

Description of a new species
(Araneida: Theraphosidae, Theraphosinae)

Brachypelma auratum sp. N. from MEXICO

Günter SCHMIDT, 1992

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ON THE NOMENCLATURE:

After examination of the type of *Euathlus truculentus* Ausserer 1875 there is not any doubt that the synonymy of *Brachypelma* with *Euathlus* established by Raven (1985) is not correct, which I had already said in Arachnol. Anz. NR 13 (1991) after my study of the original literature on *Euathlus* and *Brachypelma*. Fritzlen (Arachnol. Anz. NR 19, 1991) had come to the same result, whereas Smith (1992) who had already been able to examine the type before me, always considered the synonymy justified.*

*Meanwhile Smith shared with me that the animal, that he had regarded as the type of *Euathlus truculentus*, was actually a species of undescribed *Brachypelma* until now. As of today he considers the synonymy of Raven most likely an error.

INTRODUCTION:

For approximately 6 years this species was considered in the circle of hobbyists, on this side as well as on the other side of the Atlantic, a highland form of *Brachypelma smithi*, called *Brachypelma pseudosmithi* or *Brachypelma auratum*, a form which does not however only come from the highlands. Peter Klaas forwarded to me exuviae of this species for the first time in 1989. Already in 1987, L. Kristek had informed me of his experiments (tests of crossing between “*Brachypelma pseudosmithi*” and *B. emilia*). He kindly placed at my disposal the photograph which belongs to the 3rd edition of my book (photo 41). I had put the caption “crossing of *Euathlus smithi*... et *Euathlus emilia*...”, since at that time (1989) I had not yet separated *Brachypelma smithi* from *Brachypelma auratum*.

On the 26.6.89 Rick West wrote to me: “The male is not *E. smithi* but a species close to the state of Sinaloa, Mexico, by reason one should read *Euathlus* sp. (near to *smithi*). I have seen many couplings of mygales but I never have considered the young ones, did you see some? ”. In fact I did not see anywhere the offspring of the couplings between *B. smithi* and the form known as highland. After having examined more materials of *B. smithi* and connected species, I arrived like many owners of the two forms to the conclusion that the form known as of the highlands was a separate species. In his diagnosis of the genus Valerio 1980 wrote: “espermateca presented una ondulación in el borders anterior”(spermathecae presented an undulation in the anterior edge). This character is not valid, because as I wrote in Arachnol. Anz. 3 (1) 1992, for *B. auratum* which will have to be regarded as a species in the future. However since it is indisputably about *Brachypelma* within the meaning of Simon 1890 and Valerio 1980

the diagnosis of the genus must be modified as follows: “Anterior edge of the spermathecae with or without more or less distinct undulation”. Besides Megaphobema mesomelas also does not present any undulation, a species, which in the past was often allotted to Brachypelma. I wanted to make a description of the species only after having received material of the two sexes. I received the male which I lacked until now from Mr F. Fritzlen.

Brachypelma auratum sp. n. :

MATERIAL:

1 male (Holotype, ded. Fritzlen 22.2.1992), Mexico, October 1990, probably province of Sinaloa; 4 exuviae of females, paratype, ded. Klaas 1989, Mexico, same probable source. The holotype is placed at the disposal in Senckenberg museum, Frankfurt.

DERIVATIO NOMINIS:

Of Latin auratus = gilded, because of the orange red flame marking on the patellae.

DIAGNOSIS:

A species with a pattern similar to that of B. smithi with markings of red orange flame on the dorsal face of the whole of the patellae and spermathecae with the anterior edge rounded without undulation.

DESCRIPTION (male):

Length of the body 42 mm, carapace 22 X 20 mm, abdomen 20 X 14 mm, basal section of the chelicerae 9mm.

Leg formula: IV, I, II, III

Length of the leg segments:

	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
Palp	11.0	8.0	10.0	-	3.0	32.0
Leg I	18.0	10.0	15.0	15.0	9.0	67.0
Leg II	17.0	9.0	13.0	15.0	9.0	63.0
Leg III	16.0	8.0	13.0	15.0	9.0	61.0
Leg IV	17.0	9.0	15.0	19.0	10.0	70.0

Bulb and embolus 6mm. Tibia of the palp thinner than that of B. smithi.

Relations:

Carapace longer than the met. IV. Patella + tibia I slightly longer than patella + tibia IV (difference compared to *B. smithi*).

Spines:

Palp: -. Leg I: Ti pv 1, M v a 2. Leg II: M v a 4. Leg III: Ti pl 1-1, v a 1, rl 1-1, M v 1-1-1, rl a 1, pl 2-2-2. Leg IV: Ti pl 1-1-1, v a 2, rl 1, M pl 1-1-1, v 2-2-2-2-2-4, rl 1-1-1.

Scopula:

All the tarsi entirely scopulate, met. I and II entirely scopulate, met. III more than $\frac{1}{2}$ scopulate, met. IV $\frac{1}{2}$ scopulate.

Clypeus:

Narrow, narrower than the median ocular quadrangle.

Ocular Tubercle:

Higher than the point highest of the carapace, twice as broad than it is long, with a projection in the form of a nose of the AME. Anterior eye row slightly procurved, posterior eye row recurved. ALE larger than the AME and the PLE. Lateral eyes much closer one to the other than of the AME. Dimensions in μm : AME 661, ALE 882, SME 661, PLE 706, AME-AME 792, AME-ALE 176, AME-PME 264. PLE-PLE 441 (?). PME-PLE 176, PME-PME 1760.

Sternum:

9 X 6 mm, broad cross section. Posterior sternal sigilla tilted diagonally, distant of the edge of the sternum by half of their longitudinal diameter.

Labium:

Much longer than broad, with the apex containing approximately 7 rows of cuspules.

Chelicerae:

With approximately 8 teeth, those are not easily discernible because of the thick hairs.

Fovea:

Transverse, deep, not as broad as the ocular tubercle.

Spinnerets: 9 mm, very fine. The first and last segments of about equal size, 2nd the smallest.

Bulb and embolus:

See fig. Embolus in the shape of spoon.

Tibial apophysis:

Located ventralement (contrary to *Euathlus*!), without apical protuberance.

Plumose setae:

Basal on femur I and pl of trochanter I.

Color and pattern:

Like *B. smithi*, but with red orange flame markings on the dorsal face of the entire patellae, in the same way just as by one white broad distal transverse band with white yellow on the trochanters, patellae, tibiae and metatarses. Distal narrow white transverse band on the femurs.

DESCRIPTION (female):

Carapace: 22 X 20 mm, basal section of the chelicerae: 15mm

Palp:

Femur pl more strongly curved than in the male. Length of the leg segments:

	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
Palp	12.0	8.0	9.0	-	8.0	37.0
Leg I	16.0	10.0	12.0	11.0	7.0	56.0
Leg II	14.0	9.0	11.0	11.0	8.0	53.0
Leg III	13.0	9.0	10.0	12.0	7.0	50.0
Leg IV	15.0	10.0	13.0	18.0	8.0	64.0

Relations:

Patella + tibia I shorter than patella + tibia IV.

Scopula:

Like the male.

Spines:

Palp: P pl 1, Ti v has 4, pl 1-1, rl 1. Leg I: Ti v has 2, rv 1, M v has 2. Leg II: Ti pl 1-1-1, VM 1, M v has 2. Leg III: Ti pl 1-1-1, v has 1, rl m 1, M pl 1-1, v 2-2, rl 1-1. Leg IV: Ti pl 1, v has 2, rl 1-1, M pl 1, v 2-2-2-2.

Sternum and labium:

As in the male.

Chelicerae:

With 9 teeth and 15 small opposite 7th and 8th.

Plumose setae:

On the trochanters and femurs of the palpi rl and 1st leg pl, on the femur close to the 2/3 of the segment.

Spermathecae:

In only one part, without depression or bump on anterior edge, round on the anterior sides.

Color and pattern:

As in the male.

DISCUSSION:

Although this species is known since at least 1987, and held under different names and almost as frequently as *B. smithi*, a description has been lacking until now. There is no doubt that *B. smithi* is the most closely related species. It was collected according to Smith 1986 in Mazatlan, Papagayo, Colima, Nayarit, Guerrero and Chiapas. Differentiation between the two species is carried out easily thanks to the different markings on the patellae and with the shape of the spermathecae which is slightly undulated on its anterior edge in *B. smithi* and never as regularly round as in *B. auratum*. The shape of the bulb and the embolus differentiate the two species clearly. In *B. smithi* the embolus does not have the broad spoon shape. The tibia of the palp is thicker. The thoracic groove in the male of *B. smithi* is recurved. Metatarsus IV in *B. smithi* is not scopulate until half. The number of cuspules on the labium is less. It is desirable to also protect this splendid species because, being a distinct species from now on it is likely to be imported in greater numbers in place of *B. smithi*.

SUMMARY:

The species that has been known for years as “highland form of *B. smithi*” is described as *B. auratum* sp. N. It especially differs from *B. smithi* by the shape of the embolus and the spermathecae is round on the anterior edge and non-corrugated, the orange red flames on the patellae and also by the distinct white transverse bands on the trochanter, the patella, the tibia and the metatarsus.

THANKS:

I thank the natural history museum for state of natural history, Stuttgart and in particular Mrs. Susanne Fiechtner for the images under the scanning electron microscope, Mr A. Tinter for the photograph of the spermathecae of *Brachypelma auratum* and *B. smithi* and also for the male of *B. smithi* and the female of *B. auratum*, Mr. Peter Klaas for exuvias of *B. smithi* and *B. auratum* and Mr F. Fritzlen for the male of *B. auratum* and for the literature of Valerio on *Brachypelma*.



Photo L. DABAT

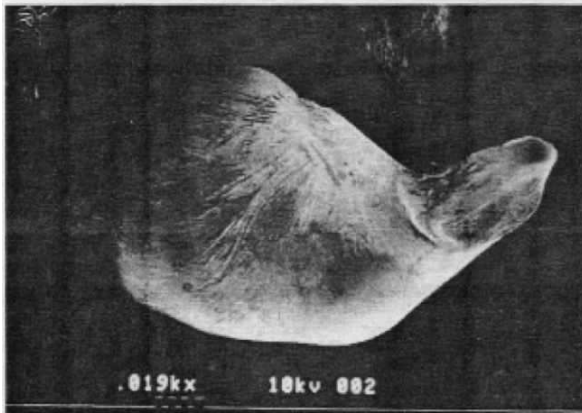
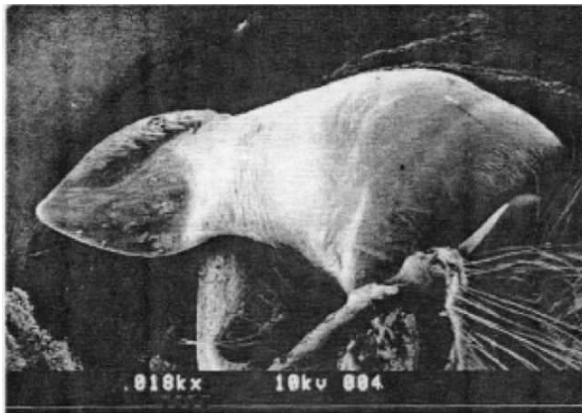


Abb. 1 (oben): Bulbus und Embolus von *Brachypelma auratum* sp.n.
Abb. 2 (unten): Bulbus und Embolus von *Brachypelma smithi* (F. Cambridge 1897)

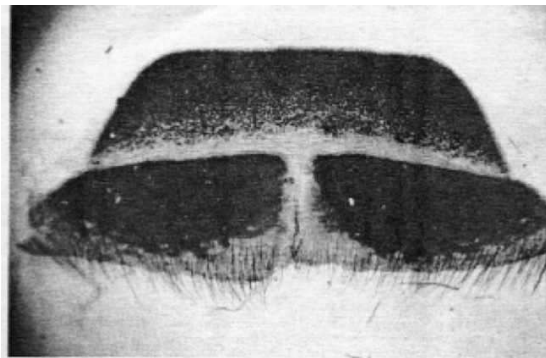


Abb. 3 (oben): Spermatheca von *Brachypelma auratum* sp.n.
Abb. 4 (unten): Spermatheca von *Brachypelma smithi* (F. Cambridge 1897)