

# A new subfamily of Gonyleptidae from Brazilian caves, Pachylospeleinae subfam. n. (Opiliones, Gonyleptomorphi)

by

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With 10 figures

During my stage at the Museum of Natural History in Geneva, 1973, I had the opportunity to examine—besides other materials—a considerable collection of cavernicolous opilionids, made by Dr. Pierre Strinati from Geneva in the New World. In this paper only a new subfamily of Gonyleptidae is described, other material will be published later.

This study would be impossible without the courtesy of Dr. V. Aellen, director of the Museum of Natural History and Dr. Bernd Hauser, curator in Arthropodes. I am very indebted to them for their kindness in enabling me this—for me so useful—stage.

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The new subfamily, related to the subfamily Pachylinae, presents the first known representatives of eutroglobitic opilionids from the large neotropical family Gonyleptidae, with true troglobitic characters: reduction of eyes, decoloration, elongation of extremities with their derivata and increasing in number of distitarsal segments on first and second legs. This interesting phenomenon, specific for gonyleptomorphid opilionids, is more treated in ŠILHAVÝ 1974.

The members of the new subfamily differ from all other subfamilies of Gonyleptidae in the constellation of subgenerical characteristics.

Suborder GONYLEPTOMORPHI Šilhavý, 1960

Fam. GONYLEPTIDAE Sundewall, 1833

**Pachylospeleinae** subfam. nov.

Eyemound situated at the anterior margin of carapace. Five areas, first area with median line, Spiracles visible, maxillary lobe of second coxae absent. Fourth



coxae large, widely overlooking lateral margins of body. Basal segment of chelicerae with distinct dorsal elevation. No greater differences in the thickness of pedipalp segments, which are provided (minimal tibiae and tarsi) with spines. Legs long and slim, third and fourth tarsi with pseudonychium and untoothed double claws. Scopulae absent. First distitarsi with more than two segments, second distitarsi with more than three segments. Secondary sexual characters in coxae, trochanters and femora of fourth legs.

Habitat: Brazil

Typus subfamiliae: *Pachylospeleus* gen. nov.

### ***Pachylospeleus* gen. nov.**

With the characters of subfamily. Eyemound hemispherical, without spines. All areas without spines or greater median or paired tubercles, first area with median line. Free tergites, free sternites and anal operculum unarmed. Fourth coxae with apical, laterodorsal apophyse. Pedipalps of usual form, their femora without an apical-medial spine. Basal segment of chelicerae with a distinct dorsal elevation. Tarsal segments: 6, more than 6,6,6, distitarsi of first legs with three, of second legs with four or five segments.

Typus generis: *Pachylospeleus strinatii* sp. n.

### ***Pachylospeleus strinatii* sp. n.**

(Figs. 1-10)

Holotype male:

Body length 5,3 mm (Fig. 1). Carapace unarmed. Eyemound near the frontal margin, low, hemispherical, dorsally with four unregularly situated low hair pointed tubercles. Eyes stunted, with a very narrow ring of black pigment only (Fig. 1-2). Five areas hardly distinct, unarmed. First area with a low median line and as well as second, third and fourth area with small scattered tubercles, fifth area and free tergites with a row of hair pointed tubercles.

*Anal operculum* and *free sternites* with very low hair pointed tubercles. *Spiracles* distinct, large.

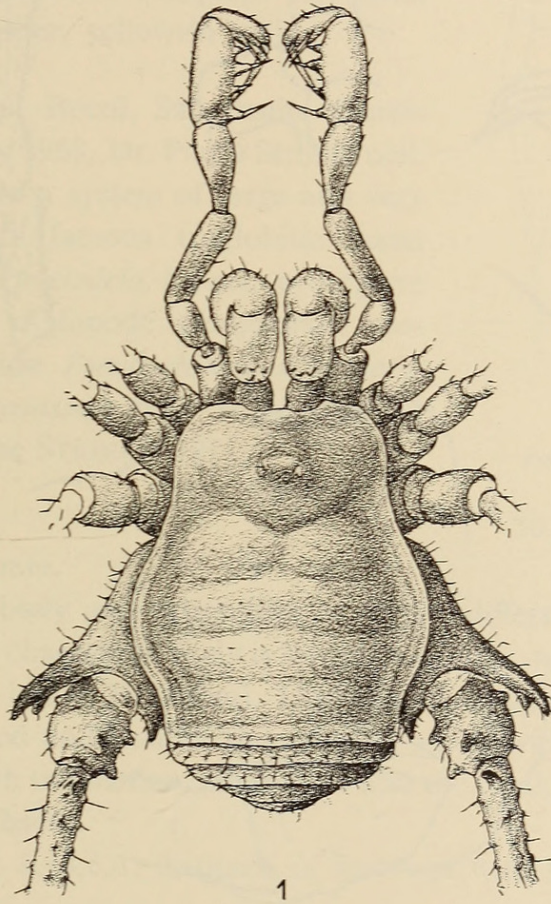
*Chelicerae* normal. Basal segment with dorsal elevation which is provided at the proximal portion with some tubercles. Second segment dorsally only with hairs (Fig. 1)

*Pedipalps* 6,52 mm long (Fig. 1,3): Tr 0,6, Fe 2,06, Pt I, 20, Ti 1,46, Ta 1,20 mm, Fig. 1,3. Trochanters ventrally with two spinebearing tubercles. Femora and patellae only with short hairs, tibiae laterally with one medial and one apical threefold spine, medially with one basal and one middle greater spine and two small spines



(parabasal and apical one). Tarsi laterally with four, medially with three spines. Tarsal claws thin, from the same length as the segment.

*Coxae* with small scattered tubercles, which are greater on the first and second coxa. Fourth coxae (Fig. 1,6) with a long apical-dorsolateral apophyse. This apophyse is slim, pointed and provided with a shorter ventral branch. Second apophyse, apical, conical and very shorter, is situated dorso-medially.

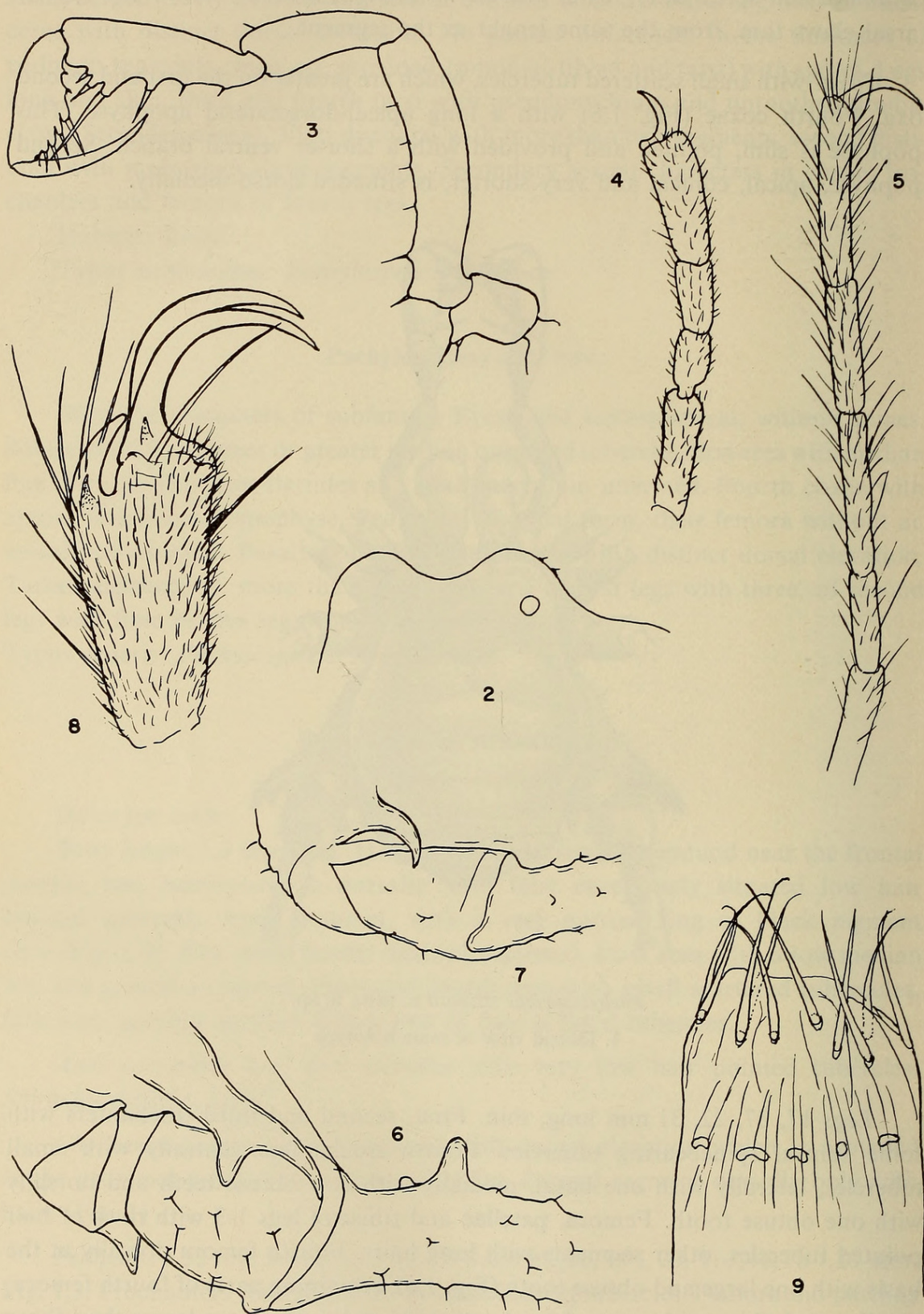


*Pachylospeleus strinatii* n. gen., n. sp.

1. Dorsal view of male holotype

*Legs* 17, 37, 22, 31 mm long, thin. First, second and third trochanters with some ventral spinebearing tubercles. Fourth trochanters ventrally with small tubercles, laterally with one basal, medially with two obtuse teeth and dorsally with one obtuse tooth. Femora, patellae and tibiae of legs 1-3 with rows of hair pointed tubercles, other segments with long hairs. Fourth femora dorsally at the basis with one large and obtuse tooth (Fig. 1,6), remaining parts of fourth femora, patellae and tibiae with rows of hairbearing tubercles which are larger than those on other legs. Fourth metatarsi and tarsi only with hairs. Astragalli and calcanei





*Pachylospeleus strinatii* n. gen., n. sp.



indistinct. Tarsal claws of legs 3 and 4 long, double, curved and smooth (Fig. 8). Tarsal segments: 6, 15-16, 6, 6. Distitarsi of first legs with three (Fig. 4), of second legs with four and five segments (Fig. 5).

*Genitalia.* Penis of the form shown in Fig. 10. Colour in alcohol: yellowish red light, apical parts of fourth coxae, trochanters and adjacent parts of femora are more pigmented. Pedipalps and distal parts of legs are lighter, yellowish white.

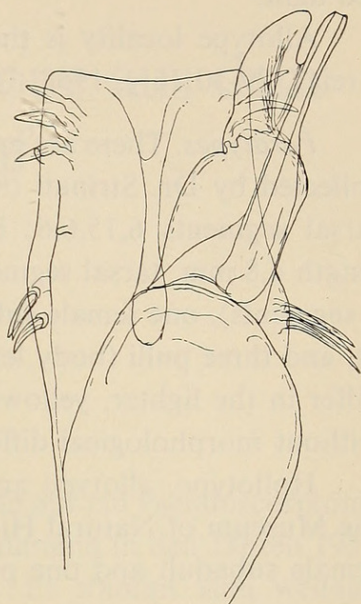
*Holotype locality:* Brazil, Sao Paulo, Grutas das Areias, 29-30 July 1968, Dr. Pierre Strinati coll. Grutas das Areias are a system of large and very interesting caves with famous troglobitic fauna (cavernicolous fish *Pimelodella kronei*, orthoptere *Strinatia brevipennis*, diplopode *Alocodesmus yporangue*, pseudoscorpion *Pseudochthonius strinatii*, reduviide *Zelurus travassosi* etc.). More detailed description of cave see STRINATI 1971.

*Allotype female :*

Body length 6,0 mm.

Morphology of body and extremities of female differs from those of male holotype in following characters: body is longer and more robust, extremities are rather shorter (legs: 16,33, 21,31 mm). Dorsolateral apophyse of fourth coxae is thin (Fig. 7), curved and smaller than that of male, without ventral branch. Lateral teeth on fourth trochanters are smaller and the tooth on the basal portion of fourth femora is absent.

Tarsal segments: 6, 14, 6, 6; distitarsi of first legs with three, of second legs with four segments.



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*Pachylospeleus strinatii*  
n. gen., n. sp.

10. Distalpart of penis,  
male holotype.

*Pachylospeleus strinatii* n. gen., n. sp.

2. Lateral view of frontal margin and eyemound, male holotype.
3. Lateral view of pedipalpus (male holotype).
4. First distitarsus (male holotype).
5. Second distitarsus (male holotype).
6. Apical apophyses, trochanter and proximal part of femur of fourth leg laterally (male holotype).
7. Apical apophyse, trochanter and proximal part of femur of fourth leg laterally (female allotype).
8. Endsegment of fourth tarsus, male holotype.
9. Ovipositor, female allotype.



*Genitalia.* Ovipositor of the form shown in Fig. 9.

Colour of female allotype is rather lighter as in male holotype, yellowish red light.

Allotype locality is the same as this of male holotype: Brazil, Grutas das Areias, 29-30 July, 1968, Dr. Pierre Strinati coll.

*Paratypes.* There are in the collection eight paratypes from the typical locality, collected by Dr. Strinati the same day: three males adult (body length 5,5 mm, tarsal segments 6,15,6,6; body length 5,0 mm, tarsal segments 6,13,6,6; body length 4,8 mm, tarsal segments 6,15,6,6 and distitarsus of second legs with 4 and 5 segments), one female subadult (body length 5,0 mm with arolia on tarsi 3 and 4), and three pulli (body length 2,15-1,62 and 1,60 mm). All immature specimens differ in the lighter, yellowish with the colour from adults. The adult paratypes are without morphological differences from the holotype.

Holotype, allotype and five paratypes are deposited in the collections of the Museum of Natural History in Geneva, three paratypes (one male adult, one female subadult and one pullus) are in my collection.

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