

SCIENTIFIC NOTE

ON THE MYRMECOPHILOUS SPECIES OF *PLOCIOPTERUS* KRAATZ (COLEOPTERA: STAPHYLINIDAE: STAPHYLININI) DESCRIBED BY E. WASMANN

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Wasmann (1925) described two taxa associated with leafcutter ants (as permanent attine-associated species) that he placed in the Xanthopygina genus *Plociopterus* Kraatz, *P. atticida* Wasmann (Fig. 1) and *P. goeldii* Wasmann (Fig. 2). That seemed odd because the genus *Plociopterus* has similar natural history to the genus *Nordus* Blackwelder, *i.e.*, predators of other insects found in rotting mushrooms or fruits (Chatzimanolis 2003), and all other described species of *Plociopterus* have no association with ants. To clarify the taxonomic status of *P. atticida* and *P. goeldii*, we borrowed the type specimens from the Natural History Museum of Maastricht. We report here that neither of these taxa belong in *Plociopterus*, and both belong in the subtribe Philonthina. So far, six species of Philonthina have been recorded in permanent association with leafcutter ants, three of them belonging to the genus *Philonthus* Stephens and three of them in the genus *Hesperus* Fauvel (Navarrete-Heredia 2001, 2012). Based on our revision of relevant type material from the Naturhistorisches Museum Wien (NMW) and the generic limits currently applied within Philonthina (Chani-Posse 2014), taxonomic changes are here proposed. Since multiple specimens of the taxa involved in the present study are present in Maastricht (Beuk, personal communication) and Vienna, we designate lectotypes herein.

***Plociopterus atticida*:** The specimen we examined agrees in every respect with *Hesperus eidmanni* Scheerpeltz, 1936, and therefore we are proposing that *Hesperus eidmanni* is a new junior synonym

(**new synonymy**) of *Plociopterus atticida*. We are also transferring *Plociopterus atticida* to the genus *Belonuchus* Nordmann (Philonthina), as *Belonuchus atticida* (Wasmann, 1925), **new combination**. Type of *Plociopterus atticida*: LECTOTYPE (**here designated**): male, with labels: “*Plociopterus atticida* ♂ IV arm. Typus” / “[red label] Type” / “[red label] Type” / “Colonia alpina, Rio d. Janeiro” / “C. *Atta nigra*, A. Göldi, 1899” / “Lectotype *Plociopterus atticida* Wasmann des. Chatzimanolis and Chani Posse” / “*Belonuchus atticida* Chatzimanolis det. 2016”. This is a species known to be associated with *Atta sexdens* (Linnaeus) (fungus chambers: Scheerpeltz 1936), *Acromyrmex lobicornis* Emery (fungus chambers: Eidmann 1937) and *Acromyrmex niger* F. Smith (Wasmann 1925).

***Hesperus eidmanni*:** Scheerpeltz (1936) described this species based on four female specimens from Mendes (Brazil) and one male specimen from Villa Rica (Paraguay) (Figs. 3, 4). After examining the complete type series, we found that two specimens (one female from Brazil and the unique male from Paraguay) were designated as “Typus” by Scheerpeltz in the original description and labeled as such (see below). Type material of *Hesperus eidmanni*: LECTOTYPE (**here designated**): male, with labels: “[white label] ♂” / “[white label] Villa Rica Paraguay” / “[white label] Fr. Schade leg, Jänner 1924” / “[white label, handwritten] nahe verwandt m. ferrugineus, kopf halsschild, kürzer u. breiter” / “[light blue label] ex. Coll. Scheerpeltz” / “[red label] Typus *Hesperus eidmanni*, O. Scheerpeltz” / “[green label] *Hesperus eidmanni* Scheerp.” / “[red label] Lectotype



Figs. 1–2. The taxa described by E. Wasmann in *Plociopterus*. **1)** *Plociopterus atticida*, lectotype, total length = 7.4 mm; **2)** *Plociopterus goeldii*, lectotype, total length = 7.5 mm.

Hesperus eidmanni Scheerpeltz des. Chatzimanolis and Chani Posse” (NMW). PARALECTOTYPES: four female specimens with labels: “[white label] ♀” / “[white label] Mendes, E. d. Rio. Brasilien, 2/5/11/14.X. 1933” / “[white label] Dr. Eidmann, legit” / “[white label, handwritten] Jungbau in bewohnten Panellas/ Bei *Atta sexdens*, Ausgrabungsbau in Panellas” / “[light blue label] ex. Coll. Scheerpeltz” / “[red label] Paralectotype *Hesperus eidmanni* Scheerpeltz des. Chatzimanolis and Chani Posse” (NMW). One of them has an additional red label “Typus *Hesperus eidmanni*, O. Scheerpeltz”, and



Figs. 3–4. *Hesperus eidmanni*. **3)** Lectotype, total length = 9.5 mm; **4)** Labels.

the other three specimens labeled as “*Cotyplus Hesperus eidmanni*, O. Scheerpeltz”.

***Plociopterus goeldii*:** This taxon is transferred to the genus *Belonuchus* as *Belonuchus goeldii* (Wasmann, 1925), **new combination**. LECTOTYPE (**here designated**): female, with labels: “[red label] Type” / “*Belonuchus göldii* m.” / “Colonia alpina, Rio d. Janeiro” / “*C. Atta nigra*, fm. A. Göldi” / “Lectotype *Plociopterus goeldii* Wasmann des. Chatzimanolis and Chani Posse” / “*Belonuchus goeldii* Chatzimanolis det. 2016”. As is evident above, Wasmann (1925) had initially labeled this taxon as *Belonuchus*, but described it in *Plociopterus*, perhaps as *lapsus calami*.

Our examination of the type material of *P. atticida* (including that of its junior synonym, *H. eidmanni*) and *P. goeldii* established that these species do not belong to the genus *Plociopterus* in Xanthopygina but belong to the genus *Belonuchus* in Philonthina. The pronotal hypomeron with the superior marginal line distinctly deflexed under the anterior angle of the pronotum and the absence of empodial setae between the tarsal claws clearly indicate their affiliation to the subtribe Philonthina as opposed to Xanthopygina, whose members show the superior marginal line of pronotal hypomeron not deflexed under the anterior pronotal angles and empodial setae always present between tarsal claws (Smetana and Davies 2000; Chatzimanolis 2014). Among the currently known genera of Philonthina (A. Newton, unpublished database), these species share with *Belonuchus* those characters summarized both by Smetana (1995) and Chani-Posse (2014) in their respective generic keys. The most distinct character separating *Belonuchus* from *Hesperus* in those keys is the first four tarsomeres of the protarsus each bearing only marginal setae on the ventral face as opposed to *Hesperus* having modified pale setae in addition to the marginal setae on each of the first four tarsomeres of protarsus. Although Scheerpeltz (1971) was aware of the morphological variation within *Hesperus*, it seems likely that either he did not take this character into account when considering the placement of *H. eidmanni* or he was misled by the aspect of its protarsus with marginal setae being rather dense and pale, but not homologous to the modified pale “adhesive” setae of other Staphylinini (see fig. 16B in Li and Zhou 2011; character 41 in Solodovnikov and Brunke 2013). The species studied herein fit for the most part with the diagnosis of *Belonuchus* “*sensu stricto*” proposed by Chani-Posse (2014). The taxonomic concepts of several highly speciose genera in Philonthina (including *Belonuchus*) are currently under review (Chani-Posse, unpublished data). Until the taxa discussed above are placed in a phylogeny that represents the diversity of species-rich genera within the subtribe, it will be difficult to assess to

which lineage they belong within the so-called *Belonuchus*-complex.

It seems unlikely that anyone has studied these types since the original publication since anyone familiar with Staphylinini rove beetles would have easily spotted the incorrect subtribal classification. We want to emphasize that using data from original old species descriptions without carefully examining the actual specimens is a cautionary tale and will lead to mistakes. For example, several publications dealing with myrmecophilous insects (*e.g.*, Kistner 1982; Navarrete-Heredia 2001) have mentioned incorrectly the two species of "*Plociopterus*" discussed above.

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