIMEUR-EDITEUR 30390 ARAMON (FRANCE)

ISSN 0398-4346

Revue Arachnologique

Comité directeur: J.-C. LEDOUX

Comité de rédaction:

L. BAERT (Bruxelles)	Systématique
A. CANARD (Rennes)	Ecologie
M. GOYFFON (Paris)	Physiologie
R. RAMOUSSE (Lyon)	Comportement, éthologie
C. JUBERTHIE (Moulis)	Histologie, anatomie, morphologie

La Revue Arachnologique publie des articles originaux concernant les Arachnides (Acariens exceptés) et se rapportant aux diverses disciplines.

L'abonnement se fait par tome. L'abonnement pour le **tome 13** est fixé à 180 FF

Les tomes 1 à 12 sont disponibles complets, aux prix suivants:

t. 1:	70 FF	t. 7:	150 FF
t. 2:	110 FF	t. 8:	150 FF
t. 3:	120 FF	t. 9:	150 FF
t. 4:	130 FF	t. 10:	180 FF
t. 5:	130 FF	t. 11:	180 FF
t. 6:	130 FF	t. 12:	180 FF

— ***Pour l'abonnement***, s'adresser à:
J.-C. LEDOUX, rue du Ruisseau, 43370 Solignac-sur-Loire (France)

Adressez les paiements à J.-C. LEDOUX.

— ***Les manuscrits*** doivent être envoyés à:
J.-C. LEDOUX, rue du Ruisseau, 43370 Solignac-sur-Loire (France).
[new address]

Revue Arachnologique, **13** (3), 1999 : 25- 60.

Redefinition of the genera *Marpissa* C.L. Koch, 1846 and *Mendoza* Peckham & Peckham, 1894 in the scope of the Holarctic fauna (Araneae, Salticidae)

by Dmitri V. LOGUNOV*

Résumé

Basé à la fois sur la structure détaillée des organes génitaux et sur les caractères somatiques, le genre *Marpissa* est redéfini; il inclu 16 espèces holarctiques. *Hyctia* Simon, 1878 (avec 8 espèces) est considéré comme un sous-genre du genre *Marpissa*. *Marpissa canestrinii* et les espèces voisines sont exclues du genre *Marpissa* (s. str.) et attribuées au genre *Mendoza* Peckham & Peckham, 1894; 7 nouvelles combinaisons sont établies: *Mendoza canestrinii* (Ninni *in* Canestrini & Pavesi, 1868) comb. n.; *M. dersuuzalai* (Logunov & Wesolowska, 1992) comb. n.; *M. elongata* (Karsch, 1879) comb. n.. *M. ibarakiensis* (Bohdanowicz & Prószyński, 1987) comb. n.; *M. nobilis* (Grube, 1861) comb. n.; *M. pulchra* (Prószyński in Wesolowska 1981) comb. n.; et *M. zebra* (Logunov & Wesolowska, 1992) comb. n. De nouvelles définitions, les affinités et le synopsis des espèces des deux genres, *Marpissa* et *Mendoza*, sont donnés; tous les caractères diagnostics sont figurés et discutés. Sept espèces sont mises en synonymie: *Pseudicius cognatus* Peckham & Peckham, 1894 et *Attus memorabilis* O. P.-Cambridge, 1876 avec *Mendoza canestrinii* (Ninni *in* Canestrini & Pavesi, 1868); *Marpissa dybowskii* Kulczyński, 1895, *Maevia nigrifrontis* Saito, 1939 et *Marpissa magna* Kishida, 1910 avec *Marpissa milleri* Peckham & Peckham, 1894; *Marpissa hiroseae* Nakatsudi, 1942 avec *Mendoza elongata* (Karsch, 1879); et *Marpissa wallacei* Barnes, 1958 avec *Marpissa grata* (Gertsch, 1936). *Mithion hotingchiehi* Schenkel, 1936 est considéré comme un synonyme junior de *Mendoza elongata* (Karsch, 1879), plutôt que de *Mendoza nobilis* (Grube, 1861), comme il était supposé auparavent. *Marpissa magister* (Karsch, 1879) est considérée comme *nomen dubium*. Une espèce, *Marpissa sulcosa* Barnes, 1958, est rétablie.

Summary

Based on both the detailed structure of the genitalia and somatic morphology, the genus *Marpissa* C.L. Koch, 1846, is redefined to include 16 holarctic species. *Hyctia* Simon, 1878 (8 species included) is shown to only approve a subgeneric rank within *Marpissa*. *Marpissa canestrinii* and related species are excluded from *Marpissa* (s. str.) and assigned to *Mendoza* Peckham & Peckham, 1894, with 7 new combinations involved : *Mendoza canestrinii* (Ninni *in* Canestrini &

* Manuscrit reçu le 10 septembre 1998. *Adresse de l'auteur* : Zoological Museum, Institute for Systematics and Ecology of Animals, Siberian Division of the Russian Academy of Sciences, Frunze Street 11, Novosibirsk, 630091 Russia.

Pavesi, 1868) comb. n.; *M. dersuuzalai* (Logunov & Wesołowska, 1992) comb. n.; *M. elongata* (Karsch, 1879) comb. n.. *M. ibarakiensis* (Bohdanowicz & Prószyński, 1987) comb. n.; *M. nobilis* (Grube, 1861) comb. n.; *M. pulchra* (Prószyński in Wesołowska 1981) comb. n.; and *M. zebra* (Logunov & Wesołowska, 1992) comb. n. Improved definitions, affinities and synopsis of both *Marpissa* and *Mendoza* are provided; all the diagnostic characters are figured and discussed. Seven species are first synonymised : *Pseudicius cognatus* Peckham & Peckham, 1894 and *Attus memorabilis* O. P.-Cambridge, 1876 with *Mendoza canestrinii* (Ninni *in* Canestrini & Pavesi, 1868); *Marpissa dybowskii* Kulczyński, 1895, *Maevia nigrifrontis* Saito, 1939, and *Marpissa magna* Kishida, 1910 with *Marpissa milleri* Peckham & Peckham, 1894; *Marpissa hiroseae* Nakatsudi, 1942 with *Mendoza elongata* (Karsch, 1879); and *Marpissa wallacei* Barnes, 1958 with *Marpissa grata* (Gertsch, 1936). *Mithion hotingchiehi* Schenkel, 1936 is recognised to be a junior synonym of *Mendoza elongata* (Karsch, 1879), rather than of *Mendoza nobilis* (Grube, 1861), as it was supposed earlier. *Marpissa magister* (Karsch, 1879) is first reported as *nomen dubium*. One species, *Marpissa sulcosa* Barnes, 1958, is revalidated.

резюме

Исходя из данных по детальной структуре гениталий и соматических признаков, род *Marpissa* C.L. Koch, 1846, переопределен, чтобы включить 16 голарктических видов. Показано, что *Hyctia* Simon, 1878 (включено 8 видов) заслуживает лишь пододового ранга внутри *Marpissa*. *Marpissa canestrinii* и близкородственные виды выведены из *Marpissa* (s. str.) и перенесены в *Mendoza* Peckham & Peckham, 1894, включая 7 новых комбинаций: *Mendoza canestrinii* (Ninni *in* Canestrini & Pavesi, 1968) comb. n.; *M. dersuuzalai* (Logunov & Wesołowska, 1992) comb. n.; *M. elongata* (Karsch, 1879) comb. n.. *M. ibarakiensis* (Bohdanowicz & Prószyński, 1987) comb. n.; *M. nobilis* (Grube, 1861) comb. n.; *M. pulchra* (Prószyński in Wesołowska 1981) comb. n.; и *M. zebra* (Logunov & Wesołowska, 1992) comb. n. Даны уточненные диагнозы, данные по родственным связям и списки видов как *Marpissa*, так и *Mendoza*; все диагностические признаки изображены и обсуждены. Семь видовых названий впервые синонимизированы: *Pseudicius cognatus* Peckham & Peckham, 1894 и *Attus memorabilis* O. P.-Cambridge, 1876 с *Mendoza canestrinii* (Ninni *in* Canestrini & Pavesi, 1868); *Marpissa dybowskii* Kulczyński 1895, *Maevia nigrifontis* Saito, 1939 и *Marpissa magna* Kishida, 1910 с *Marpissa milleri* Peckham & Peckham, 1864; *Marpissa hiroseae* Nakatsudi, 1942 с *Mendoza elongata* (Karsch, 1879); и *Hyctia wallacei* Barnes, 1958 с *Marpissa grata* (Gertsch, 1936). *Marpissa magister* (Karsch, 1879) впервые указан как *nomen dubium*. Выяснено, что *Mithion hotingchiehi* Schenkel, 1963 является младшим синонимом *Mendoza elongata* (Karsch, 1879), а не *Mendoza nobilis* (Grube, 1861), как предполагали ранее. Восстановлена валидость одного вида, *Marpissa sulcosa* Barnes, 1958.

Introduction

The genus *Marpissa* C.L. Koch, 1846, has consistently been considered in a wide sense, when *Marpissa* (s. str.: the type species: *Araneus muscosus* Clerck, 1758), *Hyctia* (the type species: *Salticus nivoyi* Lucas, 1846) and *Onondaga* (the type species: *Maevia lineata* C.L. Koch, 1848) are placed together in the same genus (BARNES, 1958; HARM, 1980; BOHDANOWICZ & PRÓSZYŃSKI, 1987; PRÓSZYŃSKI, 1990; PENG *et al.*, 1993). At least, as pointed out by BARNES (1958, p. 2), such a combination has "the fortunate result of producing a much simpler classification". However, some of the above authors (e.g. Bohdanowicz & PRÓSZYŃSKI, 1987; IKEDA, 1993; PENG *et al.*, 1993) were also of opinion that *Marpissa* (s. lat.) clearly consists of two distinct species groups: the *muscosa* (or *dybowskii*) species group and the *elongata* species group, the latter including *Marpissa elongata, M. pulchra, M. ibarakiensis* etc., and being sometimes wrongly named *Hyctia* (e.g. IKEDA, 1993).

A re-examination of the taxonomic status of *Marpissa* (s. lat.) based on the detailed morphology of the genitalia and somatic characters allows me to came to somewhat different conclusions: (1) *Hyctia* shows the same genital pattern as in *Marpissa* (s. str.), differs from it only in body shape and seems to approve no more than a subgeneric rank within *Marpissa*; and (2) the *elongata* species group, which must include also *Marpissa canestrinii*, does not in reality belong to *Hyctia* and should be assigned to *Mendoza* Peckham & Peckham, 1894 (the type species: *Attus memorabilis* O. P.-Cambridge, 1876). The latter genus was earlier treated as a junior synonym of *Mithion* (SIMON, 1901) and then was synonymised with *Marpissa* (PRÓSZYŃSKI, 1990).

The interpretation of *Mendoza* accepted herein is similar to that of SIMON (1901: 597-599, 610), who united the species *Mithion canestrinii* and *Attus memorabilis* in the same genus *Mithion* (both specific names are hereafter considered synonymous, see below). As the generic name *Mithion* is known to be preoccupied (PRÓSZYŃSKI, 1990), *Mendoza* established originally by the PECKHAMS (1894) is actually the valid name for the genus hitherto diagnosed by SIMON (1901) and then reported by some subsequent authors (e.g. MKHEIDZE, 1992; FUHN & GHERASIM, 1995) under the name *Mithion*.

The main aims of the present paper are redefinitions and redescriptions of the genera *Marpissa* (with two subgenera, *Marpissa* (s. str.) and *Hyctia* involved) and *Mendoza*, including a synopsis of all the known Holarctic species of both genera. In usage of the name *Marpissa*, I follow BONNET's (1955-1959, p. 2718) opinion regarding the validity of *Marpissa* over *Marpessa, Marptusa* and *Marpissus*.

The two Palearctic *Marpissa* species have been excluded from consideration: *Marpissa longiuscula* Simon, 1871, and *Marpissa zaitzevi* Mkheidze, 1992. The former was described and reported from Ukraine and Italy (SIMON, 1871). However, according to HANSEN (1985b, 1986), the identification of *Marpissa longiuscula* by CANESTRINI from Italy actually belongs to *Marpissa nivoyi*. As the original description of *Marpissa longiuscula* is inadequate for identification and I have been unable to revise the holotype, the taxonomic status of this species is in need of a further study. *Marpissa zaitzevi* was described from a single female from Georgia. However, the original description (made in Georgian) and figures (MKHEIDZE, 1992, figs 115, 116) allow to only assume that *Marpissa zaitzevi* is quite close to or the same as *Marpissa nivoyi*. The problem calls for a special attention in the future as well.

Material and methods

Specimens for this study were borrowed from of distributed among the following museums:

AMNH: American Museum of Natural History, New York, U.S.A. (Dr N. PLATNICK);

FSCA: Florida State Collection of Arthropods FDACS, Division of Plant Industry, Gainesville, Florida, U.S.A. (Dr G.B. EDWARDS).

HEC: Hope Entomological Collection, Oxford University, England (Dr G.C. MCGAVIN);

ISE: the Zoological Museum of the Institute for Systematics and Ecology of

Animals, Novosibirsk, Russia (Dr D.V. LOGUNOV);

IZW: Institute of Zoology, Warsaw, Poland (Prof. J. PRÓSZYŃSKI);

MCZ: Museum of Comparative Zoology, Harvard University, U.S.A. (Prof. H. LEVI);

PSU: Department of Zoology of the Perm State University, Perm, Russia (Drs S.L. ESYUNIN & V.E. EFIMIK);

ZISP: Zoological Institute, Russian Academy of Science, St Petersburg, Russia (Dr V.I. OVSHARENKO);

ZMMU: Zoological Museum of the Moscow State University, Moscow, Russia (Dr K.G. MIKHAILOV);

ZMTU: Zoological Museum of the Turku University, Turku, Finland (Drs M. SAARISTO & S. KOPONEN).

Abbreviations used in the text and figures:

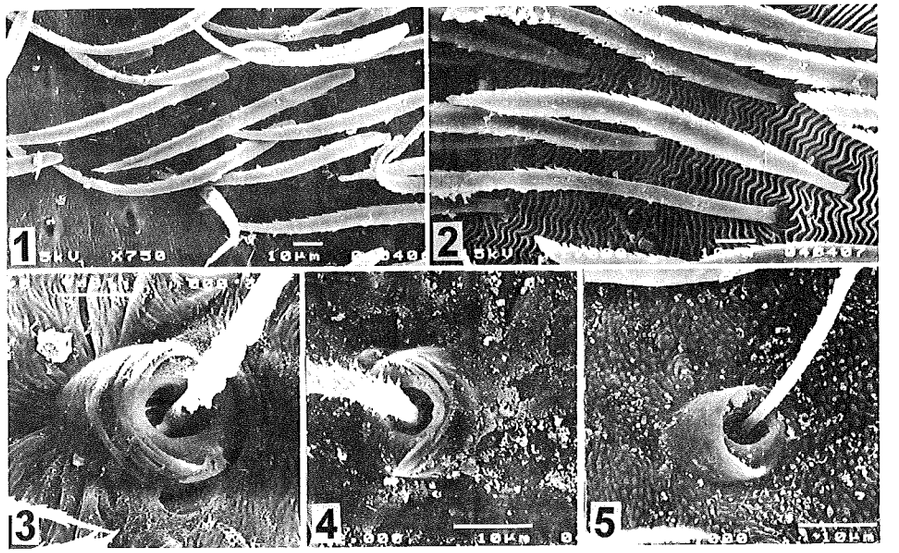
AME: anterior median eye;
ALE; anterior lateral eye;
BH: basal haematodocha;
C: cymbium;
CL: cymbial ledge;
CO: copulatory opening;
d: dorsal;
DH: distal haematodocha;
DTP: distal tegular protuberance;
E: embolus;
EB: embolic base;
FD: fertilisation duct;
Fm: femur;
ID: insemination duct;
MF: middle field;
MS: median septum;
Mt: metatarsus;
PME: posterior median eye;
PLE: posterior lateral eye;
pr: prolateral;
Pt: patella;
R: receptacle;
rt: retrolateral;
SD: seminal duct;
SL: seam line;
TbA: tibial apophysis;
Tg: tegulum;
v: ventral.

For the leg spination, the system adopted is that used by ONO (1988). The sequence of leg segments in measuremant data is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are in millimetres. Only inportant sources (original descriptions, essential synonymy, etc.) and the literature published later 1995, which was not incorporated into the most recent arachnological catalogue (PLATNICK, 1997), are cited under each species. For a complete set of references see RŒWER (1954), BONNET (1955-1959), PRÓSZYŃSKI (1990) and PLATNICK (1993, 1997).

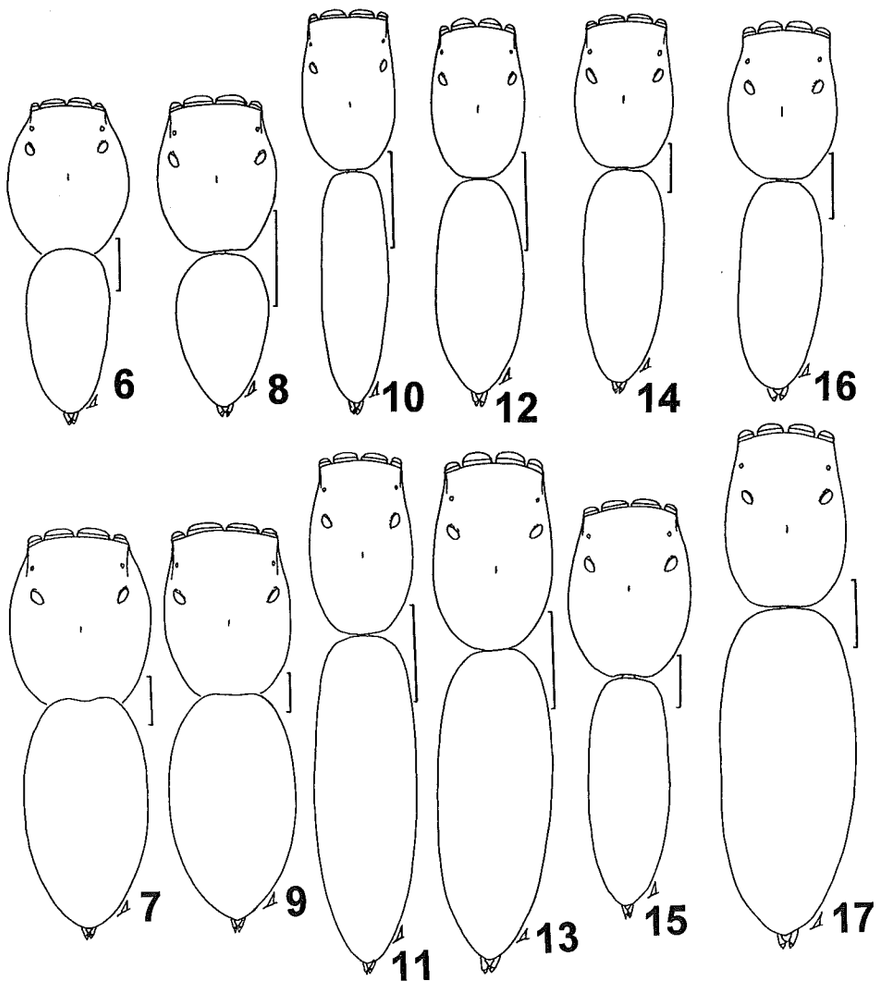
Genus *Marpissa* C.L. Koch, 1846

Type species: *Araneus muscosus* Clerck, 1758.

Definition. Medium size or large (sometimes elongated and slender, e.g. *Hyctia*, figs 10-13) unidentate spiders ranging from about 3 to 10 mm in length. Sexual dimorphism poorly marked; males differ in having lateral hook-shaped outgrowths on maxillae (=endite teeth) (figs 115-118) and are usually smaller, darker and more colourful. *Carapace* rather low (especially in *Hyctia*); eye fied flat and transverse-rectangular, with its length 1.3-1.5 times smaller than width; quadrangle length 44-47 % of carapace length; fovea present and well marked, it is situated in a rounded depression of the carapace; eyes in three rows. PME about half-way between ALE and PLE; carapace covered with elongated and granular (*sensu* HILL, 1979) scales as in fig. 1. *Clypeus* low and vertical; its heigth 7-13 % of AME diameter. *Chelicerae* moderately small and subvertical (slightly protruded ahead in *Hyctia*); promargin with two medium teeth, retromargin with one medium tooth (figs 18-23). *Maxillae* square, longer than wide; males always with endite teeth (figs 90-93). *Labium* rectangular, longer than wide. *Sternum* suboval, more or less sharpened anteriorly (figs 129, 130, 133, 134). *Pedicel* short, usually not visible in dorsal view. *Abdomen* elongate, often brightly coloured; 1.6-2.0 times longer than wide in *Marpissa* and 1.9-3.4 times in *Hyctia*; abdominal scales as in fig. 2; sparce abdominal skin pores (probably pheromone-releasing organs) also occur on dorsum (fig. 47). *Legs* moderately short, normal; the first pair darker and two to three times as heavy as remaining legs (figs 30-31), in some species tibia I swollen (fig. 28); trichobothrial base as in figs 3-5. *Leg formula* : *Marpissa* I, IV, II, III in males and IV, I, II, III in females. *Hyctia*: I, IV, II, III in both sexes. *Female palp*: common shape; without apical claw; femora with 1-2 dorsal spines situated as 0-1-1 or 0-0-1. *Male palp*: cymbium flat and rounded (figs 48, 58, 61, 65), often with curved tip (arrowed in fig. 63); cymbial ledge well developed (figs 48, 59, 60, 63, 64); lateral cymbial process always present, often sharpen (figs 58, 61, 62, 65, 76, 85); course of sperm duct rather complex (figs 109, 110, 112); distal tegular protuberance always present (figs 49-58, 75), but sometimes poorly marked (figs 32, 65, 80, 84); a singular tibial apophysis always present (fig. 58, 61, 62, 65, 76), sometimes armed with an additional spur (fig. 62); embolus originating at the distal point of bulb (figs 58, 61, 62, 65); embolus thread-like and coiled, its revolution ca. 350 or more degrees (seldom less); basal and distal haematodochae and subtegulum well developed (figs 32, 51-57). *Female genitalia*. Epigynal plate rather heavily sclerotized; the epigyne is simple and consists of either a single deep atrium bordered by longitudinal folds (figd 33, 34), or two separated copulatory orifices (figs 35, 66, 68, 70, 72); middle field (*sensu* SIERWALD, 1989) well developed

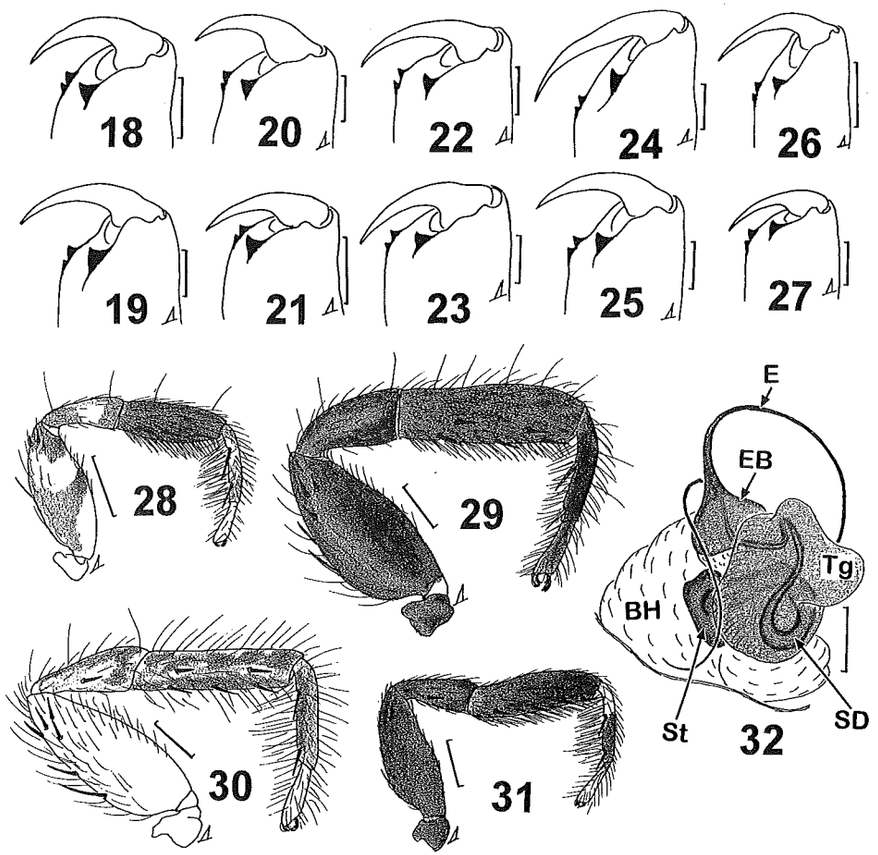


Figures 1-5. — Somatic characters of *Marpissa* spp. – **1**, female carapace scales of *Marpissa pomatia*, Tuva. **2**, female abdominal scales of *Marpissa pomatia*, Tuva. **3**, female metatarsal trichobotrium of *Marpisa pomatia*, Tuva. **4**, female metatarsal trichobotrium of *Marpissa muscosa*, Finland. **5**, female metatarsal trichobotrium of *Marpissa radiata*, Finland.



Figures 6-17. — Body shape of *Marpissa* spp. and *Mendoza* spp. (figures were scaled to represent carapaces in the same length); males in the upper row, females in the lower row. – **6**, *Marpissa pomatia*, Russia: Tuva. **7**, *Marpissa muscosa*, Ukraine; **8**, *Marpissa lineata*, U.S.A.: Minnesota. **9**, *Marpissa pulla*, Russia: Khabarovsk Province. **10, 11**, *Marpissa pickei*, U.S.A.: Kansas. **12, 13**, *Marpissa nivoyi*, Ukraine. **14, 15**, *Mendoza canestrinii*, South Kazakhstan Area. **16, 17**, *Mendoza nobilis*, Russia: Khabarovsk Province. — Scale bars: 8, 9, 10-13: 0.5 mm. 6, 7, 14-17: 1 mm.

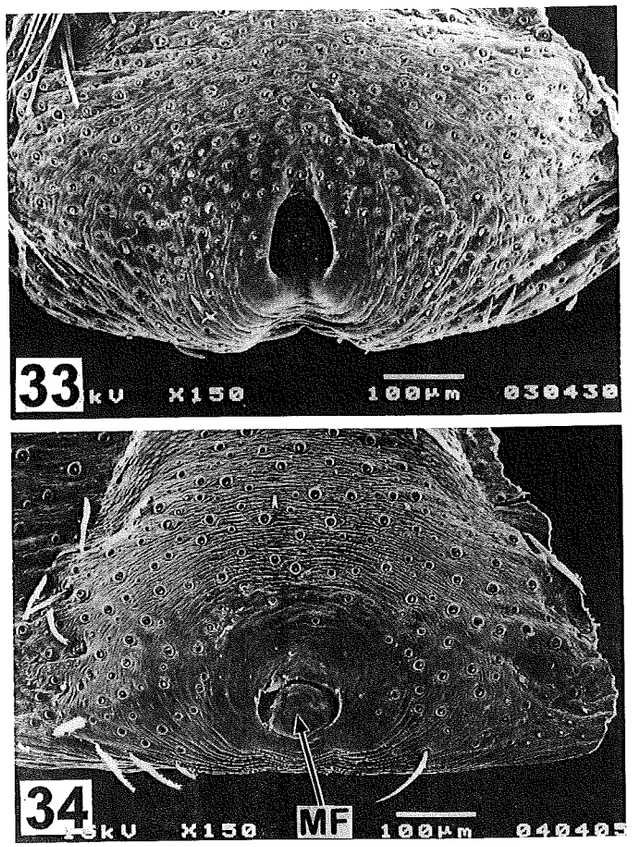
in some species (fig. 34); insemination ducts rather wide and short, ending by long tube-shaped and coiled receptacles (figs 41-43, 67, 69, 71, 73); glandular ducts sometimes well developped and clearly visible (arrowed in figs 88, 91);



Figures 18-32. — Somatic characters and copulatory organs of *Marpissa* spp. and *Mendoza* spp. – **18-27**, chelicerae : upper row, males; lower row, females. **18**, *Marpissa pomatia*, Russia: Tuva. **19**, *Marpissa muscosa*, Ukraine. **20**, *Marpissa lineata*, U.S.A.: Minnesota. **21**, *Marpissa radiata*, Russia: Novosibirsk Area. **22, 23**, *Marpissa nivoyi*, Ukraine. **24, 25**, *Mendoza canestrinii*, Hungary. **26, 27**, *Mendoza nobilis*, Russia: Khabarovsk Province. – **28-31**, first male legs, lateral view. **28**, *Marpissa lineata*, U.S.A.: Minnesota. **29**, *Mendoza canestrinii*, South Kazakhstan Area. **30**, *Marpissa radiata*, Russia: Novosibirsk Area. **31**, *Marpissa nivoyi*, Kyrghyzstan: Bishkek. – **32**, expanded palp of *Marpissa pulla*, Korea.
Scale bars: 18-19, 21, 24-26, 28-32: 0.25 mm; 20, 22, 23, 27: 0.1 mm.

epigynal pocket absent in most species, but well developed in some (arrowed in fig. 70).

Morphological notes. The term "middle field", which has been adopted from SIERWALD (1989: fig. 3), describes a swollen chitinose bulge seen in some *Marpissa* species between the epigynal folds (fig. 34). This structure actually represents a derivation of the bottom of the atrium in other *Marpissa* species and

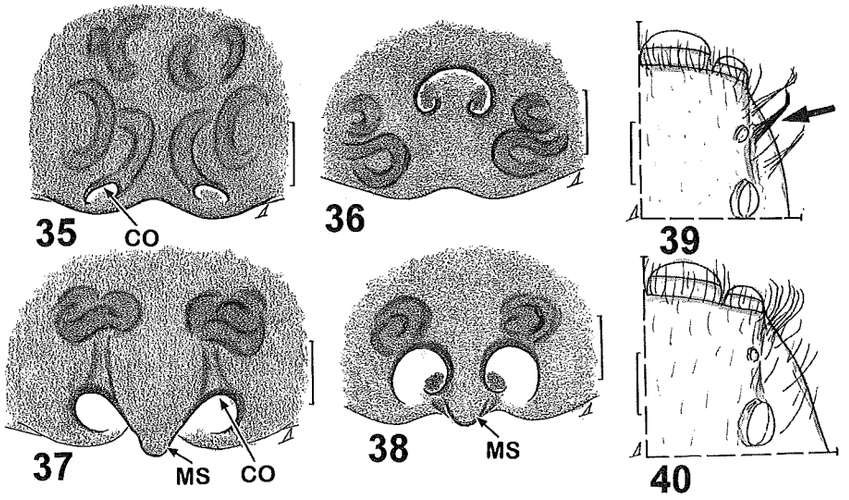


Figures 33-34. — **33**, epigyne of *Marpissa muscosa*, Finland. **34**, epigyne of *Marpissa pomatia*, Russia: Tuva.

seems to be homologous to the median septum of *Mendoza* species (figs 37, 38).

The term "distal tegular protuberance" (DTP) is adopted from GRISWOLD (1993) and used for the elaborate structure of the proapical margin of the tegulum in *Marpissa*, wich may be elongated (figs 49, 52, 58) or convex (figs 50, 62, 75, 92). The distal tegular protuberance clearly corresponds in its position to the suprategulum in the Linyphiidae (*sensu* SAARISTO, 1971; = the linyphiid median apophysis, *sensu* MERRETT, 1963) and the distal tegular projection in the Pisauridae and Dolomedidae (SIERWALD, 1990; GRISWOLD, 1993). Although SIERWALD (1990, p. 43) advocated that the distal tegular protuberance in the linyphiids and the pisaurids are obviously homoplasous, I score that at least the distal tegular protuberance in *Marpissa* and the linyphiid suprategulum seem to be homologous because they indeed represent enlargements of the distal tegular area and do not contain a loop of the sperm duct.

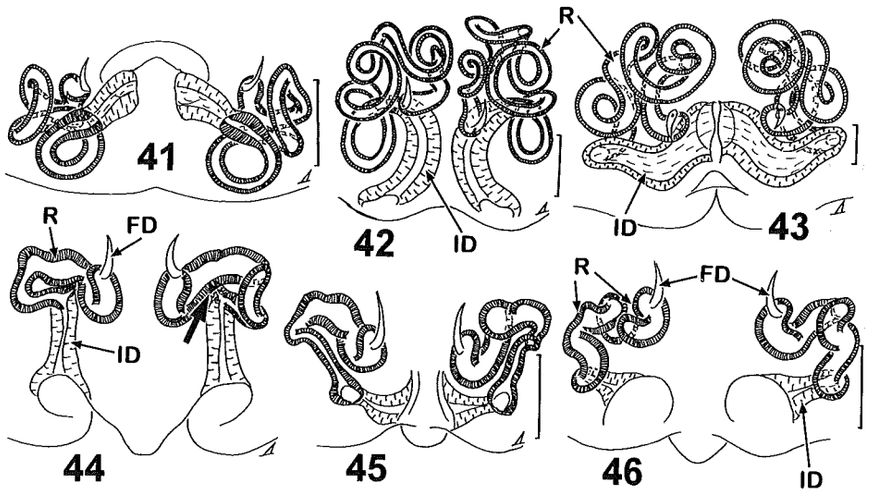
Diagnosis. *Marpissa* belongs to the subfamily Marpissinae (*sensu* PRÓSZYŃSKI, 1976) and is closely related to *Men-*



Figures 35-40. — Epigynes and carapaces of *Marpissa* spp. and *Mendoza* spp. **35**, epigyne of *Marpissa lineata*, U.S.A.: Minnesota, ventral view. **36**, epigyne of *Marpissa nivoyi*, Ukraine, ventral view. **37**, epigynbe of *Mendoza canestrinii*, Hungary, ventral view. **38**, epigyne of *Mendoza nobilis*, Russia: Khabarovsk Province, ventral view. **39**, female carapace of *Mendoza canestrinii*, South Kazakhstan Area, dorsal view. **40**, female carapace of *Marpissa muscosa*, Ukraine, dorsal view. — Scale bars: 35-38, 0.1 mm; 39, 40, 0.5 mm.

Characters	*Marpissa*	*Mendoza*
1. Cymbium	Flat and rounded (figs 58, 61, 62), often curved apically (fig. 63)	Common shape, never flat (figs 105-108)
2. Distal tegular protuberance	Present (figs 49, 50, etc.)	Absent (figs 105, 107, 124)
3. Position of the embolic base	Apical (figs 58, 61, 62)	Proximal (figs 105, 107)
4. Embolic revolution	Ca. 360 or more degrees (figs 51-65)	Less than 180 degrees (figs 123-126)
5. Median septum of epigyne	Absent (fig. 13)	Present (fig. 11)
6. Tube receptacles	Five or more times longer than the insemination ducts (figs. 41-43)	Equal or twice as long as the insemination ducts (figs 44-46)
7. Endite tooth	Present (figs 115-118)	Absent (figs 119-122)
8. Hair pencil beneath PME	Absent (fig. 40)	Present (fig. 39, arrowed)

Table I. — Distinguishing the genera *Marpissa* and *Mendoza*.

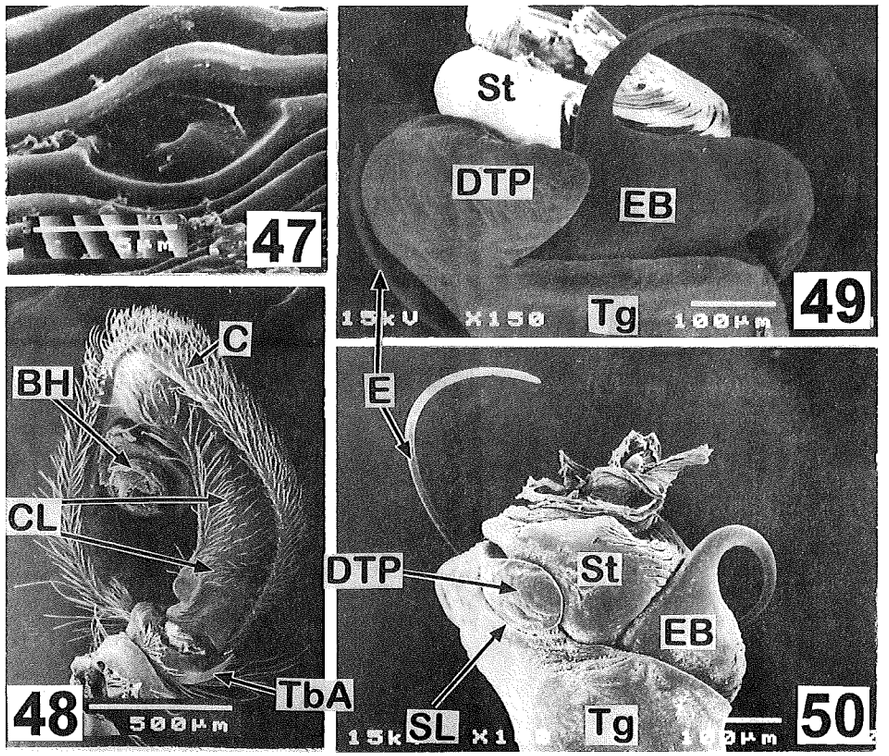


Figures 41-46. — Spermathecae of *Marpissa* spp. and *Mendoza* spp. in dorsal view. **41**, *Marpissa nivoyi*, Ukraine. **42**, *Marpissa lineata*, U.S.A.: Minnesota. **43**, *Marpissa muscosa*, Georgia. **44**, *Mendoza canestrinii*, South Kazakhstan Area. **45**, *Mendoza elongata*, Russia: Khabarovsk Province. **46**, *Mendoza nobilis*, Russia: Khabarovsk Province. — Scale bar: 0.1 mm.

doza, as it is defined hereafter. Both genera can be easily distinguished by the following characters: the endite tooth (hook-shaped) present (figs 115-118) (absent in *Mendoza*, figs 94-97); the epigyne lacks the median septum (figs 33-36) (present in *Mendoza*, figs 37, 38); tube-receptacles 5 or more times longer than the insemination ducts (figs 41-43) (equal or twice as long as the insemination ducts in *Mendoza*, figs 44-46); the cymbium flat and rounded, often curved apically (figs 58, 61, 62) (usual shape, never flat in *Mendoza*, figs 105-108); the distal tegular protuberance present (figs 49, 50 etc.) (absent in *Mendoza*, figs 105, 107, 124-126); apical position of the embolic base (figs 58, 61, 62) (proximal position in *Mendoza*, figs 105, 107); the embolic revolution ca. 360 or more degrees (less than 180 degrees in *Mendoza*); and the hair pencil absent (fig. 40) (present in *Mendoza*, fig. 39) (see also table I).

Distribution. The Holarctic region. The *Marpissa* species reported outside the Holarctic, e.g. from the Oriental region (*brodway, decorata, nutanae* etc.), are, to my mind, in need of a re-examination and confirmation of their generic status by pertinent material.

Behaviour. Only five species of *Marpissa* have so far been studied with the regard to their behaviour (CRANE, 1949; RICHMAN, 1982), namely *M. bina, M. muscosa, M. nivoyi, M. pickei* and *M. sulcosa*. According to CRANE's (1949) classification, all the *Marpissa* species belong to the so-called "runners", i.e. the salticids exhibiting the most primitive courtship being highly dependent on chemotactic stimuli. No differences in courtship behaviour has been described between congeners of the subgenera *Marpissa* and *Hyctia*.



Figures 47-50. — Somatic and genital characters of *Marpissa* spp. **47**, female abdominal pore of *Marpissa pomatia*, Finland. **48**, cymbium of *Marpissa radiata*, Finland. **49**, embolic division of *Marpissa radiata*, Finland. **50**, embolic division of *Marpissa muscosa*, Finland.

Synopsis of species

Subgenus *Marpissa* (s. str.)

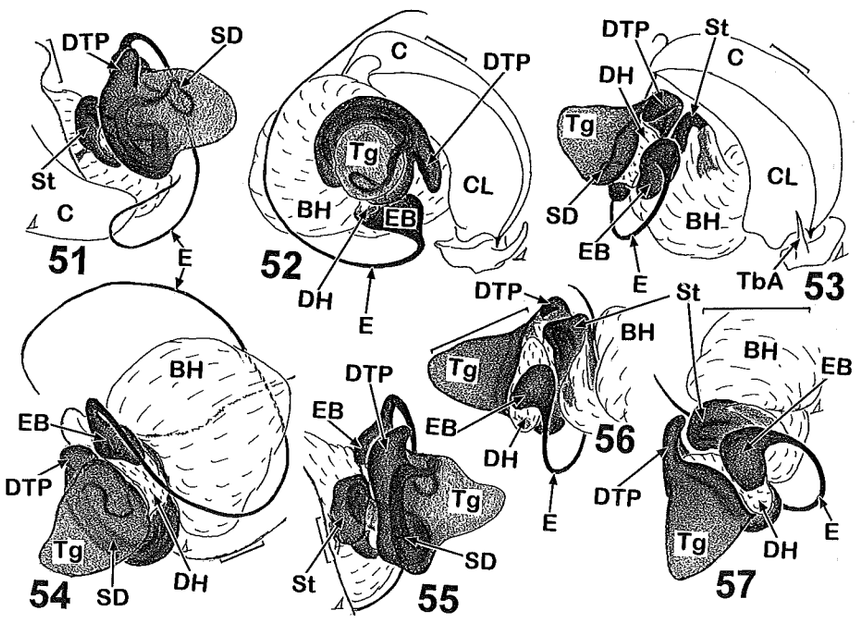
Type species: *Araneus muscosus* Clerck, 1758.

Diagnosis. Evident differences between the subgenera *Marpissa* and *Hyictia* can only be seen in the body shape (cf. figs 6-9 and 10-13): body is wide, flat and robust in *Marpissa* (carapace length/width ratio is 1.2-1.3; abdomen length/width ratio is 1.9-2.0) and narrow, elongated and slender in *Hyctia* (carapace length/width ratio is 1.8-1.9; abdomen length/width ratio is 3.0-5.0). Besides, the fovea area is visibly depressed in *Marpissa* and smooth in *Hyctia* and the chelicerae are slightly protruded ahead in *Hyctia* (clearly subvertical in *Marpissa*). The genitalia and leg spination in both subgenera show no differences.

Marpissa (Marpissa) dentoides Barnes, 1958

(figs 66, 67, 82, 83)

Marpissa dentoides Barnes, 1958: American Museum Novitates, no. 1867, pp. 27-28, fig. 45 (description, male, female; male holotype from the AMNH examined).



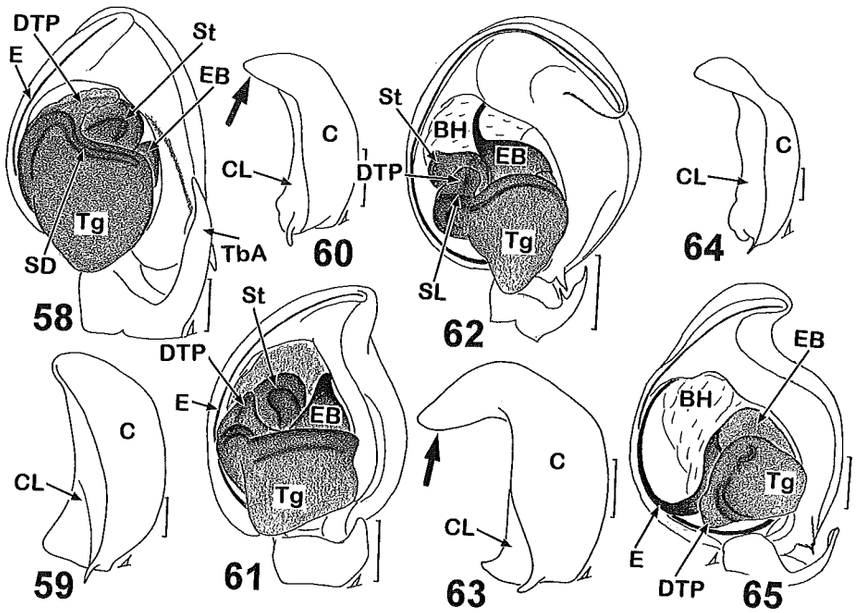
Figures 51-57. — Expanded male palps of *Marpissa* spp. – **51, 54, 55**, *Marpissa pomatia*, Russia: Novosibirsk Area. – **52, 53**, *Marpissa radiata*, Russia: Novosibirsk Area. – **56, 57**, *Marpissa nivoyi*, Kazakhstan: Ustyurt Plateau. — Scale bars 0.25 mm.

Material. – U.S.A. 1 male, 1 female (AMNH, holotype and allotype of *M. dentoides*), New York, Sea Cliff, 13.06.1919, coll.?; 1 female (AMNH), Tennessee, Benton Co., 23.07.1952, T.J. Walker; 1 male, 1 female (AMNH), New York, Cold Spring Harbor, 24.06.1932, W. Gertsch; 1 male (AMNH), West Virginia, Preston Co., West Virginia University Forest, Chestnut Ridge, 26.06-3.07.1996, D.I. Jennings; 1 female (AMNH), Texas, Kerville, 9-30.06.1955, L.J. Bottimer; 2 females (AMNH, allotype and paratype of *M. obtusa*), Texas, The Basin, Chicos Mts, Big Bend N.P., 28.06.1950, W.J. Gertsch; 1 female (AMNH), Texas, Llano, 26.12.1937, L.I. Davis; 1 female (AMNH), McClellamille, S.C., 07-08.1945, P. Vaurie.

Diagnosis. Males of this species are most similar to those of *M. obtusa*, *M. sulcosa* and *M. lineata*, but can be easily separated from both by the shape of the tibial apophysis and the lateral cymbial process (cf. figs 83 and 80 & 84). Females are most close to those of *M. sulcosa*, but differ in having a bigger epigynal plate, wider separated copulatory openings (cf. figs 66 and 68), and by the structure of spermathecae (cf. figs 67 and 69).

Description. See BARNES (1958).

Distribution. The species is distributed over the north and southeastern areas of the United States (BARNES, 1958; RICHMAN & CUTLER, 1978; EDWARDS, 1980).



Figures 58-65. — Male copulatory organs of *Marpissa* spp. **58, 59**, *Marpissa nivoyi*, Ukraine. **60, 61**, *Marpissa lineata*, U.S.A.: Minnesota. **62, 63**, *Marpissa milleri*, Russia: Maritime Province. **64, 65**, *Marpissa pulla*, Korea. **58, 61, 62, 65**, male palp, ventral view. **59, 60, 63, 64**, cymbium, lateral view. — Scale bars: 58-61, 0.1 mm; 62, 63, 0.5 mm; 64, 65, 0.25 mm.

Marpissa (*Marpissa*) *lineata* (C.L. Koch, 1848)

(figs 8, 20, 28, 35, 42, 60, 61, 110, 118)

Maevia lineata C.L. Koch, 1848: Die Arachniden, vol. 13, p. 77, pl. 479, fig. 1332 (description, female).

Onondaga lineata: Peckham & Peckham, 1909: Trans. Wisconsin Acad. Sci., vol. 16, p. 492, pl. 39, figs 9-9e (male, female, transferred to *Onondaga*).

Marpissa lineata: Barnes, 1958: American Museum Novitates, no. 1867, pp. 23-25, figs 35-37 (male, female, transferred to *Marpissa*).

Material. – U.S.A.: 1 male, 1 female (ISE), Minnesota, Hennepin Co., Minneapolis, federal land near FT. Sneling ST. Park, 30.05.1986, B. Cutler; 2 males, 2 females (ISE), Florida, Alachua Co., ca. 0.6 mi SE of S-20, along S-234, 15.04.1976, D. Richman.

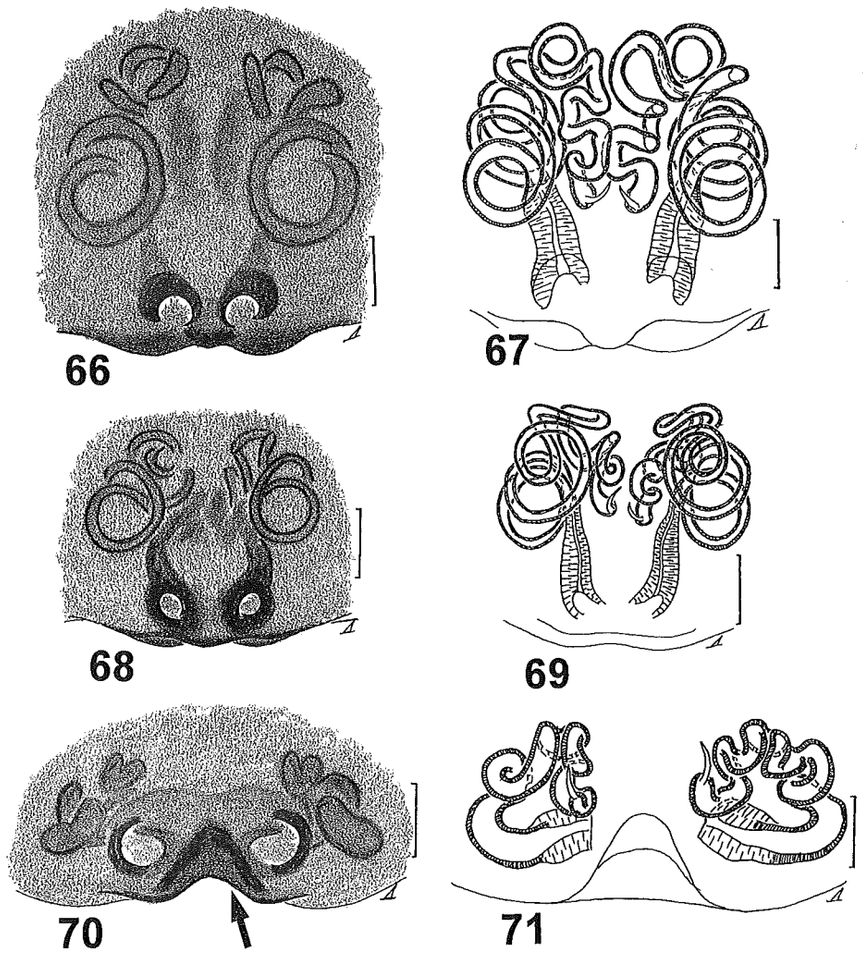
Diagnosis and description. See BARNES (1958).

Distribution. This seems to be the most common *Marpissa* species in U.S.A.; it has been recorded in many states eastward to the Rocky Mountains (BARNES, 1958; RICHMAN & CUTLER, 1978).

Marpissa (*Marpissa*) *milleri* (Peckham & Peckham, 1894)

(figs 62, 63)

Marptusa milleri Peckham & Peckham, 1894: Occ. Pap. Nat. Hist. Soc. Wisc., vol. 2, no. 2, p. 91, tab. 8, fig. 6 (description; female lectotype and paralectotypes from the MCZ designated here).



Figures 66-71. — Female copulatory organs of *Marpissa* spp. **66, 67**, *Marpissa dentoides*, U.S.A.: New York. **68, 69**, *Marpissa sulcosa* (allotype), U.S.A.: Florida. **70, 71**, *Marpissa formosa* (*sensu* BARNES, 1958), U.S.A.: Texas. – **66, 68, 70**, Epigynes, ventral view. **67, 69, 71**, spermathecae, dorsal view. — Scale bars 0.1 mm.

Marpissa milleri: Simon, 1901: Histoire naturelle des Araignées, vol. 2, n° 3, p. 603 (transferred to *Marpissa*).

Marptusa dybowskii Kulczyński, 1895: Rozpr. Wydz. mat.-przyr. AU, vol. 32, Kraków, pp. 63-68, fig. 36, 41-42 (description, male, female; syntypes from the IZW not examined). **New synonymy**.

Marpissa koreanica Schenkel, 1963: Mémoires du Muséum national d'Histoire naturelle, Paris, vol; 25, pp. 420-421, figs 241a-b (synonymized with *M. dybowskii* by Wesolowska, 1981b).

Marpissa roemeri Bösenberd & Strand, 1906: Abh. senck. naturf. Ges., vol. 30, pp. 346-347 (synonymized with *M. dybowskii* by Bohdanowicz & Prószyński, 1987).

Marpissa magna Kishida, 1910: Hakubutsugaku-zasshi, Tokyo, vol. 118, pp. 3-5 (description male; male holotype was lost and not examined; see "notes" below). **New synonymy**.

Maevia nigrifrontis Saito, 1939: Saito Ho-on Kai Museum Research Bulletin, no. 18, Zoology no. 6, pp. 41-42, fig. 5.5, pl. I, fig. 14 (description male, female; syntypes were lost, not examined). **New synonymy**.

Maevia nigrifrontis: Saito, 1959: The spider book illustrated in colours, p. 155, pl. 27 fig. 210, pl. 28 fig. 210 (male, female).

Material.– RUSSIA: 8 males, 3 females (ISE), 4 males, 1 female (ZMMU), Primorie, Lazo Reservation, 20.07.1977-18.06.1981, T.I. Oliger; 1 female (ISE), Kunashir Isl., from Krugly Cape (145°39'E, 44°00'N) to sulfur creek mount (145°41'E, 44°01'N), 09.1997, Y.M. Marusik; 1 male, 3 females (FSCA), Kunashir Isl. (NW shore), near Rudnoe, Severyanka River (146°00'E, 44°20'N), 25-27.08.1997, Y.M. Marusik. – JAPAN: 1 female (MCZ, 351, lectotype of *Marptusa milleri*, designated here), 1 male, 5 female (MCZ, 351, paralectotypes of *Marptusa milleri*, designated here), "Japan [Tokio], G.W. & E.G. Peckhams coll.".

Diagnosis and description. See BOHDANOWICZ & PRÓSZYŃSKI (1987, sub *Marpissa dybowskii*).

Distribution. This is an eastern Palearctic (Manchurian) species recorded so far under different names (most often under *Marpissa dybowskii*) from the Russian Far East, Japan, Korea and NE China (WESOŁOWSKA, 1981b; BOHDANOWICZ & PRÓSZYŃSKI, 1987; PENG *et al.*, 1993).

Notes. The original label of the syntypes of *Marptusa milleri* does not contain data on the precise type locality, but the PECKHAMS themself (1894, p. 92) wrote that the studied specimens were taken from Tokio. Besides, they noted the type serie includes only females, while in reality there are 1 male, 6 females and 16 immature specimens.

KISHIDA (1910) described *Marpissa magna* after a single male (not female as designated in the original description!) from Japan (Nagaoka-shi, Niigata Pref.), this name turned out to be a junior homonym of *Marpissa magna* Peckham & Peckham 1894 described from Central America. However, on the one hand, reasoning from the original description of *Marpissa magna*, it is safe to conclude that it is a junior synonym of *Marpissa milleri* [Dr H. IKEDA (personal communication) came to the same conclusion]. On the other hand, *Marpissa magna* of the PECKHAMS, as it is evident from the original figures (see PECKHAM & PECKHAM, 1894, pl. 8, fig. 3) does not belong to *Marpissa*. Thus, the name *Marpissa magna* (*sensu* KISHIDA, 1910) seems not to need replacing (as a junior homonym) and can be simply considered a junior synonym of *Marpissa milleri*.

Maevia nigrifrontis was described from Japan by SAITO (1939), but his later drawings (SAITO, 1959, pl. 26 fig. 210 and pl. 28, fig. 210, e.g. the very strong and curved cymbial tip) are convincing enough that the author actually dealt with *Marpissa milleri*.

Marpissa (*Marpissa*) *muscosa* (Clerck, 1758)

(figs 4, 7, 19, 33, 40, 43, 50)

Araneus muscosus Clerck, 1758 (1757): Aranei Suecici, p. 116, pl. 5 fig. 12 (description, male, female).

Marpissa muscosa: C.L. Koch, 1848: Die Arachniden, vol. 13, p. 63, figs 1129, 1130 (transferred to *Marpissa*).

Marpissa muscosa: Żabka, 1997: Salticidae, Fauna Polski, p. 63-64, figs 189-200 (male, female).

Marpissa muscosa: Fuhn & Gherasim, 1995: Familia Salticidae, Fauna României, p. 169-171, figs 76-3, 78 (male, female).

Material. – UKRAINE: 1 male, 2 females (FSCA), 2 males, 3 females (ISE), Dnepropetrovsk Area, Pyatikhasky

Distr., near Zholtoe, 27.05.1996, K.V. Evtushenko; 1 female (ISE), Kirovograd Area, near Alexeevka, 16.06.1996, K.V. Evtushenko. – RUSSIA: 1 female (ZMMU), Volvograd Area, Krasnoslobodka, 12-13.09.1984, V.E. Gokhman.

Diagnosis and description. See HARM (1981) and ŻABKA (1997).

Distribution. This is a typical European subboreal species (PRÓSZYŃSKI, 1976; HARM, 1981). The only record of *Marpissa muscosa* from Japan (SAITO, 1959, pl. 27 fig. 214, pl. 28 fig. 214) seems to belong in reality to *Marpissa pulla*.

Marpissa (Marpissa) obtusa Barnes, 1958
(figs 80, 81)

Marpissa obtusa Barnes, 1958: American Museum Novitates, no. 1867, p. 28, figs 44, 46 (description male, female; male holotype from the AMNH examined).

Material. – U.S.A.: 1 male, (AMNH, holotype of *M. obtusa*), Texas, Palacios, 4.06.1936, S. Mulaik.

Diagnosis. This species is closely related to *M. dentoides, M. sulcosa* and *M. lineata*, but can be easily separtated by the shape of the tibial apophysis and the lateral cymbial process (cf. figs 80, 81 and 82-85).

Description. See BARNES (1958: male only).

Distribution. The species is so far known from the type locality (Texas, U.S.A.) only (BARNES, 1958: male only; RICHMAN & CUTLER, 1978).

Notes. All the females, including the allotype and paratype, determined and reported earlier by BARNES (1958) as *M. obtusa* were re-examined and turned out to actually belong to *M. dentoides* (see above "material" under *M. dentoides*). Thus, the species is now known from the only male.

Besides, it is very likely that the female of *M. sulcosa*, as we now know it (fig.68, 69), in reality may belong to *M. obtusa* (see also comments under "notes" of *M. sulcosa*).

Marpissa (Marpissa) pomatia (Walckenaer, 1802)
(figs 1-3, 6, 18, 34, 47, 51, 54, 55)

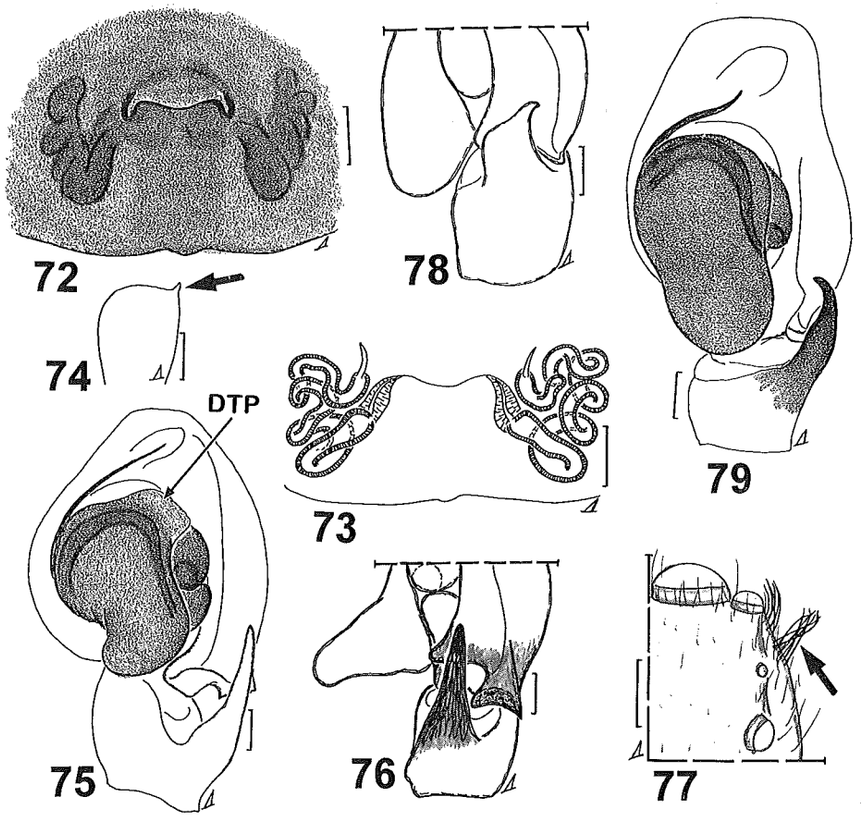
Aranea pomatia Walckenaer, 1802: Faune parisienne, vol. 2, p. 244 (description, male, female).

Marpissa pomatia: Simon, 1876: Arachnides de France, vol. 3, p. 26 (transferred to *Marpissa*).

Marpissa pomatia: Żabka, 1997: Salticidae, Fauna Polski, p. 64-65, fig. 201-208 (male, female).

Marpissa pomatia: Fuhn & Gherasim, 1995: Familia Salticidae, Fauna României, pp. 171-173, figs 79, 82-1 (male, female).

Material. – GEORGIA: 1 male, 2 females (ISE), Khobski Distr., Kolchida Reservation, 11-14.04.1988, D.V. Logunov & A.Y. Ivantsov. –RUSSIA: 1 male, 4 females (ZMMU), Krasnodar Prov., Teberda Reservation, 130 m a.s.l., 24.07.1986, K.G. Mikhailov; 1 female (ZISP), same province, Caucasus Reservation, Chugush Mt., 2000 m a.s.l., 22.06.1975, V.I. Ovtsharenko; 1 male (FSCA), 1 female (ISE), W-Altai, ca. 40 km N of Leninogorsk, Uba River Valley (5 km upstream of the confluence with Stanovaya River), 9-13.06.1996, R.Yu. Dudko; 1 male, 2 females (ZMTU), Novosibirsk Area, Morozovo, 11.06.1983, H. Hippa; 1 male, 1 female (ISE), same area, Tandovo Lake, northeast of Chany Lake, 08.1997, A.V. Barkalov; 1 female (ISE), Krasnoyarsk Province, Ermakovskoe Distr., Tanzybei, 53°08'N, 92°53'E, 2-3.06.1995, Y.M. Marusik; 1 male, 4 females (ISE), Amur Area, near Blagoveshensk, summer 1997, A. Streltsov; 5 males, 4 females (ISE), Primorie, Lazo Reservation, 20.07.1979-2.10.1984, T.I. Oliger; 1 female (ZMMU), same area, "Kedrovaya Pad" Reservation, 06.1962, A.P. Rasnitsyn; 1 female (ZMTU), same area, S part, Ussuri Reserve, 43°39'N, 132°33'E, 29-31.07.1998, Y.M. Marusik; 2 females



Figures 72-79. — Somatic characters and the copulatory organs. **72-77**, *Marpissa robusta*, U.S.A.: California. **78, 79**, *Mendoza canestrinii* (lectotype of *Attus memorabilis*), Egypt: Alexandria. – **72**, epigyne, ventral view. **73**, spermathecae, dorsal view. 74, left male chelicerae, ventral view. **75, 79**, male palp, ventral view. **76, 78**, male palp, prolateral view. **77**, female carapace, dorsal view. — Scale bars: 72, 73, 75, 76, 78, 79, 0.1 mm; 74, 0.25 mm; 77, 0.5 mm.

(ZMTU), Yakutia, Ljampeshka (Lepisske River) pond, 20.07.1977, S. Koponen; 3 females (FSCA), Kunashir Isl., from Krugly Cape (145°39'E, 44°00'N) to sulfur creek mouth (145°41'E, 44°01'N), 09.1997, Y.M. Marusik; 5 males (ISE), Shikotan, Krabozavodskoe, 146°45'E, 43°50'N, 10-18.09.1997, Y.M. Marusik; 3 females (ISE), Yakutia, ca. 2 km WNW of Zhatai, Lena River Valley, 16.09.1996, P.Yu. Parkhaev.

For other studied material see LOGUNOV & WESOŁOWSKA (1992) and DANILOV & LOGUNOV (1993).

Diagnosis and description. See HARM (1981) and ŻABKA (1997).

Distribution. This is a trans-Eurasian temperate species (PRÓSZYŃSKI, 1976; HARM, 1981; LOGUNOV & WESOŁOWSKA,

1992; DANILOV & LOGUNOV, 1993; PENG *et al.*, 1993). The species was reported from the Caucasus Major by OVTSHARENKO (1978, p. 683) as *Marpissa* sp. (Ovtsharenko's specimen re-examined).

Marpissa (*Marpissa*) *pulla* (Karsch, 1879)
(figs 9, 32, 64, 65)

Marptusa pulla Karsch, 1879: Verh. naturh. Ver. preuss. Rheinl., Bonn, vol. 36, p. 87 (description, male).
Marpissa pulla: Prószyński, 1973: Ann. Zool., PAN, vol. 30, no. 5, pp. 118-119 (transferred to *Marpissa*).

Material – SOUTH KOREA: 1 male (ISE), Go Je Peninsula, Chanynpkho Mt., 6.06.1997, A.V. Egorov. – JAPAN: 1 female (ISE), Honshu, Tottori Pref., Tottori, Koyama, Campus of Tottori University, 12.10.1989, N. Tsurusaki.

For other studied material see LOGUNOV & WESOŁOWSKA (1992).

Diagnosis and description. See PRÓSZYŃSKI (1973), WESOŁOWSKA (1981a) and BOHDANOWICZ & PRÓSZYŃSKI (1987).

Distribution. This is an eastern Palaearctic (Manchurian) species recorded so far from the Russian Far East, Japan, Korea and NE China (WESOŁOWSKA, 1981a; BOHDANOWICZ & PRÓSZYŃSKI, 1987; LOGUNOV & WESOŁOWSKA, 1992; PENG *et al.*, 1993). It is very likely that the Japanese record of *Marpissa muscosa* (SAITO, 1959, pl. 27 fig. 214, pl. 28 fig. 214) seems to belong in reality to *Marpissa pulla* as well. Unfortunately, SAITO's specimens were lost during the Second War and this assumption cannot be verified for sure.

Marpissa (*Marpissa*) *radiata* (Grube, 1859)
(figs 5, 21, 30, 48, 49, 52, 53, 109, 115)

Attus radiatus Grube, 1859: Arch. Naturkunde Livland, vol. 2, no. 1, p. 471 (description, male, female).
Marpissa radiata: Simon, 1876: Arachnides de France, vol. 3, p. 28 (transferred to *Marpissa*).
Marpissa radiata: Żabka, 1997: Salticidae, Fauna Polski, p. 65-66, figs 209-214 (male, female).
Marpissa radiata: Fuhn & Gherasim, 1995: Familia Salticidae, Fauna României, pp. 171-173, figs 80, 82-2 (male, female).

Material. – RUSSIA: 1 female (ISE), Novosibirsk Area, Karasuk Distr., ca. 8 km W of Troitskoe, 06-07.1989, V.P. Pekin; 1 male, 1 female (ISE), same area, Severnyi Distr., ca. 1.5 km S of Biaza, 05-07.1989, V.P. Pekin; 1 male (ISE), same locality, 1.08.1990, V.P. Pekin. 1 male (ISE), same area, Zdvinsk Distr., ca. 5 km NE of Shirokya Kuriya, 05.08.1989, V.P. Pekin; 1 male, 1 female (ISE), same area, Chulym Distr., near Sherstobitovo, 9.08.1992, V.V. Dubatolov; 1 female (ISE), same area, Kolyvan' Distr., near Pikhtovka, 07.1989, B.P. Zakharov; 2 males (ISE), same area, Kargat Distr., ca. 15 km NE of Verkh-Kargat, 2.08.1987, D.V. Logunov; 3 males, 2 females (ISE), same locality, 22.07.1988, D.V. Logunov.

For other material studied see LOGUNOV (1992) and DANILOV & LOGUNOV (1993).

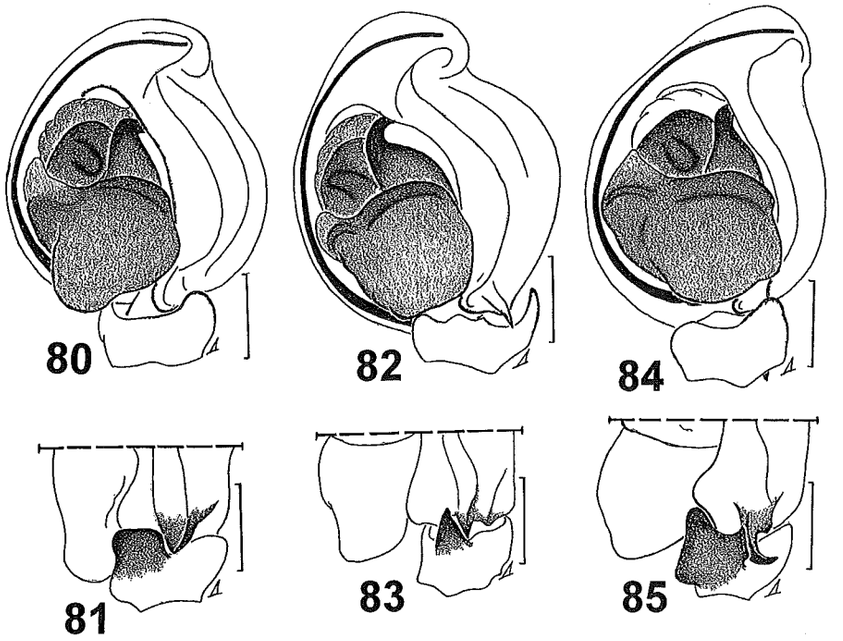
Diagnosis and description. See HARM (1981) and ŻABKA (1997).

Distribution. This is an European-Siberian boreal species (PRÓSZYŃSKI, 1976, LOGUNOV, 1992).

Marpissa (*Marpissa*) *sulcosa* Barnes, 1958
(figs 68, 69, 84, 85)

Marpissa sulcosa: Barnes, 1958: American Museum Novitates, no. 1867, pp. 25-27, figs 41-43 (description, male, female; male holotype from the AMNH examined).

Material. – U.S.A.: 1 male (AMNH, holotype of *M. sulcosa*), Florida, Alachua Co., 1300 m a.s.l., 8.04.1929, H.K. Wallace; 1 female (AMNH), Florida, Fort Myers, 81° 50' W, 26° 38' N, 18.03.1954, W. Ivie; 1 female (AMNH, allotype of *M. sulcosa*), Florida, Duval Co., 16.04.1949, H.K. Wallace.



Figures 80-85. — Male palps of *Marpissa* spp. **80, 81**, *Marpissa obtusa* (holotype). **82, 83**, *Marpissa dentoides* (holotype). **84, 85**, *Marpissa sulcosa* (holotype). – **80, 82, 84**, palp, ventral view. **81, 83, 85**, tibial apophysae, retrolateral view. — Scale bars: 0.2 mm.

Diagnosis. Females of this species are most close to those of *M. dentoides* but can be easily distinguished by the smaller epigynal plate, the wider separated copulatory openings (cf. figs 68 and 66) and the different structure of the spermathecae (cf. figs 69 and 67). The males of *M. sulcosa* (figs 84, 85) differ from those of all closely related species, i.e. *M. lineata, M. obtusa* and *M. dentoides* in having the longest and hook-shaped lateral cymbial process and the strongest tibial apophysis (cf. fig. 85 and figs 81, 83).

Distribution. U.S.A.: Florida.

Description. See BARNES (1958).

Notes. On the basis of distributional and habitat data, EDWARDS (1980) came to the conclusion that *M. sulcosa* is a junior synonym of *M. lineata*. Besides, he assumed that the females of *M. sulcosa*, as they were described by BARNES (1958), may be those of *M. dentoides*. However, as it is evident from the above diagnosis, *M. sulcosa* is clearly separated from both *M. lineata* and *M. dentoides* and is therefore to be considered a valid species.

Males and females of *M. sulcosa* were matched provisionally, as neither BARNES (1958; all his specimens re-examined), nor subsequent authors (e.g. EDWARDS, 1980) have collected males and females together. Thus, it is very likely that the female of *M. sulcosa*, as we now know it (fig. 68, 69), in reality may belong to *M. obtusa* known from the only male (see

above). The issue is in need of a further study.

Subgenus *Hyctia* Simon, 1876 stat. n.

Type species: *Salticus nivoyi* Lucas, 1846.

Diagnosis. See comments under "diagnosis" of the subgenus *Marpissa*.

Marpissa (*Hyctia*) *bina* (Hentz, 1846)

Attus binus Hentz, 1846: Journal of Boston Soc. Nat. Hist., vol. 5, p. 352, pl. 21, fig. 2 (description, female).
Marpissa bina: Barnes, 1958: American Museum Novitates, no. 1867, pp. 9-11, figs 12-15 (transferred to *Marpissa*).

Material. – U.S.A. : 1 male (AMNH), New Carolina, Carterot Co., Beaufort, 18.07.1951, R.D. Barnes.

Diagnosis and description. See BARNES (1958).

Distribution. According to BARNES (1958), the species range is restricted to Florida and North Carolina (U.S.A.).

Marpissa (*Hyctia*) *bryantae* (Jones, 1945)
(figs 86-88)

Hyctia briantae Jones, 1945: Field and Laboratory, vol. 13, p. 39, fig. 1 (description, female; holotype from the MCZ examined).
Marpissa briantae: Cutler in Richman & Cutler, 1978: Peckhamia, vol. 1, no. 5, p. 87 (transferred to *Marpissa*).

Material. – U.S.A.: 1 female (MCZ, holotype of *Hyctia bryantae*), Texas, Denton Co., Clear Creek grassland, land herbs, 26.03.1942, coll.?

Diagnosis. *M. bryantae* is very close to (or the same as) *M. pickei*. The only visible difference is seen in the spermathecae of which terminal parts are wider and slightly shorter than those in *M. pickei* (cf. arrowed part in figs 87 and 90). Taking into account that no differences are found in body coloration and size of the genitalia of both species, it is very likely that the above difference reclects only a variation. The problem remains open until more females, as well as males, of *M. bryantae* are collected from the type locality.

Description. See JONES (1945).

Distribution. The type locality only: Texas (U.S.A.).

Marpissa (*Hyctia*) *formosa* (Banks, 1892)
(figs 70, 71)

Icius formosus Banks, 1892: Proc. Acad. Nat. Sci. Philadelphia, vol. 44, p. 76, pl. 5 fig. 31 (description, male).
Marpissa formosa: Barnes, 1958: American Museum Novitates, no. 1867, pp. 4-8, figs 4-8, 9-11 (transferred to *Marpissa*).

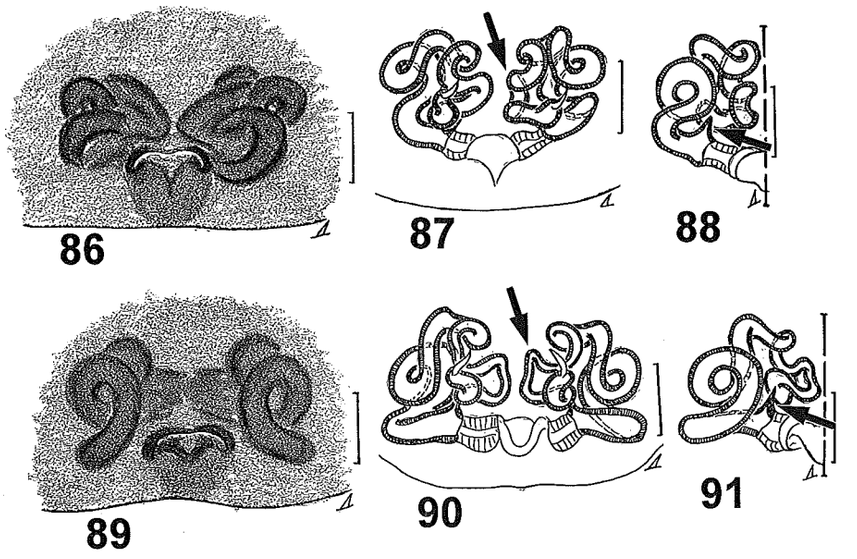
Material. – U.S.A.: 2 males, 2 females (ISE), Michigan, Livingston Co., E.S. George Reserve, 11.08.1951, H.K. Wallace; 1 male, 1 female (ISE), Florida, Alachua Co., Newnan's Lake, 2.08.1978, G.B. Edwards; 2 males (AMNH), Texas, New Braunfels, 19.08.1935, S. Mulaik; 1 female (AMNH), Texas, ca. 5 miles SE of Weslaco, 21.07.1935, S. Mulaik; 1 female (AMNH), Texas, Bronsville, 1.12.1934, S. Mulaik.

Diagnosis and description. See BARNES (1958).

Distribution. The species is widely distributed over the entire eastern half of the United States (BARNES, 1958; RICHMAN & CUTLER, 1978).

Marpissa (*Hyctia*) *grata* (Gertsch, 1936)
(figs 92-97)

Hyctia grata Gertsch, 1936 : American Museum Novitates, no. 852, p. 25, figs 25-26 (description, male, female; male holotype from the AMNH examined).
Marpissa grata: Barnes, 1958: American Museum Novitates, no. 1867, pp. 11-13, figs 22-25, 27-28 (transferred to *Marpissa*).



Figures 86-91. — Female copulatory organs of *Marpissa* spp. **86-88**, *Marpissa* (*Hyctia*) *bryantae* (holotype). **89-91**, *Marpissa pickei*, U.S.A.: Kansas. – **86, 89**, epigyne. **87, 90**, spermathecae, dorsal view. **88, 91**, spermathecae, ventral view. — Scale bars: 0.1 mm.

Marpissa wallacei Barnes, 1958: American Museum Novitates, no. 1867, pp. 13-15, figs 26, 29, 30 (description, male, female; male holotype from the AMNH examined). **New synonymy**.

Material. – U.S.A.: 1 male (AMNH, holotype of *Hyctia grata*), Minnesota, Minneapolis, 18.05.1932, W. Gertsch; 2 males, 2 females (ISE), Michigan, Livingston Co., E.S. George Reserve, Grid: E-15; 6.07.1954, H.K. Wallace; 1 male, 1 female (AMNH), same locality, 20.07.1951, H.K. Wallace; 1 female (AMNH, det. by R. Barnes as *M. wallacei*), Florida, Fort Myers, 30.01.1942, coll.?; 1 male, 1 female (AMNH, holotype and allotype of *M. wallacei*), Florida, Alachua Co., 25.11.1952, H.K. Wallace.

Diagnosis and description. See BARNES (1958).

Distribution. At present time, the species is known in the U.S.A. only from Michigan and Minnesota (BARNES, 1958; RICHMAN & CUTLER, 1978) and Florida (BARNES, 1958, sub *M. wallacei*; RICHMAN & CUTLER, 1978, sub *M. wallacei*).

Notes. As it is evident from figs 92-95, the male bulb of *M. wallacei* is almost identical with that of *M. grata*. Therefore, both species names are to be synonymized.

Marpissa (*Hyctia*) *nivoyi* (Lucas, 1846)
(figs 12, 13, 22, 23, 31, 41, 56-59, 112, 116, 133, 134)

Salticus nivoyi Lucas, 1846: Exploration scientifique de l'Algérie (Zool., 1, Arachn.), p. 183, pl. 10, fig. 5 (description, female).
Marpisa nivoyi: Prószyński, 1976: Studium syst.-zool. rodzina Salticidae (Aranei) Reg. Paleark. Neark. Siedlce, p. 51, fig. 1407, m. 117 (transferred to *Marpissa*).

Hyctia nivoyi: Fuhn & Gherasim, 1995: Familia Salticidae. Fauna României, pp. 165-167, figs 76-2, 77 (male, female).

Material. – GEORGIA: 1 male (ZISP), Krasnodar Province, Caucasus Reservation, Guzeripl' Mt., 800 m a.s.l., 13.07.1974, V.I. Ovtsharenko.

For other material studied, see LOGUNOV & RAKOV (1998).

Diagnosis and description See HARM (1981).

Distribution. This is an European-Central Asian subboreal species (PRÓSZYŃSKI, 1976; HARM, 1981; LOGUNOV & RAKOV, 1998).

Marpissa (*Hyctia*) *pikei* (Peckham & Peckham, 1888)
(figs 10, 11, 89-91, 117)

Hyctia pickei Peckham & Peckham, 1888: Trans. Wisconsin Acad. Sci., vol. 7, p. 79, pl. 1, fig. 59, pl. 5 fig. 59, pl. 6, fig. 59a (description male, female).

Marpissa pickei: Barnes, 1958: American Museum Novitates, no. 1867, pp. 15-21, figs 16-21 (transferred to *Marpissa*).

Material. – U.S.A.: 1 male, 1 female (ISE), Kansas, Douglas Co., Lawrence, University of Kansas, 29.04.1990, B. Cutler; 2 females (ISE), Florida, Levy Co., Way Key (Cedar Key), along S-24, 4.03.1976, J. Reiskind; 2 males (ISE), Florida, Marion Co., Ocala National Forest, FR 79, ca. 1.8 miles S of FR 95, 1.06.1976, G.B. Edwards; 1 male (AMNH), Arizona: Huachuca Mts, Carr Canyon, 3.06.1952, W.J. Gertsch, M. Cazier & R. Schrammel; 1 male (AMNH), Huachuca Mts, Montesuma Pass, 6000 ft, 4.06.1952, W.J. Gertsch, M. Cazier & R. Schrammel.

Diagnosis and description. See BARNES (1958). See also comments under "diagnosis" of *Marpissa bryantae*.

Distribution. The species is widely distributed over the entire eastern half of the United States (BARNES, 1958; RICHMAN & CUTLER, 1978).

Marpissa (*Hyctia*) *robusta* (Banks, 1905)
(figs 72-77)

Hyctia robusta Banks, 1905; Proc. Ent. Soc. Washington, vol. 7, p. 99, pl. 2, fig. 5 (description, female).

Marpissa robusta: Barnes, 1958: American Museum Novitates, no. 1867, pp. 21-23, figs 31-34 (transferred to *Marpissa*).

Material. – U.S.A.: 1 male, 2 females (AMNH), California, Monrovia Canyon (lower part), 117° 58' W, 34° 10' N, 26.07.1931, W. Ivie.

Diagnosis and description. See BARNES (1958).

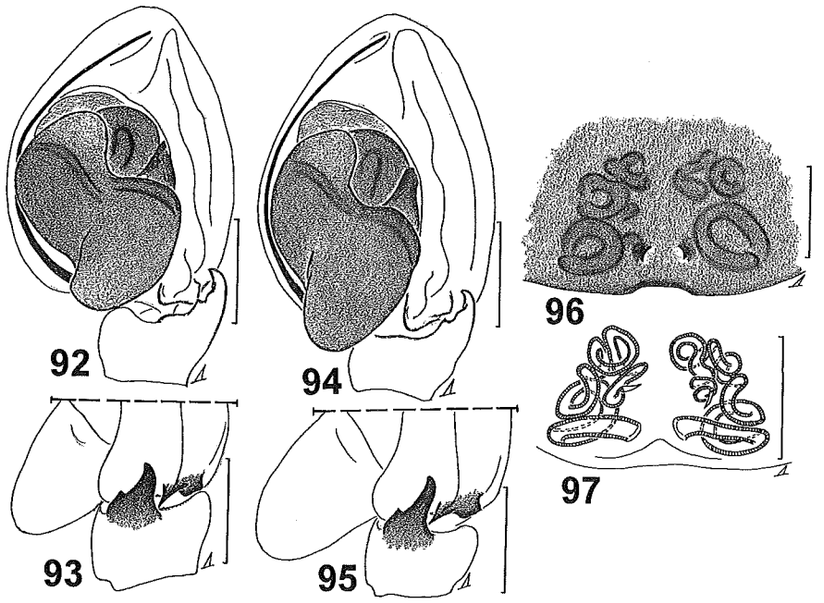
Distribution. The species has so far been recorded from two states of the U.S.A.: Arizona and California (BARNES, 1958; RICHMAN & CUTLER, 1978).

Notes. *Marpissa robusta* is characterized by a bunch of hairs beneath PME (arrowed in fig. 77), but both its structure and position are evident: it is not the true hair-pencil of *Mendoza* (cf. figs 39 and 77). Besides, presence of the endite tooth in male maxillae (fig. 74) and the distal tegular protuberance in the tegulum (fig. 75), as well as the structure of the female genitalia (figs 72, 73), allow to easily assign the species to the subgenus *Hyctia* of the genus *Marpissa*.

Genus *Mendoza* Peckham & Peckham, 1894

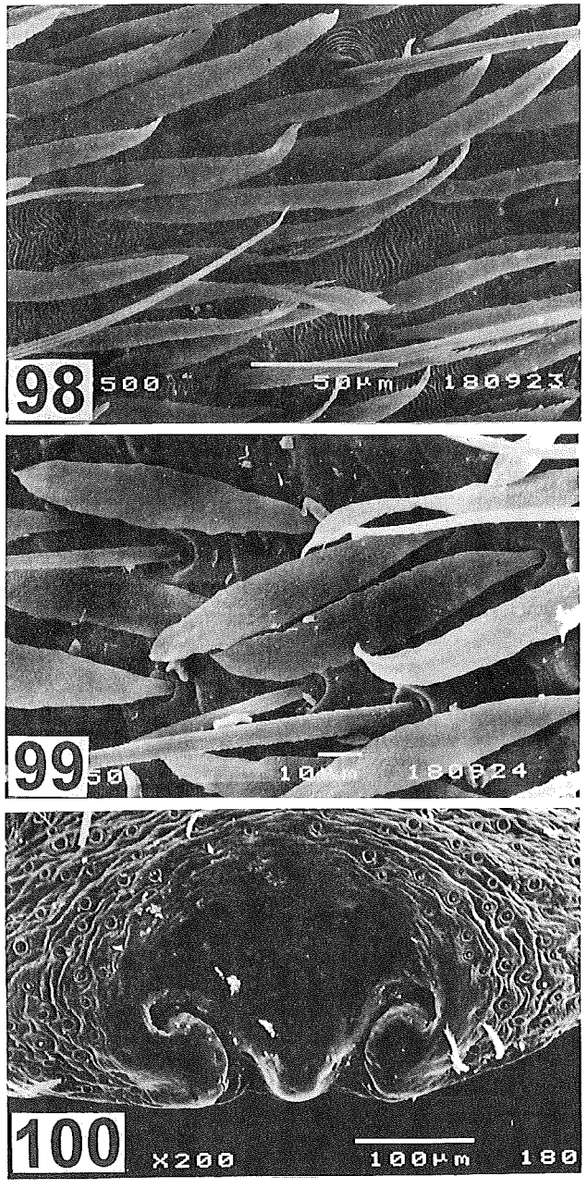
Type species: *Attus memorabilis* O. P.-Cambridge, 1876.

Definition. Medium size (usually elongated and slender) unidentate spiders ranging from about 5.4 to 9.0 mm in length. Sexual dimorphism is marked in coloration only: females usually have yellow body and legs with brown-striped dorsum, while males usually dark brown-black body and legs (except for *M. zebra*) with dorsal colour markings consisting of paired white spots or stripes (see LOGUNOV & WESOŁOWSKA, 1992, fig. 18C); besides, the hair pencil (arrowed in fig.



Figures 92-97. — Copulatory organs of *Marpissa* spp. **92, 93**, *Marpissa grata* (holotype). **94-97**, *Marpissa wallacei* (male holotype, female paratype). – **92, 94**, male palp, ventral view. **93, 95**, tibial apophysae, retrolateral view. **96**, epigyne. **97**, spermathecae. — Scale bars: 0.2 mm.

39) sometimes is better pronounced in females. *Carapace* rather low; eye field flat and transversely rectangular, with width 1.1-1.2 times greater than length; quadrangle length 42-47 % of carapace length; eyes in three rows, PME about half-way between ALE and PLE; hair pencil always present (fig. 39); carapace covered with elongated and granular scales as in fig. 99. *Clypeus* low (almost not marked), its height 10-18 % of AME diameter. *Chelicerae* normal, subvertical or slightly protruding ahead; promargin with two median teeth, retromargin with one median large tooth (figs 24-27). *Maxillae* more or less rectangular, longer than wide (figs 119-122). *Labium* rectangular, longer than wide. *Sternum* suboval, more or less sharpened anteriorly (figs 131, 132). *Pedicel* short, often visible in dorsal view. *Abdomen* elongated, 1.9-2.4 times longer than wide (figs 14-17), covered with elongated scales as in fig. 98. *Legs* moderately short, normal; the first pair always heavier and darker (fig. 26). *Leg formula*: I, IV, II, III in males and I, IV, II, III or I, IV, III, II in females. *Female palp*: common shape; without apical claw; femora with 1-2 dorsal spines situated as O-1-1 or 0-0-1. *Male palp*: cymbium of usual shape, never flat (figs 79, 105-108); cymbial ledge well developed (figs 104, 106, 108); lateral cymbial process always present, hook-shaped (figs 78, 105-108); course of sperm duct rather complex (figs 111, 113, 114); a singular tibial apophysis always present, embolus originating at the proximal point of bulb (figs 79, 105, 107); embolus relatively (in comparison



Figures 98-100. — Female copulatory organ and somatic characters of *Mendoza canestrinii*, Ukraine. **98**, abdominal scales. **99**, carapace scales. **100**, epigyne.

to *Marpissa*) short and strong, its revolution less than 180 degrees; sometimes embolus contains a membrane (arrowed in figs 105, 126); embolus, as viewed by scanning electron microscopy (figs 101, 102), clearly consists of two elongated closely fused sclerites of which a nomenclature needs a further study; basal and distal haematodochae and subtegulum well developped (figs 101-103, 123-126), in unexpanded palpal subtegulum always takes a lateral position (figs 103, 105, 107). *Female genitalia*: epigynal plate poorly sclerotized; epigyne simple, consisting of two atria separated by a median septum (figs 37, 38, 100); insemination ducts wide and short, ending by rather short tube-shaped receptacles (fig. 44-46); glandular ducts are often well developed and easily visible (arrowed in fig. 44); epigynal pocket absent.

Diagnosis. *Mendoza* belongs to the subfamily Marpissinae (*sensu* PRÓSZYŃSKI, 1976) and is closely related to *Marpissa*. Both genera can be easily distinguished by the following characters: the endite tooth absent (figs 119-122) (present in *Marpissa*, figs 33-36); tube-receptacles equal or twice as long as the insemination ducts (figs 44-46) (5 or more times longer in *Marpissa*, figs 41-43); the cymbium of common (normal) shape, never flat (figs 105-108) (flat and rounded, often curved apically in *Marpissa*, figs 58, 61, 62); the distal tegular protuberance absent (figs 105, 107, 124-126) (present in *Marpissa*, figs 49, 50 etc.); proximal position of the embolic base (figs 105, 107) (apical position in *Marpissa*, figs 58, 61, 62); the embolic revolution less than 180 degrees (ca. 360 or more degrees in *Marpissa*); and the hair pencil present (fig. 39) (absent in *Marpissa*, fig. 40) (See also table I).

Distribution. The Palearctic region, with the bulk of species (6 of 7 known) so far recorded in Manchuria and Japan.

Behaviour. No species of *Mendoza* have so far been studied with the regard to their epigamic display.

Synopsis of species

Mendoza canestrinii (Ninni in Canestrini & Pavesi, 1868) comb. n.

(figs 14, 15, 24, 25, 29, 37, 39, 44, 78, 79, 98-104, 107, 108, 114, 119, 123, 124, 131, 132)

Attus memorabilis O. P.-Cambridge, 1876: Proc. Zool. Soc. London, 1876, p. 618 (description, male; male lectotype and male paralectotype (both designated here) from the HEC, examined, figs. 78, 79). **New synonymy**.

Pseudicius cognatus Peckham & Peckham, 1894/ Occ. Pap. Nat. Hist. Soc. Wisc., vol. 2, no. 2, p. 112, pl. 11, fig. 3 (description, female; female holotype from the MCZ, examined). **New synonymy**.

Icius magister Karsch, 1879: Verh. naturh. Ver. preuss. Rheinl., Bonn, vol. 36, p. 83 (female holotype (immature!) from the Zoological Museum of Berlin; not examined). **Nomen dubium** (see "Comments" below).

Marpissa magister: Prószyński, 1973: Ann. Zool. PAN, vol. 30, no. 5, p. 116 (transferred to *Marpissa*).

Marpissa magister: Marusik & Logunov, 1994: 132, figs 3-5 (male, female).

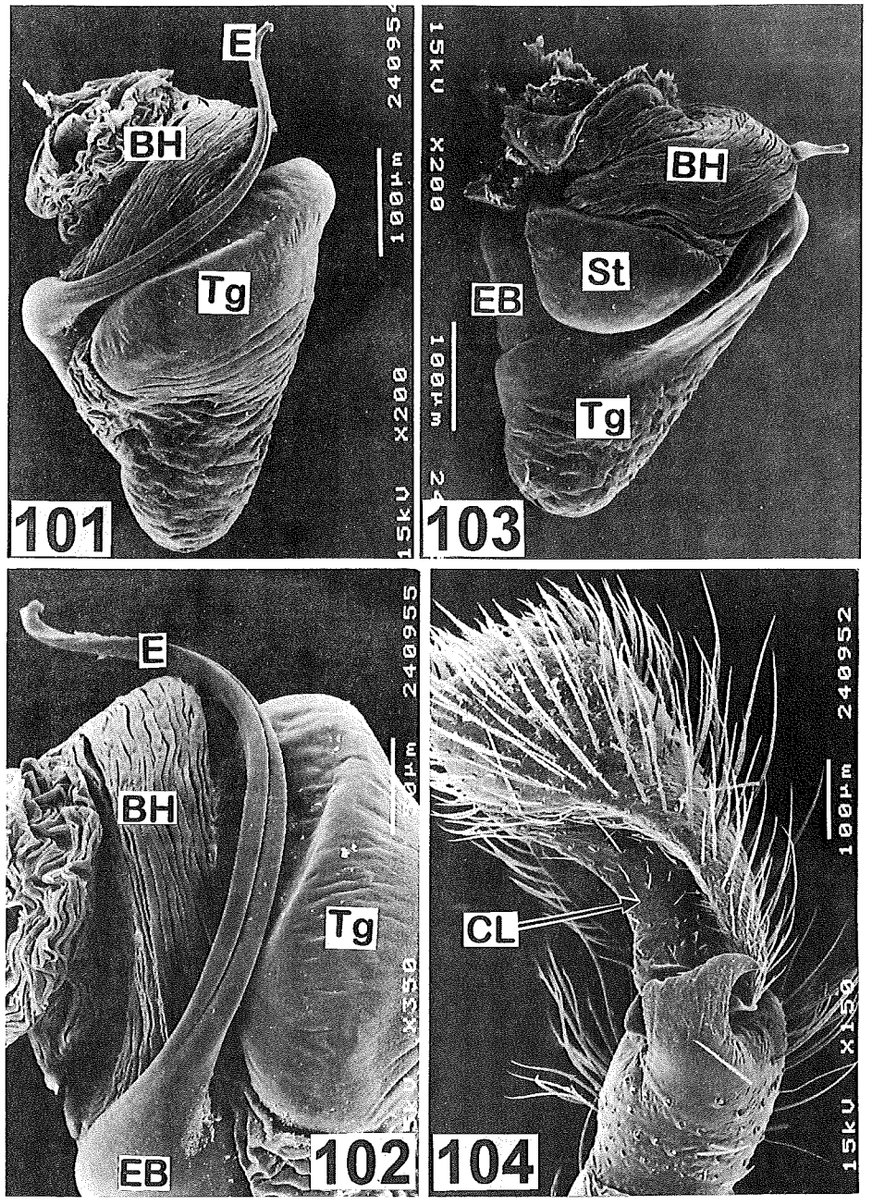
Marpessa obscura Kroneberg, 1875: Izv. imp. Obshch. lyub. estestv. antrop. etnogr. vol. 2 no. 4, pp. 46-47, pl. 5, fig. 33a-c (description, male) (synonymized with *Marpissa canestrinii* by Logunov & Rakov, 1998).

Mithion gridelli Caporiacco, 1934: Ann. Mus. civ. St. nat. Trieste, vol. 12, p. 119, fig. 1 (description, male, female) (synonymized with *Marpissa canestrinii* by Hansen, 1985a).

Mithion pichoni Schenckel, 1963: Mémoires du Muséum national d'Histoire naturelle, Paris, vol. 25, pp. 414-416, figs 238a & 238b (synonymized with *Marpissa* (*Mithion*) *tschekiangensis* by Wesołowska, 1981b).

Marpissa salsophila Tyshchenko, 1965: Entomol. Obozrenie, vol. 44, p. 704, fig. 11 (description male; holotype from the ZISP, examined) (synonymized with *Marpissa canestrinii* by Nemenz, 1967).

Marpissa salsophila (misidentification): Wesołowska, 1981a: Ann. Zool. PAN, vol. 36, no. 3, pp. 68-69, figs 77-79 (male from the IZW, re-examined).



Figures 101-104. — Male palps of *Mendoza canestrinii*, Ukraine. **101**, male bulbus, ventro-median view. **102**, embolus, ventro-apical view. **103**, male bulbus, dorso-median view. **104**, cymbium and palpal tibia, retro-lateral view.

Mithion tschekiangensis Schenkel, 1963: Mémoires du Muséum national d'Histoire naturelle, Paris, vol. 25, pp. 418-419, fig. 240a-f (synonymized with *Marpissa obscura* by Nenilin, 1984).

Mithion canestrinii : Fuhn & Gherasim, 1995: Familia Salticidae. Fauna României, pp. 175-177, figs 81, 82-3 (male, female).

Material. – EGYPT: 2 males, 5 juveniles (HEC, B.1732, male lectotype and paralectotype of *Attus memorabilis*, designated here), "Alex[andria]". – GEORGIA: 1 female (ZMMU), NE of Poti, Chaladidi, 13.04.1983, S.I. Golovatch; 1 male (ZISP), same locality, 19.05 (year and collector unknown); 2 males, 1 female (PSU), same locality, 19.05.1940, T.S. Mkheidze. – AZERBAIJAN: 1 male (ISE), Mingechaur, 17.04.1982, Shatrovsky. – UKRAINE: 1 male (ISE), Kherson Area, Chernomorsky Reservation, 16.07.1996, K.V. Evtushenko; 1 female (ISE), same locality, 16.07.1992, K.V. Evtushenko; 1 male, 1 female (ZMMU), "Kiliya (?), bank of Dunai River, 14.05.1911, V. Chernavin" [label illegible]; 8 males, 6 females (ZISP), near Berdyansk, 30.05.1930, coll.? – RUSSIA: 5 females (ZISP), Krasnodar Province, near Slavyanka, 18-27.05.1928, S. Spassky; 3 females (ISE), Amur Area, Blagoveshensk Distr., Sadovoe, Peschanoe Lake, 28.08.1994, E.I. Malikova; 2 males (ISE), Primorie, Lazo Reservation, 21.06.1979-15.08.1981, T.I. Oliger; 2 females (ISE), same area, Khanka Lake, 44°39'N, 132°34'E, 15-16.07.1998, Yu.M. Marusik; 2 females (ISE), same locality, 20.06.1997, T. Vshivkova. – CHINA: 1 female (SMF), Beijing, 100 m a.s.l., 6.06.1997, J. Martens & P. Jäger; 1 male (IZW), Kuangtung, Cun-hua, ca. 96 km NE of Kanton, 29.09.1965, R. Bielawski. – JAPAN: 1 female (MCZ, 384, holotype of *Pseudicius cognatus*), "Japan, E.G. Peckham coll."

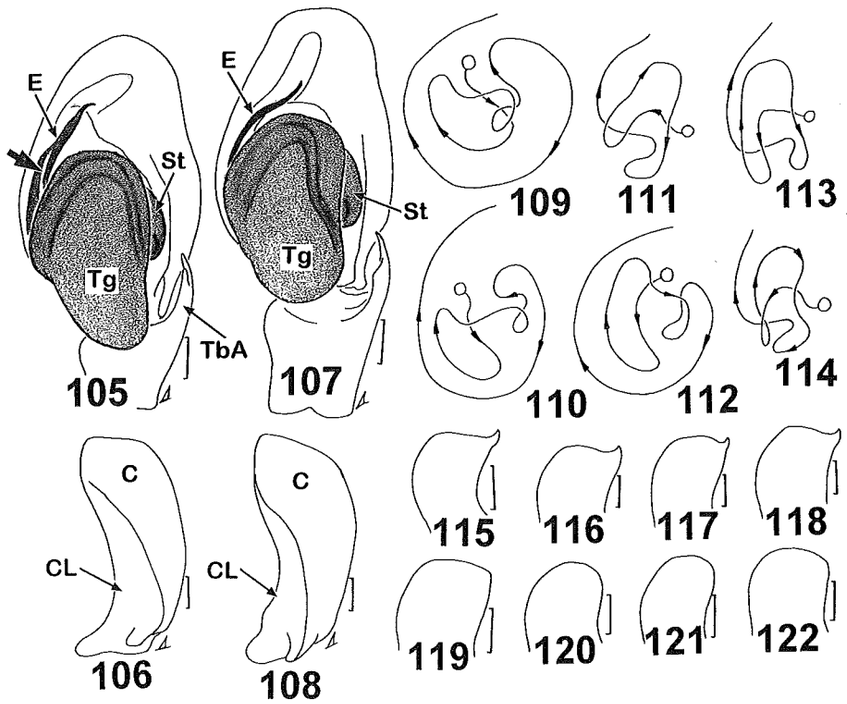
For other material studied see LOGUNOV & WESOŁOWSKA (1992: sub *Marpissa magister*) and LOGUNOV & RAKOV (1998: sub *Marpissa canestrinii*).

Diagnosis and description. See BOHDANOWICZ & PRÓSZYŃSKI (1987: sub *Marpissa magister*) and LOGUNOV & WESOŁOWSKA (1992: sub *Marpissa magister*).

Distribution. This a trans-Eurasian subboreal species, which has been commonly known as *Mithion canestrinii* from Europe and as *Marpissa magister* from the Far East (see below). Besides, WESOŁOWSKA (1981a) first reported one occurence of this species in China under the name of *Marpissa salsophila* (WESOŁOWSKA's specimen re-examined).

Notes. *Pseudicius cognatus* is the same species as being repeatedly reported so far from the Far East under the name of *Marpissa magister*. The holotype of *Marpissa magister* was shown to be an immature specimen (see PRÓSZYŃSKI, 1973; BOHDANOWICZ & PRÓSZYŃSKI, 1987), and hence this specific name is to be considered as *nomen dubium*. So, all the former Far Eastern records of *Marpissa magister* (e.g. YAGINUMA, 1970; CHIKUNI & YAGINUMA, 1976; LOGUNOV & WESOŁOWSKA, 1992, etc.) should actually be referred to *Hyctia cognata*.

Moreover, the re-examination of the holotype of *Pseudicius cognatus*, as well as numerous specimens determined as *Marpissa magister*, show no consistent differences from *Mendoza canestrinii*, as it was diagnosed by LOGUNOV & RAKOV (1998; sub *Marpissa canestrinii*). Small differences in the structure of the tibial apophysis shown by BOHDANOWICZ & PRÓSZYŃSKI, 1987: cf. figs 118 and 122) seem to be an artefact and in reality reflects a variability only. Thus, I agree with HANSEN's opinion (HANSEN, 1985a: sub *Marpissa canestrinii*) that the shape of the tibial apophysis in *Mendoza canestrinii* is of poor taxonomic importance and cannot be taken into consideration. Therefore, the species name *Pseudicius cognatus* is here considered as a junior synonym of *Mendoza canestrinii*.



Figures 105-122. — Somatic characters and copulatory organs of *Marpissa* spp. and *Mendoza* spp. **105, 106**, *Mendoza dersuuzalai*, Russia: Khabarovsk Province. **107, 108**, *Mendoza canestrinii*, Ukraine. **109**, *Marpissa radiata*. **110**, *Marpissa lineata*. **111**, *Mendoza dersuuzalai*. **112**, *Marpissa nivoyi*. **113**, *Mendoza nobilis*. **114**, *Mendoza canestrinii*. **115**, male maxilla of *Marpissa radiata*, Russia: Novosibirsk Area, ventral view. **116**, male maxilla of *Marpissa nivoyi*, Ukraine, ventral view. **117**, male maxilla of *Marpissa pickei*, U.S.A.: Kansas. **118**, male maxilla of *Marpissa lineata*, U.S.A.: Minnesota. **119**, male maxilla of *Mendoza canestrinii*, Ukraine. **120**, *Mendoza nobilis*, Russia: Khabarovsk Province. **121**, *Mendoza dersuuzalai*, Russia: Khabarovsk Province. **122**, *Mendoza elongata*, Russia: Khabarovsk Province. – **105-107**, male palp, ventral view. **106, 108**, cymbium, lateral view. **109-114**. Schematic course of sperm duct trajectory. **115-122**, left male chelicerae, ventral view. — Scale bars: 80-83, 91-93, 0.1 mm; 90, 94-97, 0.25 mm.

Mendoza dersuuzalai (Logunov & Wesołowska, 1992) comb. n.

(figs 105, 106, 111, 121, 125, 126)

Marpissa dersuuzalai Logunov & Wesołowska, 1992: Ann. Zool. Fennici, vol. 29, pp. 121-124, figs 8-10 (description, male, female; male holotype from the ISE examined).

Material. See LOGUNOV & WESOŁOWSKA (1992: sub *Marpissa dersuuzalai*).

Distribution. The species is know only from the southern parts of Khabarovsk Province and Amur Area (Russia) (LOGUNOV & WESOŁOWSKA , 1992); occurence in NE China is very probable as well.

Mendoza elongata (Karsch, 1879) comb. n.

(figs 45, 122)

Icius elongatus Karsch, 1879: Verh. naturh. Ver. preuss. Rheinl., Bonn, vol. 36, p. 83 (description, male; male holotype not examined).

Marpissa elongata: Yaginuma, 1970: Bull. nation. Sci. Mus. Tokyo, vol. 13, p. 671 (transferred to *Marpissa*); Peng *et al.*, 1993: Salticids in China, p. 116-118, 122, figs 387-393.

Hyctia hiroseae Nakatsudi, 1942: Nogio Daigaku (J. agri. Sci.), Tokyo, vol. 1, pp. 317-319, figs 1-3 (description, female; female holotype was lost, not examined; see "notes" below). **New synonymy**.

Marpissa hiroseae: Yaginuma, 1970: Bull. nation. Sci. Mus., Tokyo, vol. 13, p. 671 (transferred to *Marpissa*).

Mithion hotingchiehi Schenkel, 1963: Mémoires du Muséum national d'Histoire naturelle, Paris, vol. 25, p. 416, fig. 239d (description, female; female holotype from the MNHN, not examined). **New synonymy**.

Marpissa nobilis (misidentifications): Prószyński, 1979: Ann. Zool. PAN, vol. 34, no. 11, p. 312, figs 171-177 (male and female from the ZISP, re-examined); Wesołowska, 1981b: Ann. Zool. PAN, vol. 36, no. 7, pp. 139-141, figs 35-36 (female from the IZW, re-examined); Logunov & Wesołowska, 1992 (in part, female only): Ann. Zool. Fennici, vol. 29, pp. 126-127, fig. 15 (females from the ISE, re-examined).

Material. – RUSSIA: 1 female (ISE), Primorie, Chernigovka Distr., near Dmitrievka, 26.08.1986, A.A. Borok.

For other material studied, see LOGUNOV & WESOŁOWSKA (1992: sub *Marpissa elongata*).

Distribution. This is an eastern Palearctic (Manchurian) species recorded so far from the Russian Far East, Japan, Korea and NE China (BOHDANOWICZ É PRÓSZYŃSKI, 1987; LOGUNOV & WESOŁOWSKA, 1992; PENG *et al.*, 1993).

Notes. *Hyctia hiroseae* was described from a single female from Japan (Tadanaejima Island) by NAKATSUDI (1942). The holotype was lost and now cannot be re-examined. Dr. H. IKEDA (personal communication) collected topotypes of this species (2 females) and found them to belong to *Mendoza elongata*. Reasoning from the original description (NAKATSUDI, 1942: figs. 1-3), I came to the same conclusion.

Besides, the female of *Marpissa nobilis*, as illustrated and redescribed by LOGUNOV & WESOŁOWSKA (1992: fig. 15), in reality belongs to *Mendoza elongata*. See also comments under "notes" of *Mendoza pulchra* and *Mendoza nobilis*.

Mendoza ibarakiensis (Bohdanowicz & Prószyński, 1987) comb. n.

Marpissa ibarakiensis Bohdanowicz & Prószyński, 1987: Ann. Zool. PAN, vol. 41, no. 2, pp. 81-82, figs 106-111 (description, female; female holotype from the IZW, examined).

Material. – JAPAN: 3 males, 2 females (ISE), Miyagi Pref., Izunuma Lake, 1.06.1986, A. Tanikawa.

Diagnosis and description. See BOHDANOWICZ & PRÓSZYŃSKI (1987: sub *Marpissa ibarakiensis*) and IKEDA (1993: sub *Marpissa ibarakiensis*).

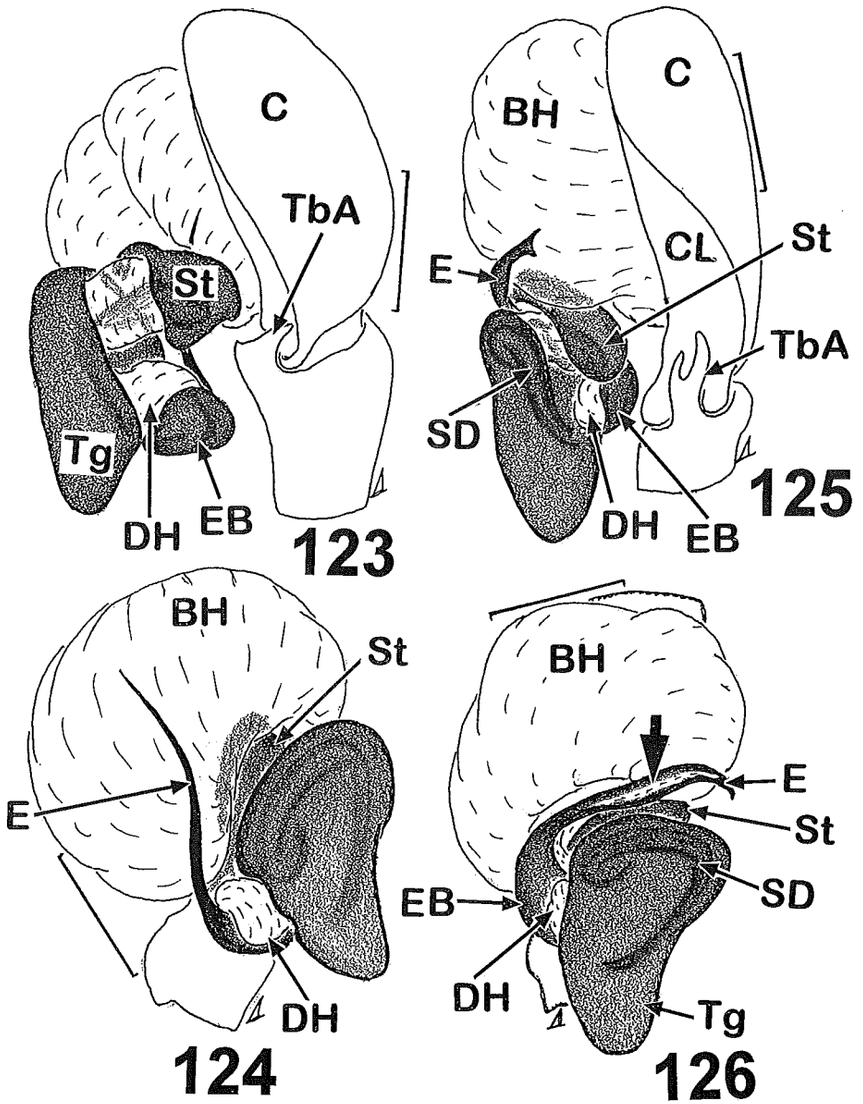
Distribution. At the present time, the species is known only from Japan (BOHDANOWICZ & PRÓSZYŃSKI (1987; IKEDA, 1993).

Mendoza nobilis (Grube, 1861) comb. n.

(figs 16, 17, 26, 27, 38, 46, 113, 120)

Attus nobilis Grube, 1861: Bull. Acad. Imp. Sci. Pétersburg, vol. 4, p. 28 (description, male; male holotype from the ZMWU examined).

Marpissa nobilis: Prószyński, 1971: Ann. Zool. PAN, vol. 28, no. 11, pp. 212-214, figs 16-19 (transferred to *Marpissa*); Logunov & Wesołowska, 1992 (in part, male only): Ann. Zool. Fennici, vol. 29, pp. 126-127, fig. 14 (male from the ISE re-examined).



Figures 123-126. — Expanded male palps of *Mendoza* spp. **123, 124**, *Mendoza canestrinii*, South Kazakhstan Area. **125, 126**, *Mendoza dersuuzalai*, Russia: Khabarovsk Province. — Scale bars: 0.1 mm.

Marpissa pulchra (misidentification): Logunov & Wesołowska, 1992 (in part, female only): Ann. Zool. Fennici, vol. 128-129, fig. 17 (female from the ISE, re-examined); Peng *et al.*, 1993: Salticids in China, pp. 120-122, fig. 403-409 (male and female, not examined).

Material. – RUSSIA: 1 male (ISE), Khabarovsk Province, Obluchie Distr., 13th km of the road Obluchie-Khingansk, 14.08.1994, E.I. Malikova; 1 male (ISE), Amur Area, Svobodensk Distr., Malaya Sezanka, 20.07.1994, E.I. Malikova; 2 males, 4 females (ISE), same area, Kundur, 06-07.1997, A. Kuz'min; 1 male (ISE), Primorie, Lazo Reservation, 43°16'N, 132°01'E, 17.08.1980, T.I. Oliger; 4 males, 2 females (ISE), same locality, 6-9.08.1998, Yu.M. Marusik & S. Koponen; 7 males, 1 female (ISE), same area, SW part of Khasan Distr., near Andreevka, 42°35-36'N, 131°13'E, 11-15.07.1998, Yu.M. Marusik. – NORTH KOREA: 3 males (IZW, paratypes of *Marpissa pulchra*), "Diuyr ad Chongjin", 24.04.1959, B. Pisarski & J. Prószyński; 2 males and 1 female (IZW, paratypes of *Marpissa pulchra*), "Onpho ad Chongjin", 20.08.1959, J. Prószyński; 3 males, 2 females (IZW), Pyongyang, Tesonsan Park, 17.08.1987, H. Garbarczyk; 1 male, 1 female (IZW), Haeson, Kaesong-City, 14.08.1987, H. Garbarczyk; 1 male, 1 female (IZW), same locality, 29-30.06.1990, Ekipa; 1 female (ISE), North Pyongan Prov., Myohyang Mts, Chjosan, 12.06.1990, Ekipa; 3 males (IZW), same mountains, Hyangsachon River Valley, 2.08.1987, E. Kierych; 2 females (IZW), same mountains, near Kumgan cave, 10.06.1990, Ekipa; 1 male (IZW), Hamgyong-namdo Province, Kyongsong Co., Sang-onpo-ri, 17.06.1990, Ekipa; 1 male, 2 females (IZW), same province, Orang Co., Changyon Lake, 17.06.1990, Ekipa; 2 males, 1 female (IZW), Thenian, Tesonsan Park, 31.08.1987, H. Garbarczyk; 1 male, 1 female (ISE), Kangwon-do Province, Kumgang Mts, Okryu Valley, 26.08.1987, E. Kierych; 1 female (IZW), same city, near Tomb of King Tongmen, 27.06.1990, Ekipa; 1 female (IZW), Kumgang Mts, near Onjon, 28.08.1987, H. Garbarczyk; 1 female (IZW), same locality, 23.06.1990, Ekipa; 2 females (IZW), same mountains, Hyangsan, 22.08.1987, H. Garbarczyk. – SOUTH KOREA: 1 male (ISE), Go Je Peninsula, Chansynpkho Mt., 6.06.1997, A.B. Egorov; 1 female (ISE), north part of Kanghwa Peninsula, 27-28.05.1997, E.B. Egorov.

For other material studied, see LOGUNOV & WESOŁWSKA (1992: sub *Marpissa nobilis* and females sub *Marpissa pulchra*).

Diagnosis and description. See LOGUNOV & WESOŁWSKA (1992: male sub *Marpissa nobilis* and female sub *Marpissa pulchra*).

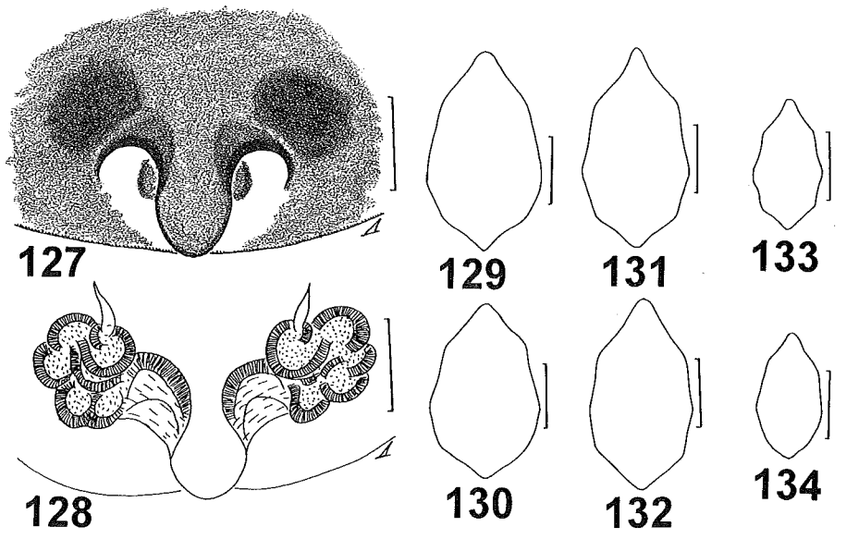
Distribution. This is an eastern Palaearctic (Manchurian) species recorded so far from the Russian Far East, Korea and NE China (LOGUNOV & WESOŁWSKA (1992; PENG *et al.*, 1993: sub *Marpissa pulchra*; current data).

Notes. Following a wrong earlier assumption (WESOŁWSKA 1981b: figs 35-36) that *Mithion hotingchiehi* is a junior synonym of *Marpissa nobilis*, LOGUNOV & WESOŁWSKA (1992) wrongly redescribed the female of *Mendoza elongata* under the name of *Mendoza nobilis*, as PRÓSZYŃSKI (1979: figs 176-177) earlier did as well. See also comments under "notes" of *Mendoza pulchra* and *Mendoza elongata*.

Mendoza pulchra (Prószyński *in* Wesołowska, 1981) comb. n.
(figs 127, 128)

Marpissa pulchra Prószyński, 1976: Studium syst.-zool. rodzina Salticidae (Aranei) Reg. Paleark. Neark., Siedlice, p. 51, map 123, figs 250, 412-414 (*nomen nudum*; female holotype from the IZW (?), not examined).

Marpissa pulchra Prószyński *in* Wesołowska, 1981a: Ann. Zool. PAN, vol.



Figures 127-134. — Female copulatory organ and somatic characters of *Marpissa* spp. and *Mendoza* spp. **127, 128**, *Mendoza pulchra*, North Korea. **128, 130**, *Marpissa muscosa* (male and female), Ukraine. **131, 132**, *Mendoza canestrinii* (male and female), Kazakhstan: South Kazakhstan Area. **133, 134**, *Marpissa nivoyi* (male and female), Ukraine. – **127**, epigyne. **128**, spermathecae. **129-134,** sternums of females (upper row) and males (lower row). — Scale bars: 127, 128, 0.1 mm; 129-134, 0.5 mm.

36, no. 3, pp. 66-67, figs 67-74 (description male, female; paratypes from the IZW, examined).

Marpissa elongata (misidentification); Wesołowska, 1981a (in part, female only): Ann. Zool. PAN, vol. 36, no. 3, pp. 64-65, figs 63-64 (female from the IZW, re-examined).

Material. – NORTH KOREA: 1 female (IZW), Hamhyg-si Prov., Hamdżu Distr., Hyngpong-ri, ca. 15 km W of Hamhyng, 12.06.1965, M. Mrokowski & A. Riedel.

Diagnosis and description. See WESOŁOWSKA (1981a).

Distribution. Up to now, this species has been recorded undoubtedly from Japan and Korea only (PRÓSZYŃSKI, 1976; BOHDANOWICZ & PRÓSZYŃSKI, 1987; current data).

Notes. The taxonomic status of *Mendoza pulchra* is here recognized to be rather obscure. I found the only female (figs 127, 128) clearly corresponding to PRÓSZYŃSKI's figures of the holotype of *Mendoza pulchra* (PRÓSZYŃSKI, 1976: figs 412-414; BOHDANOWICZ & PRÓSZYŃSKI, 1987: figs 132-134). This female was earlier identified by WESOŁOWSKA (1981a) as *Marpissa elongata*.

The name *Marpissa pulchra* was first introduced by PRÓSZYŃSKI (1976: figs 412-414), who illustrated the female holotype from Japan, but didn't describe it. Later, WESOŁOWSKA (1981a) carefully described both sexes of *Marpissa pulchra* from the Korean specimens, with all them being treated as the paratypes.

The validity of *Marpissa pulchra* was then accepted by YAGINUMA (1986) and LOGUNOV & WESOŁOWSKA (1992). However, as I now know it from the study of numerous newly collected materials (see above "Material" under *Mendoza nobilis*), the latter authors wrongly matched males and females of *Marpissa nobilis*, its females being considered those of *Marpissa pulchra*. The female of *Marpissa nobilis* redescribed and illustrated by LOGUNOV & WESOŁOWSKA (1992: fig. 15), as well as by some other authors (e.g. PRÓSZYŃSKI, 1979: figs 176, 177; WESOŁOWSKA, 1981b: figs 35, 36), turned out to actually belong to *Mendoza elongata*, while the male of *Marpissa pulchra* by the same authors (LOGUNOV & WESOŁOWSKA, 1992: fig. 16) belongs elsewhere.

Besides, a direct comparison of *Mendoza nobilis* specimens (both males and females) with the paratypes of *Marpissa pulchra* described by WESOŁOWSKA (1981a) from Korea has shown no differences in the genitalia. Thus, it is safe to assume that *Mendoza pulchra* may be a junior synonym of *Mendoza nobilis*. Although a final solution is delayed until the holotype of the former species is re-examined, it is clear that most of the records of *Marpissa pulchra* in the Russian Far East, Korea and China (WESOŁOWSKA, 1981a; LOGUNOV & WESOŁOWSKA, 1992; PENG *et al.*, 1993) seem to belong to *Mendoza nobilis*. The issue needs to be considered separately when more specimens of some *Mendoza* species, primarly *Mendoza elongata* and *Mendoza pulchra*, are collected. See also comments under "Notes" of *Mendoza nobilis* and *Mendoza elongata*.

Mendoza zebra (Logunov & Wesołowska, 1992) comb. n.

Marpissa zebra Logunov & Wesołowska, 1992: Ann. Zool. Fennici, vol. 29, pp. 129-130, fig. 18 (description, male; male holotype from the ISE examined).

Material. – RUSSIA: 1 male (ISE, holotype), Khabarovsk Province, 25-30 km SSW of Khabarovsk, Bolshoi Khekhtsyr Reservation, 17.06.1987, D.V. Logunov.

Diagnosis and description. See LOGUNOV & WESOŁOWSKA (1992: sub *Marpissa zebra*).

Distribution. At the present time, the species is known from the type locality only: SE environs of Khabarovsk (Russia).

Acknowledgements

I wish to express my thanks to the following curators who supplied comparative specimens for this study: Drs S.L. Esyunin and V.E. Efimik (both of the PSU), Prof. H. Levi (of the MCZ), Dr Yu.M. Marusik (Magadan, Russia), Dr K.G. Mikhailov (of the ZMMU), Dr V.I. Ovtsharenko (of the ZISP), Dr N. Platnick (of the AMNH), Prof. J. Prószyński (of the IZW), Dr W. Wesołowska (of the ZMWU), and Drs M. Saaristo and S. Koponen (both of the ZMTU). I am very obliged to Drs T. Kronestedt (Stockholm, Sweden), B. Cutler (Kansas, U.S.A.) and H. Ikeda (Kanagawa, Japan) for help in getting rare arachnological literature. I am additionally obliged to Dr H. Ikeda, who kindly translated original descriptions of two *Marpissa* species from Japanese to English and commented on their taxonomic positions. I am also gratefull to Dr P. Lehtinen (of the ZMTU), who provided me with a possibility to work on the scanning electron microscope in his lab. My warmest thanks are due to Dr S. Koponen (of the ZMTU) for the hospitality during my staying at Turku in March-April 1995 and September-October 1998. The work was partially supported by the New Year grant (Nr. 25) of the Siberian Department of the Russian Academy of Sciences and the grant 42680 from the Academy of Finland withing the frames of the joint project "Biodiversity and zoogeography of arachnids and insects in North Eurasia".

References

BARNES, R.D., 1958. — North American jumping spiders of the subfamily Marpissinae (Araneae, Salticidae). — *American Museum Novitates*, **1867**: 1-50.

BOHDANOWICZ, A. & PRÓSZYŃSKI, J., 1987. — Systematic studies on East Palaearctic Salticidae (Araneae). IV. Salticidae of Japan. — *Annales zoologici, Polska Akademia Nauk,* **41**: 43-151.

BONNET, P., 1955-1959. — Bibliographia Araneorum, t. **2** fasc. 1-5, 5058 p. *Impr. Douladoure, Toulouse.*

CHIKUNI, Y. & YAGINUMA, T., 1976. — Marpissa magister and Marpissa elongata. — *Atypus*, Tokyo, **67**: 33-34.

CRANE, J., 1949. — Comparative biology of Salticid spiders at Rancho Grande, Venesuela. Part IV. An analysis of display. — *Zoologica*, **34**: 159-214.

DANILOV, S.N. & LOGUNOV, D.V., 1993. — Faunistic review of the jumping spiders of Transbaikalia (Aranei, Salticidae). — *Arthropoda Selecta*, **2** (4): 25-39.

EDWARDS, G.B., 1980. — Jumping spiders of the United States and Canada: changes in the key and list (4). — *Peckhamia*, **2**: 11-14.

FUHN, I.E. & GHERASIM, V.F., 1995. — Familia Salticidae, *in*: Fauna României, Arachnida, **5** (5). *Editura Academiei Române,* 301 p.

GRISWOLD, C.E., 1993. — Investigations into the phylogeny of the lycosoid spiders and their kin (Arachnida: Araneae: Lycosoidea). — *Smithsonian contribution to Zoology*, **539** : 1-39.

HANSEN, H., 1985a. — Marpissa canestrinii Ninni, 1868. Ein Beitrag zur Systematik (Arachnida, Araneae, Salticidae). — *Bolletino del Museo civico di Storia naturale di Venezia*, **34** (1983) : 205-211.

HANSEN, H., 1985b. — Contributo alla conoscenza dei Salticidae italiani (Arachnida: Araneae). — *Bolletino del Museo civico di Storia naturale di Venezia*, **34** (1983) : 241-322.

HANSEN, H., 1986. — Die Salticidae der coll. Canestrini (Arachnida: Araneae). — *Lavori della Società veneziana di Scienze naturale,* **11** : 97-120.

HARM, M., 1981. — Revision der mitteleuropäischen Arten der Gattung Marpissa C.L. Koch, 1846 (Arachnida: Araneae: Salticidae). — *Senckenbergiana biologica*, **61** (3/4) : 277-291.

HILL, D.E., 1979. — The scales of salticid spiders. — *Zoological Journal of the Linnean Society*, **65** : 193-218.

IKEDA, H., 1993. — Redescriptions of the Japanese salticid spiders, Harmochirus kochiensis and Marpissa ibarakiensis (Araneae: Salticidae). — Acta Arachnologica, **42** (2) : 135-144.

JONES, S.E., 1945. — A new southern spider. — *Field and Laboratory* (Dallas, Texas), **13** : 39-42.

KISHIDA, K., 1910. — [Descriptions of new spider species]. — *Hakubutsugaku-zasshi, Tokyo*, (**118**) : 1-9 [in Japanese].

LOGUNOV, D.V., 1992. — The spider family Salticidae (Araneae) from Tuva. II. An annotated chek list of species. — *Arthropoda Selecta*, **1** (2) : 47-71.

LOGUNOV, D.V. & RAKOV, S.Yu., 1998. — Miscellaneous notes on Middle Asian jumping spiders (Aranei: Salticidae). — *Arthropoda Selecta*, **7** (2) : 117-144.

LOGUNOV, D.V. & WESOŁOWSKA, W., 1992. — The jumping spiders (Araneae, Salticidae) of Khabarovsk Province (Russian Far East). — *Annales Zoologici Fennici*, **29** : 113-146.

MARUSIK, YU.M. & LOGUNOV, D.V., 1994. — [Poorly known spider species from the families Salticidae and Thomisidae (Aranei) from the Far East of the USSR]. — *Entomologitcheskie issledovaniya na Severo-Vostoke SSSR* (1991): 131-140 [in Russian].

MERRETT, P., 1963. — The palpus of male spiders of the family Linyphiidae. — *Proceedings of the Zoological Society of London,* **140** (3) : 347-467.

MKHEIDZE, T.S., 1992. — [Spiders of Georgia (systematics, ecology and zoogeographical review)]. *Tbilisi*, 390 p. [in Georgian].

NAKATSUDI, K., 1942. — Arachnida from Izu-Sitito. — *Nogio Daigaku (J. agri. Sci.),* Tokyo, **1** : 287-328 [in Japanese].

NEMENTZ, H., 1967. — Einige interessante Spinnenfunde aus dem Neusiedlerseegebeit. — *Anzeiger der math.-naturw. Klasse der Österreichischen Akademie der Wissenschaften*, Wien, **1967** (6) : 132-139.

NENILIN, A.B., 1984. — [Materials on the fauna of the spider family Salticidae of the USSR. III. Salticidae of Kirghizhia] *in*: PROTSENKO, A.I. (ed.), Entomologicheskie issledovaniya v Kirghizii, **17**, pp. 132-143. *"Ylym", Frunze* [in Russian].

ONO, H., 1988. — A revisional study of the spider family Thomisidae (Arachnida, Araneae) of Japan. *National Science Museum*, Tokyo, 252 p.

OVTSHARENKO, V.I., 1978. — [Spiders of the family Salticidae (Aranei) from the Caucasus major]. — *Entomologicheskoe Obozrenie*, **3** : 682-686 [in Russian with English summary].

PECKHAM, G.W. & PECKHAM, E.G., 1894. — Spiders of the Marptusa group. — *Occasinal Papers of the Natural History Society of Wisconsin*, **2** (2) : 85-156.

PENG, X., XIE, L., XIAO, X. & YIN, C., 1993. — Salticids in China. *Hunan normal University Press,* 270 p. [in Chinese].

PLATNICK, N., 1993. — Advances in spider taxonomy 1988-1991. With synonyms and transfers 1940-1980. *New York Entomological Society and American Museum of Natural History,* New York, 846 p.

PLATNICK, N., 1997. — Advances in spider taxonomy 1992-1997. With redescriptions 1940-1980. *New York Entomological Society and American Museum of Natural History,* New York, 976 p.

PRÓSZYŃSKI, J., 1973. — Systematic studies on East Palaearctic Salticidae. II. Redescription of Japanese Salticidae of the Zoological Museum of Berlin. — *Annales zoologici, Polska Akademia Nauk*, **30** : 97-128.

PRÓSZYŃSKI, J., 1976. — Studium systematyczno-zoogeograficzne nad rodzina Salticidae (Aranei) Regionow Palearktycznego i Nearktycznego. *Rozprawa Naukowa, WSRP,* Siedlce, 260 p. [in Polish].

PRÓSZYŃSKI, J., 1990. — Catalogue of Salticidae (Araneae). Synthesis of quotations in the world literature since 1940, with basik taxonomic data since 1758. *Rozprawa Naukowa, WSRP,* Siedlce, 336 p. (the internet version: http://spiders.arizona.edi/proszynski/proszynski.html).

RICHMAN, D.B., 1982. — Epigamic display in jumping spiders (Araneae, Salticidae) and its use in systematics. — *Journal of Arachnology*, **10** : 47-67.

RICHMAN, D. & CUTLER, B., 1978. — A list of the jumping spiders (Araneae, Salticidae) of United States and Canada. — *Peckhamia*, **1** (5) : 285-344.

RŒWER, C.F., 1954. — Katalog der Araneae von 1758 bis 1940, **2**. Band. *Institut royal des Sciences naturelles de Belgique*, 1751 p.

SAARISTO, M., 1971. — Revision of the genus Maro O. P.-Cambridge (Araneae, Linyphiidae). — *Annales zoologici Fennici*, **8** : 463-482.

SAITO, S., 1939. — On the spiders from Tôhoku (northernmost part of the Main Island), Japan. — *Saito Ho-On Kai Museum Research Bulletin* (Zoology no. 6), **18** : 1-91.

SAITO, S., 1959. — The spider book illustrated in colours. *Hokuryu-Kan Publ. Co. Ltd.,* Tokyo, 194 p. [in Japanese].

SIERWALD, P., 1989. — Morphology and ontology of female copulatory organs in American Pisauridae, with special reference to homologous features (Arachnida: Araneae). — *Smithsonian Contributions to Zoology*, **484**: 1-24.

SIERWALD, P., 1990. — Morphology and homologous features in the male palpal organ in Pisauridae and other spider families, with notes on the taxonomy of Pisauridae (Arachnida: Araneae). — *Nemouria*, **35** : 1-59.

SIMON, E., 1871. — Révision des Attidae européens. Supplément à la monographie des Attidés (Attidae Sund.). — *Annales de la Société entomologique de France* (5) **1** : 125-230, 329-360.

SIMON, E., 1901. — Histoire naturelle des Araignées, t. **2,** fasc. 3, pp. 381-668. *Paris.*

WESOŁOWSKA, W., 1981a. — Salticidae (Aranei) from North Korea, China and Mongolia. — *Annales zoologici, Polska Akademia Nauk*, **36** : 45-83.

WESOŁOWSKA, W., 1981b. — Redescription of the Schenkel's East Asiatic Salticidae (Araneae). — *Annales zoologici, Polska Akademia Nauk*, **36**: 127-160.

YAGINUMA, T., 1970. — The spider fauna of Japan. — *Bulletin of the National Science Museum,* Tokyo, **13** : 639-701.

YAGINUMA, T., 1986. — Spider of Japan in color. New Edition. *Hoikusha Publishing Co. Ltd.,* Osaka, 305 p. [in Japanese].

ŻABKA, M., 1997. —Salticidae. Pajaki skaczace (Arachnida: Araneae). *In*: Fauna Poloniae, Tom **19**. *Polska Akademia Nauk,* Warszawa, 189 p.