A new *Geogarypus* from Baltic amber (Pseudoscorpiones: Geogarypidae)

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Abstract. *Geogarypus gorskii* **sp. n.**, a new pseudoscorpion from Baltic amber is described.

Samenvatting. *Geogarypus gorskii* **sp. n.**, een nieuwe pseudoschorpioen van Baltische amber wordt beschreven.

Résume. *Geogarypus gorskii* **sp. n.**, un nouveau pseudoscorpion est décrit de l'ambre baltique.

Key words. Pseudoscorpion – *Geogarypus gorskii* sp. n. – Baltic amber.

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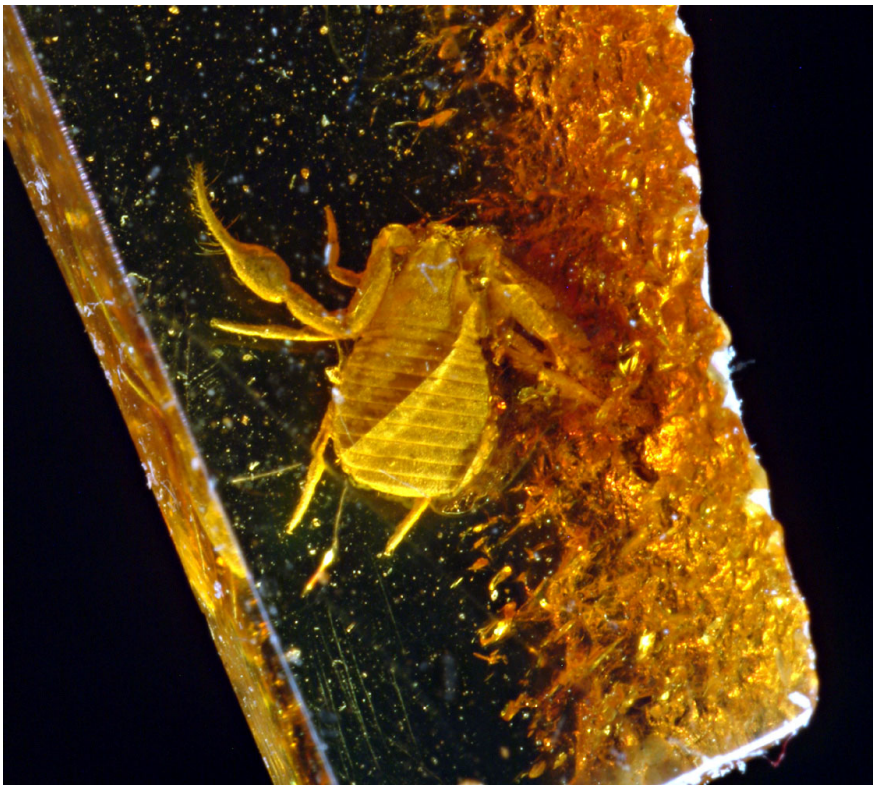

Fig. 1.: *Geogarypus gorskii* **sp. n.**, holotype.

Introduction

A fossil pseudoscorpion in Baltic amber from the collection of Andrzej Gorski was studied. The specimen has a subtriangular carapace and 4 eyes on ocular tubercles, situated away from the anterior margin of the carapace and therefore fits in the Geogarypidae. The presence of accessory teeth on the fixed chelal finger and the absence of a sulcus on the dorsal surface of pedipalpal chela further determine the species as a *Geogarypus* (Harvey 1986). Two fossil *Geogarypus* species from Baltic amber are documented: *Geogarypus macrodactylus* Beier, 1937 and *Geogarypus major* Beier, 1937 (Beier 1937). The large size and the dimensions of the pedipalp distinguish the examined specimen clearly from both previous, hence it is described here as a new species.

Material and methods

The specimen is fossilized in a clear yellow piece of Baltic amber (20×8×3 mm; 0.4 g). The amber has 4 polished facets and an amber crust on two sides. Some of the original resin lamination (flow lines) is visible in the piece. Additional inclusions are botanic hairs and a single Collembola. The immediate area of the fossil is darker reddish. The view on the fossil is disturbed by the whitish emulsion 'Baltic mould' mostly on the ventral side (coxa), the genital area and on parts of the chela, as well by cracks and the presence of an amber crust on the right side of the specimen. The fossil is embedded very near the crusted surface therefore the right pedipalp as well as right leg 1 and right leg 2 are partially lost.

The most important parts of the specimen are well visible. Translucent illumination even reveals a symmetrical dorsal pattern of whitish spots on the fossil, quite unique with Baltic amber specimens. Obviously the tergites are locally thinner or more translucent.

After examination the amber was coated for preservation on a rotating device in viscous Araldite Epoxy. Examination and measurements have been carried out with a Leitz microscope and Optika Photolib software. All measurements are in mm; (length=L × width=W), the ratio is the length/width index of an article.

Systematics

Geogarypus gorskii **sp. n.** (Figs. 1, 2, 3, 4)

Type material: Female holotype, Baltic amber, Poland, Danzig. The specimen is temporarily in the personal collection of Andrzej Gorski, (Bielsko-Biala, Poland) and will subsequently be deposited in the collections of the Natural Museum ISEZ PAN ul. Sebastiana 9, Kraków, Poland).

Etymology: Patronym in honour of Andrzei Gorski, who found the specimen and allowed studying it.

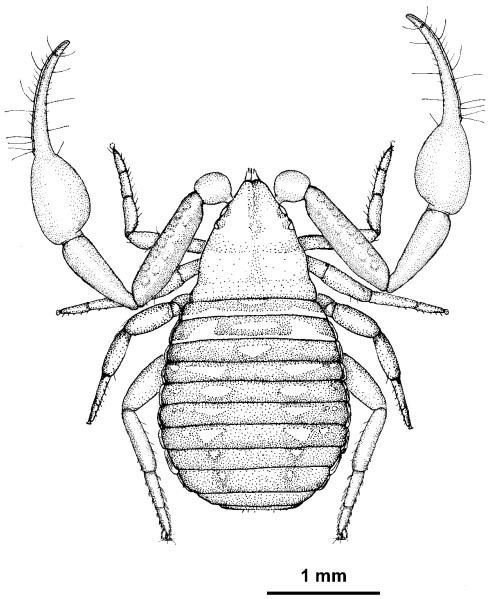

Fig. 2.: *Geogarypus gorskii* **sp. n.**, habitus reconstruction from holotype.

Diagnosis: A large diplotarsate *Geogarypus* species with slender pedipalps and a femur with large granulated pustules. Fixed chelal finger with 8 trichobothria, distal teeth slightly retrorse but not curved. Tergites with typical spotted pattern. Galea with at least four rami.

Female holotype: description: (measurements in mm, ratio is L/W): Carapace wider than long (0.89×). Chaetotaxy of carapace and opistosoma unobservable. Carapace and opistosoma granulated, granules irregular, 0.013 – 0.015, separated, space 0.0043- 0.0050. Both pairs of eyes well developped. Chelicera hardly observable (amber crack), galea with at least four rami.

Tergites with a typical pattern of symmetric light spots. (Fig. 2.). This is most probably the negative image of the original dorsal pattern, since it is only visible in translucent light. Tergites I and II with median and connected paired spots, tergite III with median spot only, tergite IV–IX with paired spots only. Other colour patterns in Baltic amber amber (shades of amber yellow and red) are

almost always the result of artefacts during the fossilization process: the original colour vanishes completely. Pedipalps (Fig. 3a) granulated, femur with large pustules. Fixed finger only granulated dorsally, external trichobothria in a smooth zone without granulation. Trochanter 1.37×; femur 3.80×; tibia 2.73×; chela (with pedicel), 4.31×, hand 1.95× longer than broad. Hand: fixed chelal finger with 8 trichobothria, movable finger with 4 trichobothria (Fig. 3b); ***it*** is placed more distally than ***st*** on the observable chela.

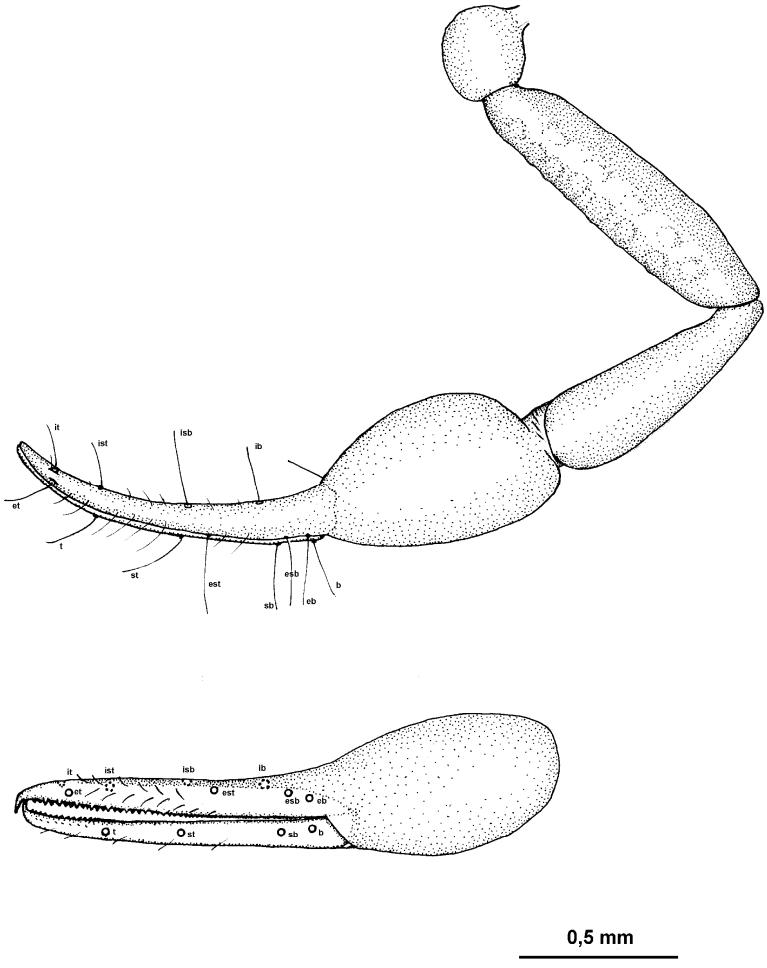

Fig. 3: *Geogarypus gorskii* **sp.n.**, **a**.– pedipalp, dorsal.; **b**.– chela, external lateral view.

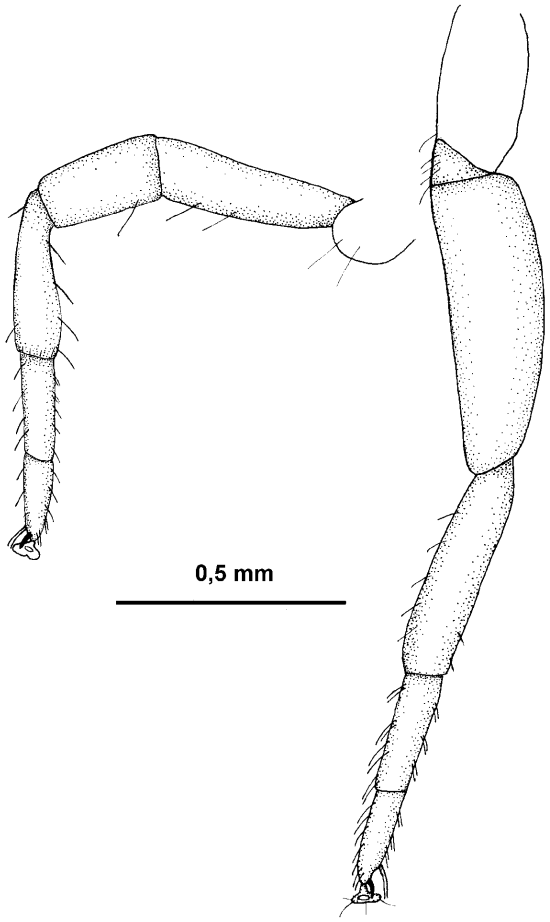

Fig. 4: *Geogarypus gorskii* **sp.n.**, **a**.– leg I; **b**.– leg IV.

Fixed finger with 47 teeth, not curved and in two rows, not significant spaced. Teeth of movable finger curved in distal part, first distal 14 pointed, reduced to small projections proximally. Diplotarsate, but tarsal distinction sometimes unclear, at least 2 monotarsate legs. Aroleum a little longer than claws.

Measurements (mm): Body length 2.81. Granulations 0.013–0.015, separated, space 0.0043–0.0050. Pedipalp: trochanter 0.33/0.24; femur 0.99/0.26; tibia 0.71/0.26; chela (with pedicel) 1.90/0.44; hand 0.86/0.44; movable finger L=1.05.

Carapace 1.02/1.14; cucullus L=0.23. Anterior eye approximately the same size as posterior eye (0.08). Leg I: trochanter width (length not visible) 0.15; basifemur 0.43/0.12; telofemur 0.27/0.15; tibia 0.36/0.10; basitarsus 0.22/0.07; telotarsus 0.18/0.07.

Leg IV: trochanter width 0.18; trochanter 0.21/0.62; femur 0.62/0.21; tibia, 0.49/0.12; basitarsus 0.27/0.07; telotarsus 0.19/0.07.

Discussion: The species differs from both Baltic fossil *G. macrodactylus* Beier, 1937 and *G. major* Beier, 1937 by it's large size and the dimensions of the pedipalp. The femur and the tibia are more slender than *G. macrodactylus*, and *G. maior*. The body size of the new species (2.81) is 2.3× the size of *G. macrodactylus* and 1.8× the size of *G. major*.

The species differs from all extant species. Concerning the other larger species in the nearest area to the new taxon: *G. maroccanus* Beier, 1961 (Beier 1961, Callaini 1988) has shorter fingers (finger/hand ratio) and a pedipalpal tibia without pronounced pustules, a more developed cucullus and a different dorsal pattern; *G. shulovi* Beier, 1963 has much more slender chela (Beier 1963) and no pustules on the femur.

Distribution

Found in Baltic amber, a fossil resin from the Upper Eocene Baltic amber forest, dated approximately 46 million years BP.

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References

Beier, M. 1937. Pseudoscorpione aus dem Baltischen Bernstein. — *Festschrift zum 60. Geburtstage von Professor Dr. Emrik Strand, Riga* **2**: 302–316.

Beier, M. 1961. Nochmals über iberische und marokkanische Pseudoscorpione. — *Eos, Madrid* **37**: 21–39.

Beier, M. 1963. Die Pseudoscorpioniden-Fauna Israels und einiger angrenzender Gebiete. — *Israel Journal of Zoology* **12**: 183–212.

Callaini, G. 1988. Gli Pseudoscorpioni del Marocco; (Notulae Chernetologicae, XXVII). — *Annali del Museo Civico di Storia Naturale di Genova* **87**: 31–66.

Harvey, M. S., 1986. The australian Geogarypidae, new Status, with a review of the Generic Classification. — *Australian Journal of Zoology* **34**: 753–78.