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About *Aenictosoma doenitzi* Schaufuss, 1891

(Coleoptera, Cerambycidae, Scydmaenidae)

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Aenictosoma doenitzi Schaufuss, 1891, a beetle included in the Baltic amber and doubtfully described as cerambycid, has all typical characters of Scydmaenidae, Mastiginae, Clidicini, to which tribe it is therefore transferred. Hypotheses of its palaeological history are outlined.

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Introduction

Old descriptions of fossil beetles often bring the problem of misconceptions about the ancient Fauna. Some entomologists, diverted by the very quick evolution of Mammalian, considered the amber Microfauna too very different from the current one. Moreover, being unaware of Wegener's theories and the glacial events, they did not research the extant descendants of fossil species where it was more logical to find them. Though eminent coleopterists (Reitter, Wickham, Zang) noticed that most amber Microfauna had a large affinity with the recent one, some non-specialists described the fossil species tending to create absolutely original genera.

Aenictosoma doenitzi Schaufuss, 1891 belongs to this category: originally described as unusual longhorn beetle (its name means "doubtful body"), it has no cerambycid-characters since it belongs actually to another, quite different family.

Material and methods

Schaufuss (1891) described *Aenictosoma doenitzi* according to one specimen (n. 87) belonging to Dr. Otto Helm's collection, at the time deposited in the Museum of Danzig (today Gdańsk). Later, Helm himself (1897) and Handlirsch (1907) recorded this species without adding systematic considerations. Korschefsky (1939) provided the drawings of Schaufuss's types that their author did

not publish for unknown reasons by then, but *Aenictosoma doenitzi* is not included. Still Spahr's (1981) and Carpenter's treatises (1992) reported such species as cerambycid.

In Danzig Helm's collection is no longer present today (Szadziewski, in litt.). Most eastern German collections were transferred to other German Museums during the World War II but in Berlin, Hamburg, Göttingen and Stuttgart this collection has not been found (Bechly, Reich, Neumann, Waitschat, in litt.). Even if still present somewhere, the type could be even no more recognisable as such. Nonetheless, its accurate description permits a good identification of this species.

In this paper the geological dates agree with the GeoWhen Database of Physics Department, University of California at Berkeley (USA), according to the 2004 time scale endorsed by the International Commission on Stratigraphy.

Discussion

Already to Schaufuss *Aenictosoma doenitzi* looked like a very unusual longhorn beetle: he selected for it the name *Aenictosoma* and doubtfully he inserted it within Cerambycidae.

Only at the first reading such species should not evidently belong to this family. Its palpi with "*apice acuminato*" could make one suppose that this is a representative of the subfamily Lamineae but other characters take off all doubts.

Its antennae “*geniculatae ... articulo ... 2°-10° elongatis, filiformibus ... longitudine decrescentibus, latitudine vix crescentibus*” (elbowed, antennomeres II-X elongated, progressively shorter and enlarged toward the apex) can never be found among the cerambycids.

Its 5-jointed tarsi with “*primi quattuor decrescentibus, conici ... angulis anticis utrinque acutis*” (tarsomeres I-IV progressively shorter, toothed at each apex) clearly indicate its belonging to one Pentamerous-family.

Its very long maxillary palpi are very typical: palpomere II long, thin, club-shaped; palpomere III perpendicularly inserted on the II one, slightly shorter than the II one, elongate-conical, enlarged at the apex; palpomere IV shorter and a bit thinner than the II one, acuminate at the apex. They do not belong to the cerambycids either but to some terricolous taxon (Carabidae, Staphyloidea).

This black species, 7,3 mm long, is also characterised by constricted neck, globose thorax, very small scutellum, deeply striated and convex elytra, club-shaped femora and abdomen with 6 ventrites. This character set does not correspond to any known cerambycid either.

The general habitus suggested to Schaufuss a feeble resemblance with the genus *Moluris* (Tenebrionidae Pimeliinae). Nonetheless, for unknown reasons he preferred to insert it among Thomson’s “*Metaulacnemiten*” Cerambycids (Lamiinae Dorcadionini, Parmenini, etc.).

On the contrary, all characters suggest its likeness to the Scydmaenidae (antlike stone beetles). Its not-clubbed antennae indicate the belonging to the subfamily Mastiginae, while big size, elytral punctuation and elongate palpomere III suggest its belonging to the tribe Clidicini.

The lack of the type does not allow to exactly locate such genus; nonetheless, the original description allows to draw some systematic considerations.

The lack of the bisetose cuticular projection on the maxillary palpomere II separates it from *Leptochromus* Motschulsky, 1855. Bigger size, elongate antennomeres II-X and elliptic maxillary palpomere IV separates it from *Palaeoleptochromus* O’Keefe, Pike & Poinar, 1997. The elongate shape of the antennomeres II-X and of the maxillary palpomere III separates it from *Clidicus* Laporte, 1832. Deeply striate elytra and elongate antennomeres II-X separates it from *Papusus* Casey, 1897. The longer scape (as long as the antennomeres II-IV together) separates it from *Palaeomastigus* Schaufuss, 1890.

Therefore, *Aenictosoma doenitzi* is here transferred

to the Scydmaenidae Mastiginae Clidicini, near the genus *Leptochromus*. Nevertheless, other characters are too doubtful or not precise enough to allow other considerations.

It is interesting to notice that Schaufuss (1890) himself described one *Clidicus* and one *Palaeomastigus*-species from Baltic amber belonging to Helm’s collection. Curiously, he did not notice the resemblance among such genera. Actually, Schaufuss himself revealed that he did not know the European *Mastigus*-species (= *Palaeostigus* Newton, 1998) but only the South-African ones. Moreover, *Aenictosoma* is difficultly classifiable in the systematics proposed by Schaufuss (1884, 1890) since he did not handle the possibility that some Mastiginae-genera could have an acuminate palpomere IV.

Already Schaufuss (1890) reported the presence of fossil Clidicini in Baltic amber through the description of *Clidicus balticus*. Although current entomologists have not checked if such (lost?) species effectively belongs to this genus, it is probable. According to O’Keefe (2002), *Clidicus* has been displaced from Europe to South-eastern Asia, where it is today spread, during the Late Eocene to the Early Oligocene (37-28 Myr BP).

According to this author, the split between American and Eurasian Clidicini occurred during the Cretaceous or the Tertiary. However, the presence of Clidicini-genera closely related to *Leptochromus* in Europe during the Eocene (56-34 Myr BP) seems to be probable.

Recent distribution of Clidicini in America looks to more correspond with a Vancouverian spread than with an Alleghenian one, as one should expect. Nevertheless, the recent areal of *Leptochromus* (Central and northern South America) could be interpreted as a tropical refuge, relict of an Alleghenian palaeotropical areal. In fact, the presence of *L. palaeomexicanus* O’Keefe, 2002 in Mexico during the Late Oligocene-Early Miocene (28-16 Myr BP) suggests that such genus was displaced from Alleghenian before this epoch. Likely, this fact occurred as consequence of the climatic cooling of the Early Oligocene (34-28 Myr BP).

In conclusion, *Aenictosoma doenitzi* was a Clidicini-species that lived in Baltic forests during the Eocene. It was closely related to the American *Leptochromus*, a genus diverged from it during the Cretaceous or the Early Tertiary. As consequence of the Early Oligocene climatic cooling, it was displaced toward South-eastern Asia with *Clidicus* and many other Baltic genera. But, differently from this genus, it became extinct in following epochs.

Zusammenfassung

Aenictosoma doenitzi Schaufuss, 1891, ein baltisches, ursprünglich als Bockkäfer beschriebenes Fossil, weißt alle typische Charaktere der Scydmaenidae Mastiginae Clidicini auf, zu deren Gruppe es dafür verlegt wird. Die Hypothesen der paläologischen Geschichte dieser fossilen Art werden hier umgerissen.

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