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Corticaria andreasi nomen novum (Coleoptera, Latridiidae)

JYRKI MUONA

Abstract

Corticaria andreasi nomen novum is proposed for the junior primary homonym *Corticaria strandi* Palm 1949, nec Roubal 1934. This species is closely related to the Mediterranean *Corticaria cucujiformis* Reitter, 1881 as well as the Nearctic *Corticaria planula* Fall, 1899. The decisive differences between these taxa are in the structure of the male genitalia, especially in the endophallus.

Background

Rücker (2021), following Johnson (2007), listed two subjective junior synonyms for *Corticaria cucujiformis* Reitter, 1881: *Corticaria planula* Fall, 1899 and *Corticaria strandi* Palm, 1949. Rücker's Lathridiidae check-list contained the name *C. strandi* twice, the other one being *C. strandi* Roubal, 1934, a junior subjective synonym of *C. aequalis* Reitter, 1898. As the name *Corticaria strandi* Palm is a junior primary homonym, it must be replaced if the taxon in question is to be regarded as a valid one. However, if it is regarded as a subjective junior synonym, a replacement name would be superfluous.

In his Lathridiidae book, Rücker (2018) treated the Nearctic *C. planula* and the Palearctic *C. cucujiformis* as two separate species and presented characters supporting their status. However, they are treated as subjective synonyms in Rücker (2021) without explanation. This being the situation, the status of these taxa required further attention.

Corticaria planula Fall, 1899

Fall, 1899: 154-155, plate V: fig. 44.

JOHNSON, 2007: 642

RÜCKER, 2018: 473-474, fig. 885, 886

HAMMOND & CHAMBERS, 2021: 248-249, fig. 7F, 14D, map 12.

C. planula was described in detail in both Rücker (2018) and Hammond & Chambers (2021). According

to Rücker, the only difference between *C. planula* and *C. cucujiformis* was in the male genitalia: *C. planula* had four dark sclerites in the endophallus (Rücker, 2018, fig. 886), *C. cucujiformis* lacked such structures (Rücker 2018, fig. 771). Further differences existed, however. Rücker noted that *C. planula* male had apical teeth on all tibiae, whereas *C. cucujiformis* lacked these on metatibiae. Although not mentioned in the descriptions, in Rücker's drawings the elytra were more parallel-sided and round off closer to apex in *C. planula* (Rücker, 2018, fig. 885) than in *C. cucujiformis* (Rücker, 2018, fig. 770).

I have been able to study one pair of *C. planula* from USA (Alaska, Fairbanks; Hjälten leg.). The male specimen agreed well with Rücker's description. It had four sclerotized items in the endophallus (fig. 1), apical teeth on all tibiae and slightly rounded elytra with broadly rounded apex (fig. 13). The habitus drawing in Hammond & Chambers (2021: fig. 7F) fitted well with Rücker's (2018: 88) illustration as well as the Alaskan specimen I studied (fig. 13). However, the original description of *C. planula* included a picture of a more parallel-sided specimen (Fall, 1899: plate V, fig. 44).

For pronotum, Rücker gave a width/length ratio of 1.10 for *C. planula*. Rücker's own drawing showed 1.22 (Rücker 2018, fig. 770), so there seemed to be an error of some kind. Both Alaskan specimens I studied measured 1.24, in Hammond & Chambers' drawing the ratio is 1.25.

Hammond & Chambers (2021, fig. 14D) gave a more detailed image of the aedeagus of *C. planula* than Rucker did (2018: 886). According to their pictures, there were six sclerites in the endophallus. In the text they stated there are two, however.

It is possible that we are dealing with two very closely related species here, one from Alaska, the other from the more southern areas.

Corticaria cucujiformis Reitter, 1881

REITTER, 1881: 66.

RÜCKER, 2018: 445–446, fig. 770 – 772.

Rucker's description was based on "holotype and two paratypes". This was incorrect, as no holotype or paratypes existed. This species was described on the basis of more than one specimens from "Corse", a holotype never existed and a lectotype had not been designated. All original specimens were syntypes.

In addition to Rucker's description I have been able to study an image of a male specimen in the MZT. This specimen was digitized and available at the laji.fi site (<https://laji.fi/taxon/MX.194518/images>), where it is reported as being a "type". What was meant with this term in this case is unclear, but as there was no indication that the specimen was included among the ones used in the description, it cannot be regarded as a syntype. In fact, Reitter was quite liberal with his "type" labels, so the lack of such label supports the idea that the specimen is not a syntype. However, it fits well with the description, was labelled "Corse" and "Reitter", so it was undoubtedly correctly identified.

Rucker stated that *C. cucujiformis* can be separated from *C. planula* only by studying the male genitalia. According to the images given, the most striking difference was the absence of endophallic sclerites. This feature is fairly difficult to observe as it requires cleared preparations. The lateral view of the organ is better for identification purposes, *C. planula* organ being much shorter and thicker (HAMMOND & CHAMBERS, 2021, fig. 14D) than that of *C. cucujiformis* (Rucker, 2018: 772).

In addition to the shape of the genitalia, other differences existed between the species. The pronotum was proportionately wider in *C. cucujiformis*, width/length ratio being 1.33 in Rucker's image and 1.32 in the ZMT specimen – Rucker gave 1.47 in his description, but this appeared to be an error.

Also, as mentioned earlier, the male metatibial apex lacked tooth in *C. cucujiformis*.

Corticaria strandi Palm, 1949 nec Roubal, 1934

Although listed in Rucker's book (2018) and newest check-list (2021), Rucker has not published anything suggesting that he had seen actual specimens of *C. strandi*. Evidently his view of this taxon was based on JOHNSON (2007).

I have studied the only known Finnish specimen

(Kb, Ilomantsi, 1976-08-06, J. Muona leg.), a male. In addition to it, detailed images of two Swedish specimens were available from the MZLU site, a male <https://www.flickr.com/photos/tags/mzluco100009093> as well as the female paratype ("allotype")

<https://www.flickr.com/photos/tags/mzlutype01212>.

The male genitalia of both *C. planula* (fig. 1) and *C. strandi* (fig. 2) showed several characteristic features. The endophallus of both species had a tubular structure "A", apically slightly pointed and basally united in *C. planula*, more parallel, apically transverse and basally separate in *C. strandi*. Both species also had a doubled, basally strongly sclerotized longitudinal structure "B" in the middle, apparently ventral to "A". This seemed to correspond to the median pair of sclerites in the images in Hammond & Chambers and Rucker. "B" faded apically and might actually form the final supporting part of the ejaculatory duct when the endophallus was exerted. This area was covered with conspicuous scale-like hairs in *C. strandi* ("S"), these being much weaker in *C. planula*. Basolateral to structure "B", *C. planula* had a pair of strongly sclerotized hook-shaped sclerites, "C", again clearly visible in the drawings of Hammond & Chambers and Rucker. *C. strandi* lacked these hooks entirely. The median lobe's dorsal flange "F" (HAMMOND & CHAMBERS, 2021: fig. 2) is wider and more extensive in *C. strandi* than in *C. planula*. Finally, the strongly sclerotized apical part of the ventral median lobe was different in the two species. In *C. planula* there was a wide, lightly sclerotized lower area (fig. 1, "V") whereas in *C. strandi* the strongly sclerotized zone was wider and darker (fig. 2, "V"). This character was easy to see without making a slide mount.

The last visible male ventrite was more transverse and less strongly narrowing caudad in *C. strandi* (fig. 9) than that of *C. planula* (fig. 10).

Males of *C. strandi* had apical metatibial teeth, the pronotal width/length ratio was 1.24 – 1.25 in all three studied specimens. *Corticaria strandi* appeared to have less twisted and more elongated male mesotibiae and slightly slenderer antennae than *C. planula*, but such characters need to be studied from a large sample not available at the moment. The pronotum appeared to be more constricted basally in males than in females, but the actual width/length ratio remained the same. This dimorphism may confuse if the values are estimated, not measured (fig. 14, 15).

Both *C. planula* and *C. strandi* had slenderer pronotum than *C. cucujiformis*. They both had endophallic structures different from those of *C. cucujiformis*. In lateral view the aedeagus of both *C. planula* and *C. strandi* was much thicker and shorter than that of *C. cucujiformis* and they both have male metatibial apical teeth, a feature absent from *C. cucujiformis*.

Conclusions

Corticaria cucujiformis Reitter, 1881, as defined by RÜCKER (2018: 445–446) and agreeing well with a specimen from Corsica, identified by Reitter, is a typical Medi-

terranean species (e.g. Garcia et al., 2018), occurring around the Mediterranean coastal mountain regions and not known from the rest of Europe. *Corticaria cucujiformis* is easy to separate from other exceptionally flat *Corticaria* species with the help of its wide pronotum and the characters of the male: metatibiae lack apical tooth, the endophallus lacks sclerites and the aedeagus is narrow and nearly straight in lateral view. No lectotype has ever been designated for this species. If needed, one should be chosen from the Reitter collection in the Budapest Museum as those specimens are most likely the ones he used for the description.

Corticaria planula FALL, 1899, a Nearctic species, has been reported as occurring from Fairbanks, Alaska down to Pasadena region, Southern California (RÜCKER, 2018; HAMMOND & CHAMBERS, 2021). The material seen was collected from Fairbanks, Alaska. Whether these specimens actually belonged to *C. planula* or a closely related undescribed species remains open. There are two reasons prompting this possibility. Fall's (1899, plate V, fig. 44) original image of the species does not fit the present species exactly, being more parallel-sided. HAMMOND & CHAMBERS (2021, fig. 14D) provided an image of the aedeagus of the correct *C. planula*, as it is based on the MCZ syntype from Pomona, California (Hammond, pers. comm.). It differs slightly from that of the Alaskan specimens studied, as well as the one illustrated in Rucker, that being from Alaska as well (2018: fig. 771-772). However, it is clear that neither *C. planula* sensu Rucker (Alaska) nor *C. planula* sensu Hammond & Chambers (California, syntype) was identical with *C. cucujiformis* or *C. strandi* Palm. The Neartic forms, whether one or two species, differed from the Palearctic ones in several features of the aedeagus. There appeared to be other external differences as well in male tibiae, shape of male last ventrite, body form and antennal structure, but with the exception of the wide *C. cucujiformis* pronotum, these characters could not be judged safely from the small material available.

If *C. planula* sensu Rucker (Alaska) and *C. planula* sensu Hammond & Chambers turn out to be separate taxa, the latter is the correct *C. planula* as the the genitalia illustration in their work is based on the Californian syntype in MCZ. This would fit Fall's habitus illustration as well.

Corticaria strandi PALM, 1949 nec ROUBAL, 1934 is a distinct species presently known from Sweden and Finland only. The structure of the aedeagus separated it from the other species discussed here. *C. cucujiformis* had a very slender median lobe in ventral view as well as a wider pronotum. *C. strandi* Palm had a short organ with strongly bent apex, more similar to that of the Nearctic species. The median lobe apex was shorter and more bent than in the Nearctic species and there were several additional differences in the endophallus. Externally *C. strandi* Palm had more parallel-sided elytra than the Alaskan

specimens presumed to be *C. planula*, resembling more the *C. planula* sensu Hammond & Chambers.

The conclusion was that *Corticaria strandi* PALM, 1949 nec ROUBAL, 1934 is neither a junior subjective synonym of *Corticaria cucujiformis* REITTER, 1881 nor of *Corticaria planula* FALL, 1899. Being a valid species and a junior primary homonym, it needs a new name according to the rules of IUZS.

Thure Palm's original intention was to honor his friend Andreas Strand. In order to keep the original intention intact, I propose the replacement name *Corticaria andreasi* nomen novum for the junior primary homonym *Corticaria strandi* PALM, 1949, nec ROUBAL, 1934.

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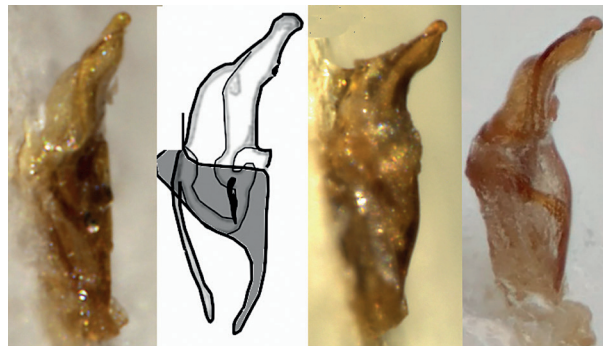


Figure 3-6. Aedeagus, lateral view, from left to right. (3) *Corticaria ?planula* Fall, USA, Alaska, Fairbanks, (4) *Corticaria planula* Fall, California, USA, syntype (Hammond & Chambers, fig 12D), (5) *Corticaria strandi* Palm, nec Roubal, Finland, Kb, Ilomantsi, (6) *Corticaria strandi* Palm, nec Roubal, Sweden, Nb, Arvidsjaur.

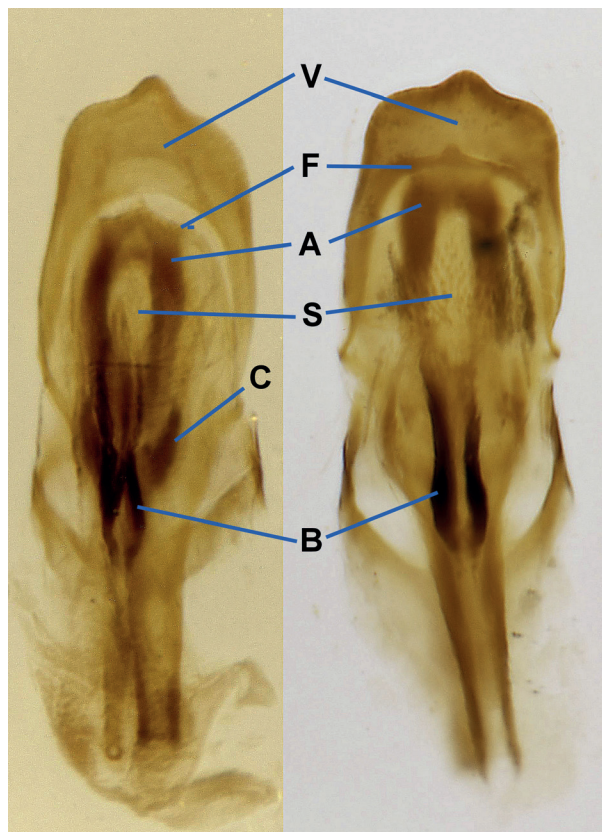


Figure 1-2. Aedeagus, ventral view. A: Tubular endophallic structure, B: Longitudinal median sclerotizations, C: Sclerotized basolateral hooks, F: Dorsal flange of median lobe, S: Scale-like hairs, V: Ventral apex of median lobe. (1) *Corticaria ?planula* Fall, USA, Alaska, Fairbanks; left (2) *Corticaria strandi* Palm, nec Roubal, Finland, Kb, Ilomantsi, right.



Figure 7-8. Aedeagus, ventral view. (7) *Corticaria ?planula* Fall, USA, Alaska, Fairbanks, left, (8) *Corticaria strandi* Palm, nec Roubal, Finland, Kb, Ilomantsi, right.

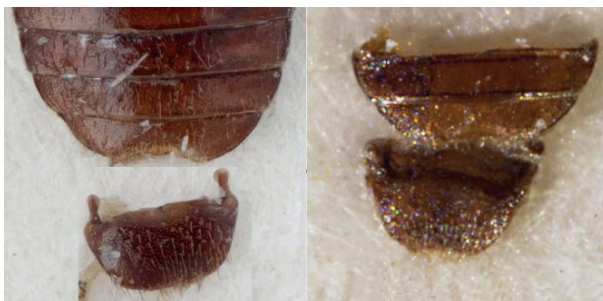


Figure 9-10. Apical abdominal ventrites. (3) *Corticaria strandi* Palm, nec Roubal, Finland, Kb, Ilomantsi, left, (4) *Corticaria ?planula* Fall, USA, Alaska, Fairbanks, right.



Figure 11-13. Habitus, males, from left to right.

(11) *Corticaria strandi* Palm, nec Roubal, Finland, Kb, Ilomantsi, (12) *Corticaria strandi* Palm, nec Roubal, Sweden, Nb, Arvidsjaur, <https://www.flickr.com/photos/tags/mzlucol00009093>, MZLU collection,

(13) *Corticaria ?planula* Fall, USA, Alaska, Fairbanks . (11) is the same specimen as (2), (5), (9); (12) is the same specimen as (6); (13) is the same specimens as (1), (3), (7), (10)



Figure 14-15. Habitus. (14) *Corticaria strandi* Palm, nec Roubal, Sweden, Nb, Malå socken, female paratype (“allotype”), <https://www.flickr.com/photos/tags/mzlutype01212>, MZLU collection, left, (15) *Corticaria cucujiformis* Reitter, France, Corsica, male, not syntype, MZT collection, right.