

## **A new species of *Pseudapocyrtus* HELLER, 1912 (Coleoptera: Curculionidae) from southern Luzon, The Philippines**

Andreas LINK & Herbert ZETTEL

### Abstract

*Pseudapocyrtus legorskyi* sp.n. is described from the Bicol subregion in the Philippines. The genus *Pseudapocyrtus* HELLER, 1912, endemic to the biogeographical region Greater Luzon in the Philippines, presently comprises ten species including the new one described in this paper.

Key words: Curculionidae, Pachyrhynchini, *Pseudapocyrtus*, new species, Luzon, Bicol, Philippines.

### Zusammenfassung

*Pseudapocyrtus legorskyi* sp.n. wird aus der Subregion Bicol auf den Philippinen beschrieben. Die Rüsselkäfergattung *Pseudapocyrtus* HELLER, 1912 ist ein Endemit der biogeographischen Region „Greater Luzon“ und umfasst einschließlich der neuen Art zehn Spezies.

### Introduction

Pachyrhynchini are the most spectacular among Philippine weevils. Many species – mostly in the genera *Pachyrhynchus* GERMAR, 1842 and *Metapocyrtus* HELLER, 1912 – have striking, sometimes bizarre patterns of brightly coloured scales, often with strong intraspecific variation between local populations. As all pachyrhynchine species are wingless, they have very restricted distributions and subsequently great zoogeographical significance. In the Philippines, which harbours approximately 90% of the Pachyrhynchini (DICKERSON et al. 1928, DALLA TORRE et al. 1931, 1939), almost all of them are limited to one island, and many montane species are endemic to mountain ranges or isolated volcanoes.

*Pseudapocyrtus* HELLER, 1912 is a small genus solely distributed in the biogeographical region Greater Luzon, which comprises the large island of Luzon and those smaller neighbouring islands which were connected with Luzon by land bridges during Pleistocene cold periods (ONG et al. 2002). Nine species were described by HELLER (1912, 1929) and by SCHULTZE (1922).

*Pseudapocyrtus* is chiefly defined by the following combination of characters (HELLER 1912, EMDEN 1944, and Figs. 1 - 4): Head small; dorsal boundary of antennal scrobe carinate. Rostrum separated from frons only by vestigial transverse furrow, not swollen apically and without impression in basal half, moderately convex in both longitudinal and transverse direction, slightly tapered towards apex in lateral aspect. Eyes weakly convex. Pronotum almost circular in dorsal view, relatively small in comparison with elytra.

### Material and methods

All specimens are dry-mounted on card squares, a pinned one excepted. The holotype and paratypes of the new species will be deposited in the Museum of Natural History, University of the Philippines, Los Baños, The Philippines. Further paratypes will be deposited in the Natural History Museum, Vienna, Austria; in the Museum für Naturkunde, Dresden, Germany; and in the authors' collections.

A Leica Wild M10 binocular microscope with a camera lucida was used to prepare the description and line drawings (Figs. 9, 10). Stacked digital habitus images (Figs. 1 - 4) were taken with a Leica DFC490 camera attached to a Leica MZ16 binocular microscope, processed with the help of Leica Application Suite, and stacked with ZereneStacker 64-bit. Images of genitalia (Figs. 5 - 8) were taken with a NIKON Digital Sight DS-Fi2-U3 camera attached to a NIKON Multi-Zoom Makroskop AZ100M with the help of NIKON NIS Elements D Application. They were stacked with the EDF-Modul (Extended Depth of Focus) which is included in the application. All images were processed with Adobe Photoshop 7.0.

Measurements are given in millimetres and refer to the maximum length and width of structures. Total length is from apex of head (incl. rostrum and mouthparts) to apex of elytra. Total length, head length (including mouthparts), pronotal length, and elytral length are measured in lateral aspect of specimen. Total length and head length are approximate, because they depend on the way how the specimen was mounted. Maximum head width is at base. Interoculus is the minimum distance between eyes. Rostrum width and length refer to the flattened dorsum between lateral edges; maximum width is proximal of antennal insertion, length is measured medially from the transverse sulcus separating rostrum from head to an imaginary line connecting the most advanced points of epistoma (as its anterior margin is concave).

### Taxonomy

#### *Pseudapocyrtus legorskyi* sp.n. (Figs. 1 - 9)

**Etymology:** Dedicated to the Viennese coleopterist and honorary president of the Austrian Entomologists' Association, Franz J. Legorsky on the occasion of his 90<sup>th</sup> birthday.

**Type material:** Holotype (♂): Philippines, southern Luzon, Camarines Norte, Basud, Nalisan, degraded dipterocarp forest, ca. 130 m a.s.l., N 13° 56' E 122° 57' (GPS), 16.V.2009, leg. C. V. Pangantihon (#P317). Paratypes: same locality, 13.-14.III.2003, leg. H. Zettel, L. S. Vichozo & C. V. Pangantihon (#372), 2 ♀♀; 23.II.2004, leg. H. Zettel, L. S. Vichozo & C. V. Pangantihon (#372), 2 ♂♂, 4 ♀♀; 26.II.2004, leg. H. Zettel & C. V. Pangantihon (#376), 1 ♂, 1 ♀; 1.III.2005, leg. H. Zettel (#419), 2 ♂♂, 1 ♀; 28.X.2005, leg. C. V. Pangantihon (#P191), 1 ♂, 3 ♀♀; 10.III.2006, leg. H. Zettel & R. Gille (#442), 2 ♂♂, 4 ♀♀; 15.III.2006, leg. H. Zettel & L. S. Vichozo (#449), 3 ♂♂,

1 ♀; 5.IV.2006, leg. C. V. Pangantihon (#P223), 1 ♂, 1 ♀; 10.V.2006, leg. C. V. Pangantihon (#P236), 1 ♂, 1 ♀; 23.II.2008, leg. H. Zettel (#509), 1 ♂, 2 ♀♀; 5.VI.2008, leg. C. V. Pangantihon (#P293), 2 ♀♀; 16.V.2009, leg. C. V. Pangantihon (#P317), 2 ♀♀. – Camarines Norte, San Vicente, Fabrica, Mananap, 6.II.2001, leg. H. Zettel, E. S. Vichozo & L. S. Vichozo (#264), 1 ♂. – Camarines Norte, Labo, Tulay na Lupa, 17.-18.III.2004, leg. H. Zettel & C. V. Pangantihon (#382), 1 ♀. – Camarines Sur, Lupi, Sooc, Telecom site, 31.III.2003, leg. C. V. Pangantihon, 1 ♂, 1 ♀; 22.II.2004, leg. C. V. Pangantihon (#P42), 1 ♂.

**Description:** Colour (Figs. 1 - 4) black; light reddish to dark chestnut-brown are: scape and basal funicular segments, disc of pronotum, disc of elytra, all femora except extreme base and apex, and all tibiae. Small green scales scarcely present laterally on pronotum and elytra, where they are on humeral area and subapically on declivity. Number of scales varying strongly.

**Size (in mm):** Holotype male: Total length 9.2; head length 2.6, width 1.6; pronotum length 2.4, width 2.5; elytra length 5.5, width 4.4; scape length 1.6; hind femur length 4.3; head width at eyes 1.49; interoculus 0.70; rostrum length 1.39, width 1.06. Paratype males (n = 12): Total length 8.8 - 10.6; head length 2.5 - 2.8, width 1.5 - 1.8; pronotum length 2.4 - 2.7, width 2.4 - 2.8; elytra length 5.4 - 6.2, width 4.2 - 4.8; scape length 1.6 - 1.8; hind femur length 4.3 - 4.9. Paratype females (n = 12): Total length 9.7 - 11.9; head length 2.4 - 3.0, width 1.6 - 2.0; pronotum length 2.4 - 2.7, width 2.3 - 2.9; elytra length 6.0 - 7.2, width 4.6 - 5.4; scape length 1.5 - 1.8; hind femur length 4.2 - 5.0.

**Structures:** Head small, narrow. Dorsum of rostrum with very fine, scarce puncturation and with very fine, narrow median furrow in posterior half; posterior half of rostrum with sharp edge separating dorsal and lateral surfaces; this edge and dorsal scrobal carina forming sharp angle (Figs. 3, 4). Head between eyes with punctures of similar size and distribution as on rostrum, but less distinct due to a very fine shagreen; very faint median furrow present. Dorsum of head behind eyes with distinct fine shagreen and a few minute punctures. Venter of head with deep V-shaped impression. Pronotum globose (Figs. 1, 2), almost circular in dorsal aspect, hardly wider than long (1.03× in holotype); anterior and posterior rim and posterior declivity almost smooth, at most with faint shagreen; disc coarsely tuberculated; an imaginary longitudinal line on pronotal disc crossing approximately 15 tubercles. Elytra strongly globose (Figs. 1, 2), in apical fifth slightly acuminate in male, strongly acuminate in female; whole surface with large punctures arranged in dense longitudinal rows. Apical constricted part of elytra with convex dorsal outline (in lateral aspect, Figs. 3, 4) in both male and female. Joint apex of elytra in male without modification, in female (Fig. 9) with deep sutural incision (about twice as deep as wide), and with comparatively shallow, semicircular subapical incisions; both separated by sharp teeth. In female, sternite 3 bulging, sternite 4 depressed, sternite 5 narrow, shield-shaped.

**Genitalia of male:** see Figures 5 and 6.

**Genitalia of female:** see Figures 7 and 8.

**Comparative notes:** *Proapocyrthus legorskyi* sp.n. is similar to *P. formicarius* HELLER, 1912, a species also described from southern Luzon, without precise locality. We have studied images of the holotype housed in the Senckenberg Natural History Collections Dresden, Germany; and one non-type female from Sorsogon province in the second author's collection. For differences of the two species see Table 1.

**Distribution and habitats:** *Pseudapocyrthus legorskyi* sp.n. seems to be absent from the well-sampled regions in Central Luzon. It is probably an endemic species of

Tab. 1: Differences of *Pseudapocyrtus legorskyi* sp.n. and *P. formicarius* HELLER, 1912.

Characteristic	<i>P. formicarius</i>	<i>P. legorskyi</i> sp.n.
Colour of elytra	black	sides black, disc reddish or brown
Ratio elytral width / pronotal width	♂: 1.92 (n = 1; holotype); ♀: 2.15 (n = 1)	♂♂: 1.57 - 1.84 (n = 13; holotype: 1.78); ♀♀: 1.92 - 2.10 (n = 12)
Elytral protrusion (♀)	long; declivity in lateral view straight	short; declivity in lateral view convex
Terminal excisions of elytral margin (♀)	sutural excision slightly larger than subapical excision (Fig. 10)	sutural excision much larger than subapical excision (Fig. 9)

the Bicol subregion of the Greater Luzon biogeographical region (subregion C8 of ONG et al. 2002) which includes the southern parts of Luzon island, Catanduanes island, and a few small off-shore islets. Because some other parts of Bicol subregion are inhabited by closely related species, *P. formicarius* in C8d (Bulusan, Sorsogon Province) and *P. catanduanensis* SCHULTZE, 1922 in C8b (Catanduanes), we speculate that the distribution area of *P. legorskyi* sp.n. might be restricted to the hilly or mountainous areas in Camarines Norte and neighbouring localities in Camarines Sur. However, additional occurrence in the Mt. Isarog area (C8a) seems possible.

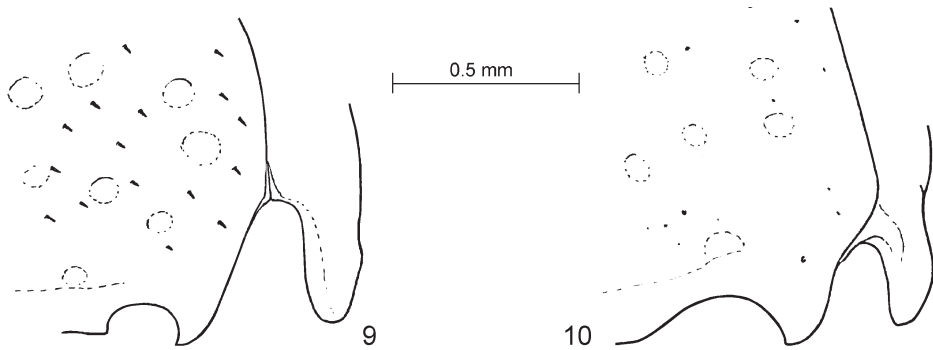
The type locality, from where most specimens origin, is a degraded dipterocarp forest in the Bicol National Park. The site was destined as a tourist area, provided with a small entrance building, a (partly cemented) trail and a observation tower in a forest spot with several larger trees. However, nowadays the tourist project is abandoned, its structures are partly ruined and the trail favors illegal logging in the area and degrading of the natural vegetation. The specimens were collected along the trail. The other two localities in Camarines Norte where *P. legorskyi* sp.n. was found lay at the northern edge of the Bicol National Park on the Mt. Labo–Mt. Bayabas ridge; here specimens were collected at forest edges. The southernmost record of *P. legorskyi* sp.n. lays in Camarines Sur in barangay Sooc; a few specimens were found in an elevated, forested area (with telecommunication tower) just at the edge of the Bicol National Park. *Pseudapocyrtus legorskyi* sp.n. can be found on twigs and leaves of young trees at a height of 1 - 3 metres above ground, usually after or during rainfall.

#### Acknowledgements

The second author is thankful to Roy Gille, Clister V. Pangantihon, Ely S. and Laren S. Vichozo for help during field work, and to the Entomological Institute of the University of the Philippines, Los Baños, especially to Prof. Dr. Victor P. Gapud and Dr. Sheryl A. Yap for a long, fruitful cooperation. The authors are grateful to Franco Sandel (Italy) for providing photographs of Pachyrhynchini types, to Harald Bruckner (Vienna, Austria) for taking the specimen photographs, to Mag. Fritz Gusenleitner (Biology Centre Linz, Austria) for providing equipment for genitalia illustrations, to Dr. Enzo Colonnelli (Rome, Italy) for advice on improvement of the manuscript, and to Dr. Peter Cate (Vienna, Austria) for the English language check.



Figs. 1 - 8: (1 - 4) Habitus of (1, 3) male and (2, 4) female paratypes of *Pseudapocyrtes legorskyi* sp.n., in dorsal and lateral view. Note that colour is not sex-specific. (5, 6) Aedeagus of *P. legorskyi* sp.n., lateral view in two different aspects. (7) Sternite VIII, ventral view. (8) Spermatheca with associated ductus.



Figs. 9 - 10: Apicolateral view of elytral apex of females. (9) *Pseudapocyrtus legorskyi* sp.n.; (10) *P. formicarius*.

### References

- DICKERSON R.E. (in collaboration with MERRILL E.D., MCGREGOR R.C., SCHULTZE W., TAYLOR E.H. & HERRE A.W.C.T.), 1928: Distribution of life in the Philippines. – Manila, Bureau of Printing, 322 pp., 42 pls.
- DALLA TORRE K.W. von, EMDEN M. van & EMDEN F. van, 1931: Coleopterorum Catalogus auspiciis et auxilio W. Junk editus a S. Schenckling. Pars 119. Curculionidae: Brachyderinae: Pachyrhynchini. – Berlin, Junk, 44 pp.
- DALLA TORRE K.W. von, EMDEN M. van & EMDEN F. van, 1939: Coleopterorum Catalogus auspiciis et auxilio W. Junk editus a S. Schenckling. Pars 164. Curculionidae: Brachyderinae III. – s Gravenhage, Junk, pp. 197-327.
- EMDEN F.I. van, 1944: A key to the genera of Brachyderinae of the world. – Annals and Magazine of Natural History, Ser. 11, XI: 503-586.
- HELLER K.M., 1912: Philippinische Rüsselkäfer. – The Philippine Journal of Science, D, 7(5): 295-403, 2 pls.
- HELLER K.M., 1929: Neue philippinische Rüsselkäfer aus der Tribus Pachyrhynchini. – Wiener Entomologische Zeitung 46(1): 1-19.
- ONG P.S., AFUANG L.E. & ROSELL-AMBAL R.C. (eds.), 2002: Philippine biodiversity conservation priorities: A second iteration of the National Biodiversity Strategy and Action Plan. – Department of Environment and Natural Resources - Protected Areas and Wildlife Bureau, Conservation International Philippines, Biodiversity Conservation Program - University of the Philippines Center for Integrative and Development Studies, and Foundation for the Philippine Environment, Quezon City, Philippines, 113 pp.
- SCHULTZE W., 1922: X. Beitrag zur Coleopteren Fauna der Philippinen. – The Philippine Journal of Science, D, 19(6): 569-596, 4 pls.

Authors' addresses: Andreas LINK, Widistraße 55, 4053 Haid bei Ansfelden, Austria  
E-mail: andreas@link.co.at

Dr. Herbert ZETTEL, Entomological Department, Natural History  
Museum Vienna, Burgring 7, 1010 Vienna, Austria  
E-mail: herbert.zettel@nhm-wien.ac.at

# ZOBODAT - [www.zobodat.at](http://www.zobodat.at)

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen](#)

Jahr/Year: 2012

Band/Volume: [64](#)

Autor(en)/Author(s): Link Andreas, Zettel Herbert

Artikel/Article: [A new species of Pseudapocyrtus Heller, 1912 \(Coleoptera: Curculionidae\) from southern Luzon, The Philippines. 61-66](#)