

Acolastus calcaratus sp.nov., a new species of Acolastus Gerstäcker closely related to A. turneni Bryant (Chrysomelidae, Cryptocephalinae)

Autor(en): **Schöller, Matthias**

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***Acolastus calcaratus* sp.nov., a new species of *Acolastus* GERSTÄCKER closely related to *A. turneri* BRYANT (Chrysomelidae, Cryptocephalinae)**

by Matthias Schöller

Abstract. A new species of the cryptocephaline leaf beetle genus *Acolastus* GERSTÄCKER, 1855 is described: *A. calcaratus* sp.nov. from Southern Africa. This species is found to be closely related to *A. turneri* BRYANT, 1944. The two species bear a unique character within the genus, in that the spurs of the hind tibiae are greatly enlarged. The holotype of *A. turneri* was studied and diagnostic characters not provided in the original description are given. Sexual dimorphism in *Acolastus* is discussed.

Key words: Coleoptera – Chrysomelidae – Cryptocephalinae – new species – South Africa

Introduction

Within the cryptocephaline leaf beetle genus *Acolastus* GERSTÄCKER, 1855, *A. turneri* BRYANT, 1944 bears a unique character, in that the spurs of the hind tibiae are greatly enlarged. The examination of undetermined specimens in the collection of the Naturhistorisches Museum Basel, Switzerland revealed a second species showing this character, which is described in this study.

Material and methods

Dried adults were dissected, the abdomen was separated in water, the contents were soaked in cold dilute KOH for several hours and then washed in water. The eye length was measured from lateral view, the interocular space from frontal view. The specimens used in this study were from four collections, with abbreviations used in text as follows:

- BMNH British Museum of Natural History London, England
- MSPC Matthias Schöller, personal collection, Berlin, Germany
- NHMB Naturhistorisches Museum Basel, Switzerland
- TVMP Transvaal Museum, Pretoria, Republic of South Africa

Taxonomy

***Acolastus turneri* BRYANT, 1944**

(Figs 1, 3, 4)

Ann. Mag. Nat. Hist. **11**: 417.

Type material examined. Holotype female (MNHL): “Type (round) [white with red border]/ Cape Province: Matjesfontein. 19–31.xii.1928 [white]/ S. Africa, R. E. Turner., Brit. Mus., 1929–51 [white, with blue line]/ *Acolastus turneri* Bryant (ink) Det. G. E. Bryant [white]/ (my label) Type seen, Matthias SCHÖLLER, I. 1997 [white]”. (Note: The type specimen lacks the antennae.)

Other material examined: 6 males, 1 female (TVMP): “Cape-Karoo Farm Zwartzkraal, 33.10S–22.32E, 08.11.1978, 25.10.1979, 15.12.1979, leg. R. Oosthuizen”.

Diagnostic characters not provided in the original description.

Female (Fig. 3): The spermatheca is hook-shaped, the spermathecal duct is short, straight, kotpresse as in the following species. Hind tibia as in Fig. 3.

Male (Figs 1, 4): Tip of aedeagan lobe prolonged into a small acute tooth, apex with lateral margins rounded, outer clasps of the endophallus tongue-like, inner clasps rounded, laterally with an acute tooth (Fig. 1). Hind tibia with large spur bending forwards (Fig. 4).

Distribution and biology. Republic of South Africa, Cape Province. The non-type specimens were trapped in ground-traps baited with fermented banana baits or faeces.

***Acolastus calcaratus* sp.nov.**

(Figs 2, 5–9)

Material examined. *Locus typicus* of the type specimens: Republic of South Africa, Cape Province, Oudeberg Pass. (The Oudeberg Pass is a mountain pass in Eastern Cape Province, NW of Graaff-Reinet. The co-ordinates are approximately 32.07S 24.24E. The “R. 63” refers to the number of the road/route as indicated on South African maps.)

Holotype male (NHMB): “Südafrika, Cape Prov., W. Wittmer [white] / Oudeberg Pass, R. 63, 14.XI.1992 [white] / (my label) Holotypus *Acolastus calcaratus* MIHI, det. Matthias Schöller [red]”. 4 Paratypes: (1 male, 1 female NHMB; 1 male, 1 female MSPC): “Südafrika, Cape Prov., Oudeberg Pass, R. 63, 14.XI.1992, W. Wittmer”; all with my label: “Paratypus *Acolastus calcaratus* MIHI, det. Matthias Schöller”.

Description. **Habitus:** cylindrical species, size (mm) [mean (max., min., n)]: length of male 3.40 (3.50, 3.30, 3), female 3.45 (3.40, 3.50, 2), width of elytra at humeri in male 1.55, female 1.60, length of pronotum in male 0.85 (0.80, 0.90), width 1.30, length in female 0.85 and width 1.30, colour black except for light brown elytra, punctuation strong and irregular, punctures dark at base, surfaces covered in strong white setae, except elytra.

Head: distinctly punctate, black, covered with white setae, clypeus yellowish brown. Eyes convex, inner border emarginate, interocular space 1.38 times eye length (Fig. 6). Maxillary and labial palpi light brown, last segment of maxillary palp cylindrical. Antennal segment 1 black, segments 2–4 light brown, segments 5–11 only slightly dilated, brown.

Thorax: black, pubescent with white setae, surface of pronotum glossy, punctuation coarse, lateral pronotal margins smooth, narrow, not simultaneously visible from above; scutellum triangular, black, distinctly punctate, covered with white setae, width about 1.75 times length; elytra truncate, diffusely punctate, the punctures coarse and dark at base, glabrous except for some short white setae at the apex and at the epipleura under the humeral tubercle, basal margin swollen, with small acute tooth, elytral side margins wide, simultaneously visible from above; legs yellow, femur yellow with brown coloration, last tarsomer longer than second by 60%, claws simple.

Abdomen: sternites and pygidium densely and distinctly punctate, black, densely covered with white setae.

Female (Figs 7–9): kotpresse with dorsal central plate wide oval (Fig. 7), ventral apodemes joined by a narrow junction (Fig. 8). Spermatheca simple, with spermathecal duct short and straight (Fig. 9). Eggs, which were found during the dissection of the females, measured $0.8 \diamond 0.325$ mm. The ovarium contained 7 mature eggs. Eyes less

convex than in male and interocular space 1.54 times eye length. Ratio length of fore-tibia to mid-tibia 3.5:2.5.

Male (Figs 2, 5, 6): tip of aedeagan lobe prolonged into a small acute tooth, apex with lateral margins rectangular, outer clasps of the endophallus needle-like, inner clasps rectangular (Fig. 2). Fore-tibiae parallel-sided, ratio length of fore-tibia to mid tibia 4:3, hind tibia with large spur bent inwards (Fig. 5).

Distribution. Republic of South Africa, Cape Province.

Etymology. *Calcaratus* means “spurred”; the species is characterised by a large tibial spur.

Diagnosis. A black species with light brown elytra and enlarged hind spurs in the male. It may be distinguished from *A. turneri* by the shape of the male hind spurs and the aedeagus. No information on the biology available.

Discussion

The enlarged hind spur may serve to grip the female during copulation. Sexual dimorphism in the hind spur has not been described in the Pachybrachini to date. Various characters show sexual dimorphism in species of *Acolastus*. The eyes are frequently more convex in the male than in the female, as in the species discussed here. The females may be much larger than the males. Further characters affected are the shape of the final abdominal sternites, the fore-tarsi, the shape and size of the fore-tibiae, and the length of the antennae and the mandibles (SCHÖLLER 1999, 2000). Care should therefore be exercised if these characters are considered for systematic analysis of infraspecific relationships in *Acolastus*.

Acknowledgements

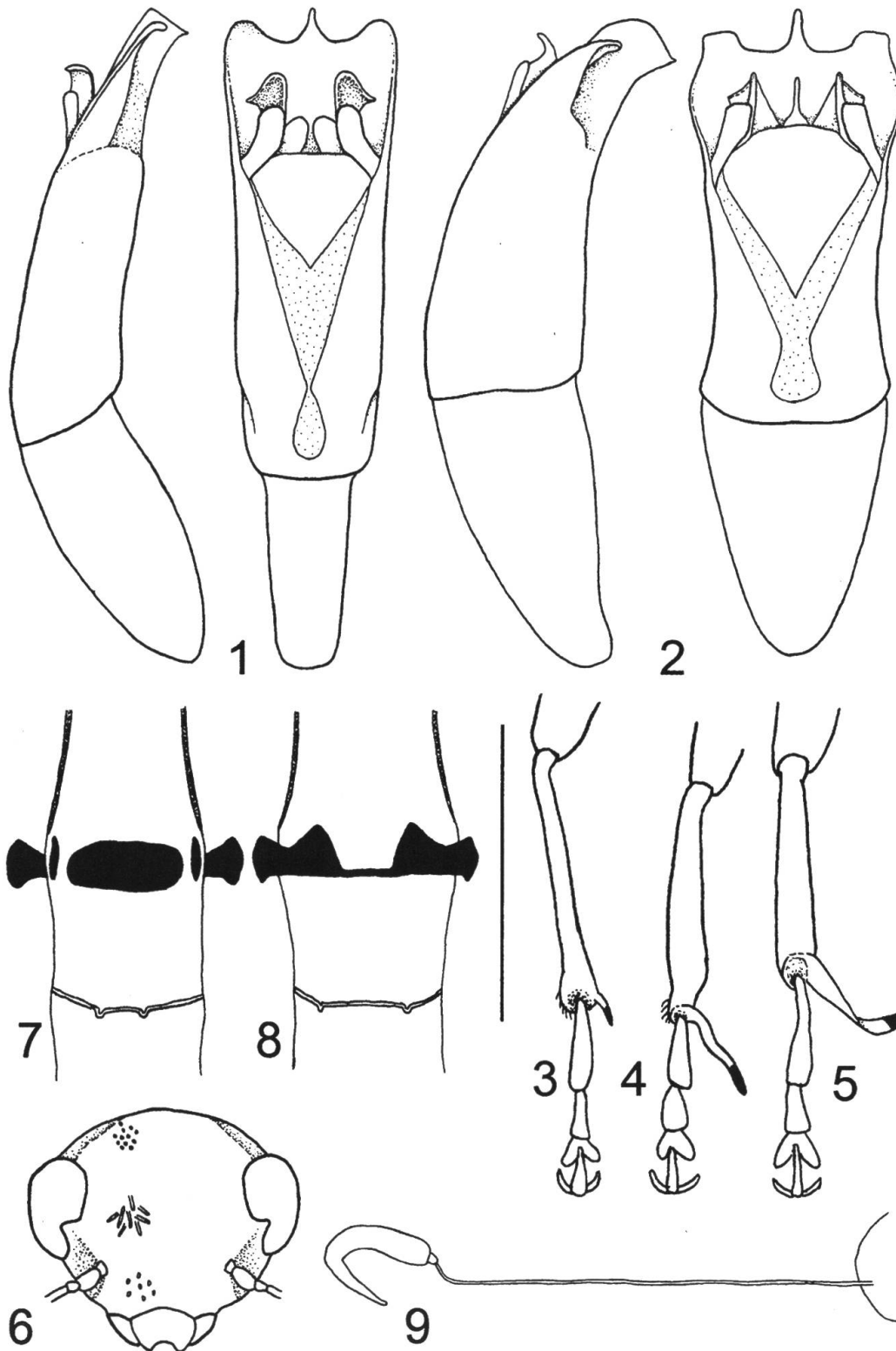
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Address of author:

Matthias Schöller
Biologische Beratung
Hosemannstr. 8, 10409 Berlin,
GERMANY
E-mail: mschoell@tricho.b.shuttle.de



Figs 1–9: 1, 2. Aedeagus lateral, dorsal view: 1, *Acolastus turneri* BRYANT; 2, *Acolastus calcaratus* sp.nov.; 3, 4. hind leg of *A. turneri*: 3, female; 4, male; 5–9. *A. calcaratus*: 5, hind leg of male; 6, head; 7, kotpresse dorsal; 8, kotpresse ventral; 9, spermatheca and spermathecal duct.