

**New results in the systematics of Theraphosidae  
(Araneida, Mygalomorphae) (\*)**

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RIASSUNTO

Viene proposta una nuova sistematica dei Theraphosidae confrontata con quella di RAVEN (1985) e con i risultati di SMITH (1990) e PEREZ-MILES (1992).

Parole chiave: *Theraphosidae*, Sistematica.

SUMMARY

A new system of *Theraphosidae* compared with the system of RAVEN (1985) and the results of SMITH (1990) and PEREZ-MILES (1992) is proposed.

Key words: *Theraphosidae*, Systematics.

The *Theraphosidae* are a medium-sized family containing about 90 genera and circa 800 species. The systematics is based on the studies of SIMON (1892, 1903) in his famous "Histoire naturelle des Araignées." This author divided his subfamily Aviculariinae, which corresponds with the family *Theraphosidae* of THORELL (1869), into 11 tribes. Seven or eight of them were elevated to subfamilies by subsequent authors such as ROEWER (1942) or RAVEN (1985), to whom we owe the last comprehensive revision.

The subfamilies of *Theraphosidae*

RAVEN

SCHMIDT (1993)

*Ischnocolinae*

*Ischnocolinae*

New World *Ischnocolinae*

(SCHMIDT, 1993)

*Selenogyrinae*

SMITH, (1990)

*Theraphosinae*  
*Aviculariinae*  
*Eumenophorinae*

*Harpactirinae*  
*Ornithoconinae*  
*Selenocosmiinae*  
*Thrigmopoeinae*

*Theraphosinae*  
*Aviculariinae*  
*Eumenophorinae*  
*Stromatopelminae* (SCHMIDT, 1993)

*Harpactirinae*  
*Ornithoconinae*  
*Selenocosmiinae*  
*Thrigmopoeinae*

The first chart shows the subfamilies in the classification schemes of RAVEN and SCHMIDT. In 1990 SMITH created the *Selenogyrinae*, in 1993 SCHMIDT established the *Stromatopelminae* and New World *Ischnocolinae*. Which reasons led to that?

*Ischnocolinae*

SMITH (1990)

Chaetopelma  
 Cratorrhagus  
 Heterothele  
 Ischnocolus  
 Neoplesiophriectus  
 Nesiergus  
 Plesiophriectus

RAVEN (1985)

Hemirrhagus  
 Ozopactus  
 Spelopelma

PEREZ-MILES (1992)

Oligoxystre  
 Stichoplastus

New World *Ischnocolinae* (SCHMIDT, 1993)

Acanthoplema  
 Ceropelma  
 Crypsidromus  
 Cyclosternum  
 Cyriocosmus  
 Cyrtopholis  
 Drytopelma  
 Hapalopus  
 Hapalotremus  
 Hemirrhagus  
 Holothele  
 Homoeomma

Metriopelma (?)  
 Oligoxystre  
 Ozopactus  
 Pseudohapalopus  
 Schizopelma  
 Spelopelma  
 Stichoplastus

In 1990, SMITH confirmed the subfamily Ischnocolinae for the Old World genera only. *Encyocratella olivaceum* STRAND, 1907 has to be named *Chaetopelma strandi* SCHMIDT, 1991 b. Most of the New World genera were tentatively included in the *Theraphosinae* by RAVEN and PEREZ-MILES (1992a). SCHMIDT (1993b) regards the New World *Ischnocolinae* as an integrated group with a typical division of tarsal scopulae. Nevertheless he agrees with RAVEN who considers the *Ischnocolinae* to be *Theraphosidae* incertae sedis. *Cyrtopholis angustatus*, *C. longistylus* and *C. schusteriae* belong to *Stichoplastus* according to VALERIO (1980).

#### *Selenogyrinae*

SMITH (1990)

Euphrictus  
 Selenogyrus

SCHMIDT (1991)

Annandaliella  
 Euphrictus  
 Selenogyrus

The genera *Euphrictus* and *Selenogyrus* have been included in the *Selenocosmiinae* by RAVEN, although they lack a maximillary stridulating lyra present in *Selenocosmiinae*. Their stridulating organ consists of clavate or peg-like setae on the inside of the chelicerae. They don't fit in the *Selenocosmiinae*. SCHMIDT (1991c) added *Annandaliella* in the *Selenogyrinae* on account of its stridulating organ. This genus had been included by RAVEN also in the *Selenocosmiinae* before.

*Stromatopelminae*

SCHMIDT (1993)

Heteroscodra  
Stromatopelma

*Stromatopelma* and *Heteroscodra* could be found in *Poecilotherieae* (SIMON, 1892), *Avicularieae* (SIMON, 1903) and *Eumenophorinae* (RAVEN, 1985; SMITH, 1990). But they lack the typical stridulating organ on coxa and trochanter of palps and legs which are present in *Eumenophorinae*. Therefore they had to be excluded from this subfamily.

*Theraphosinae*

RAVEN (1985)

Acanthopelma  
Acanthoscurria  
Ceropelma  
Citharacanthus

Crypsidromus  
Cyclosternum  
Cyriocosmus  
Cyrtopholis  
Drytopelma  
*Ephebopus*  
Euathlus  
Eupalaestrus  
Grammostola  
Hapalopus  
Hapalotremus  
Holothele

Homoeomma  
Lasiadora  
Megaphobema  
Mygalarachne

SCHMIDT (1993)

Acanthoscurria  
Aphonopelma  
Brachypelma  
Brachypelmides  
(SCHMIDT, 1993)

Citharacanthus  
Euathlus  
Eupalaestrus  
Grammostola  
Lasiadora  
Megaphobema  
Nhandu  
Pamphobeteus  
Paraphysa  
Phormictopus  
Phrixotrichus  
Pseudotheraphosa  
(TINTER, 1991)

Rhechostica  
Sericipelma  
Sphaerobothria  
Theraphosa

Oligoxystre

Pamphobeteus

Paraphysa

Phormictopus

Phrixotrichus

Rhechostica

Schizopelma

Sphaerobothria

Stichoplastus

Theraphosa

Xenesthis

Vitalius

(LUCAS, 1993)

Xenesthis

The *Theraphosinae* sensu RAVEN consist of many genera included by SCHMIDT (1993b) in the *Ischnocolinae* and the New World *Ischnocolinae* and *Ephebopus* as well. Some of RAVEN's synonymies were refused. The following genera have been restored: *Aphonopelma* instead of *Rhechostica* (International Commission on Zoological Nomenclature, 1991, application of LEVI & KRAUS), *Brachypelma* by SCHMIDT (1991a, 1992a) instead of *Euathlus*, *Harpaxictis* by SCHMIDT (1990) instead of *Mygalarachne* (retransferred to *Ischnocolinae* incertis sedis) *Nhandu* by SCHMIDT (1989) instead of *Mygalarachne*, *Pseudohapalopus* by SCHMIDT (1991d) instead of *Paraphysa* (retransferred to New World *Ischnocolinae*) and *Sericopelma* by LUCAS, SCHMIDT *et al.* (1991a) instead of *Mygalarachne*.

*Avicularia caniceps*, *A. lanceolata*, *A. serrata* and *A. truncata* belong to *Aphonopelma* (according to SCHMIDT, 1989, 1993b).

*Pterinopelma* was removed from the synonymy with *Rhechostica* by PEREZ-MILES (1992b). *P. weijenberghi* and *P. vitiosum* were transferred to *Eupalaestrus* by this author. *P. saltator* is synonymous with *E. weijenberghi* according to PEREZ-MILES (1992b). *Eurypelma pallidum* was transferred to *Aphonopelma*, *E. aureocephs*, *E. embrithes* and *E. epicuraneum* were transferred to *Brachypelma* by SMITH (1993). *Eurypelma mesomelas* belongs to *Megaphobema* according to SCHMIDT (1991a). *Euathlus truculentus* SMITH, 1992 is *Brachypelma andrewi* SCHMIDT, 1992b. *Sphaerobothria gibbosa* Bryant 1940 has been retransferred to *Cyrtopholis* by SCHMIDT, 1993a. *Ephebopus* was transferred from *Theraphosinae* to *Aviculariinae* by LUCAS *et al.*

(1991b). *Lasiopelma* is a synonym of *Grammostola* (SCHMIDT, unpublished).

*Brachypelmides* SCHMIDT, 1993b differs from *Brachypelma* by its tapered embolus, bipartite spermatheca and by plumose hairs on femur IV. *Pseudotheraphosa* TINTER, 1991 has stridulating bristles on coxa I and II. In the male are tibial spurs.

#### *Aviculariinae*

RAVEN (1985)

Avicularia  
Iridopelma  
Pachistopelma  
Tapinauchenius

SCHMIDT (1993)

Avicularia  
Ephebopus  
Pachistopelma  
Psalmopoeus  
Tapinauchenius

In the *Aviculariinae* sensu RAVEN, 1985 *Iridopelma* is placed in the synonymy of *Avicularia* by SCHMIDT (1993b) because there are no differences in the genitals. The number of spurs on the tibia of the males is not constant in this genus. *Avicularia minatrix* and *A. veriscolor* bear no spurs. Most species have one spur on tibia I. *Avicularia hirsuta* has spurs on tibia I and II. The position of *Psalmopoeus* is in accordance with SIMON (1903), ROEWER (1942) and LUCAS (personal communication). Geographical reasons are also against RAVEN's view that *Psalmopoeus* belongs to the *Selenocosmiinae*. Then all other *Selenocosmiinae* species are distributed to the Oriental, Indian and Australian region. Another question is whether the genus is really homogeneous. In my opinion, only *Psalmopoeus cambridgei* is a genuine *Psalmopoeus* and all the other species have to be removed from this genus because of their genitals.

#### *Eumenophorinae*

RAVEN (1985)

Citharischius  
Encyocrates  
Eumenophorus

SCHMIDT (1993)

Anoploscelus  
Batesiella  
Citharischius

*Heteroscodra*  
Hysterocrates  
Loxomphalia  
Loxoptygus  
Monocentropus  
Myostola  
Phoneyusa  
*Stromatopelma*

Encyocrates  
Eumenophorus  
Hysterocrates  
Loxomphalia  
Loxoptygus  
Monocentropus  
Myostola  
Phoneyusa  
Polyspina  
(SCHMIDT, 1993)

In the *Eumenophorinae* *Anoploscelus* and *Batesiella* were restored by SMITH (1990). The genera *Heteroscodra* and *Stromatopelma* were excluded by SCHMIDT (1993b) and placed in the new subfamily *Stromatopelminae*. The new genus *Polyspina* SCHMIDT (1993b) bears stridulating spines on the coxae of the palps and of all legs.

#### *Harpactirinae*

RAVEN (1985)

*Brachionopus*  
Ceratogyrus  
Coelogenium  
Eucratoscelus  
Harpactira  
*Harpactirella*  
Pterinochilus

SCHMIDT (1986)

Ceratogyrus  
Coelogenium  
Eucratoscelus  
Harpactira  
Pterinochilus

Now to the subfamily *Harpactirinae*. The genera *Brachionopus* and *Harpactirella* belong to the family *Barychelidae* (SCHMIDT, 1989). They differ from *Harpactirinae* by lacking stridulating bristles and a pad of plumose hairs on the chelicerae. In *Brachionopus* there are no tibial spurs in the males and in both of the genera the cuspules on the labium are reduced in number.

#### *Ornithoconinae*

RAVEN (1985)

Citharognathus

SCHMIDT (1989)

Cyriopagopus  
 Haplopelma  
 Lampropelma  
 Ornithoctonus  
 Phormingochilus

The problem in *Ornithoctoninae* in an exact separation of the genera *Haplopelma*, *Cyriopagopus* and *Ornithoctonus* by the shape of spermathecae, because in *Haplopelma* spermathecae occur either undivided or with a notch as in *Ornithoctonus* and *Cyriopagopus*. Therefore some species such as *Haplopelma minax* can be found in each of these three genera. *Ornithoctonus gadgili* TIKADER, 1977 is a synonym of *Poecilotheria regalis* POCOCK, 1899 according to von WIRTH (1991).

*Selenocosmiinae*

RAVEN (1985)

SCHMIDT (1993)

*Annandaliella*  
 Chilobrachys

Chilobrachys  
 Chilocosmia (SCHMIDT  
 & v. WIRTH, 1992)

Coremiocnemis

Coremiocnemis

*Euphrictus*

Lyrognathus

Lyrognathus

Orphnaecus

Orphnaeus

Phlogiellus

Phlogiellus

Poecilotheria

Poecilotheria

Selenocosmia

*Psalmopoeus*

Selenostholus

Selenocosmia

Selenotypus

*Selenogyrus*

Selenostholus

Selenotypus

*Thrigmopoeinae*

RAVEN (1985)

SCHMIDT (1993)

Hapoclastus

Thrigmopoeus

Concerning the underlined genera in the *Selenocosmiinae* I refer to the *Selenogyriinae* and *Aviculariinae*. The genus *Chilocosmia* was established by SCHMIDT & von WIRTH (1992b) for species with a stridulating organ containing elements we can find in *Selenocosmia* and *Chilobrachys*. It seems to be possible that many of the Australian species of *Selenocosmia* belong to the new genus. *Lyrognathus liewi* WEST, 1991, is a synonym of *L. robustus* SMITH, 1988 (SCHMIDT & Von WIRTH, 1992a). The genus *Poecilotheria* is considered here as a tribe of the *Selenocosmiinae*. But it might just as well be put in the rank of a new subfamily.

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