

One new sap beetle species of *Pocadius* Erichson (Coleoptera: Nitidulidae: Nitidulinae)

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Abstract: One new species, *Pocadius spiralis* **sp. nov.**, is described and illustrated from Sichuan, China.

Key words: Polyphaga; Nitiduloidea; morphology; taxonomy

多毛露尾甲属一新种（鞘翅目：露尾甲科：露尾甲亚科）

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摘要: 记述多毛露尾甲属 1 新种: 旋多毛露尾甲 *Pocadius spiralis* **sp. nov.**。提供了该新种的成虫外部形态和雌雄外生殖器特征图。

关键词: 多食亚目; 露尾甲总科; 形态; 分类

Introduction

The genus *Pocadius* was established by Erichson in 1843 with *Nitidula ferruginea* Fabricius, 1775 as the type species. Subsequently, 22 species were described in this genus and recorded around the world. Cline (2008) conducted a review of the global *Pocadius* and described 25 new species, greatly enriching the group. Currently, there are 49 species in this genus, among which only 3 species are distributed in China: *P. yunnanensis* Grouvelle, 1910 (Yunnan), *P. tenebrosus* Chen & Huang, 2020 (Yunnan) and *P. zhangjiajiensis* Chen & Huang, 2020 (Hubei). Here, we described one new species from Sichuan, China.

Material and methods

All specimens of *Pocadius spiralis* **sp. nov.** are deposited in the Entomological Museum of Northwest A&F University (NWAUFU), Yangling, China. The samples were preserved in 99% ethanol and were softened in 55°C water for 6 hours before dissection. Dissected genitalia were soaked in 10% NaOH solution for 12 hours to remove excess muscle tissue. Cleaned genitalia were photographed and then preserved along with the body on a quadrilateral paper with white latex. All photographs were taken using a Canon EOS R7 digital camera with an attached LAOWA LW-FF 25 mm f/2.8 2.5-5.0X Ultra Macro lens and images stacking was done using Helicon Focus 8.1.0 software. Images were retouched with Adobe Photoshop 2022. Illustrations were drawn using Adobe Illustrator 2024.

Taxonomy

Pocadius spiralis **sp. nov.** (Fig. 1)

Description (holotype). Length 3.7 mm, width 2.1 mm. Body oval, moderately convex dorsally. Dorsal and ventral surface orange, antennal club brown, terminal third of elytra and abdominal ventrites 2–5 darker. Pubescence long and golden, lateral margins of pronotum and elytra fringed with dense and long golden setae, abdomen with sparse golden pubescence.

Surface of head with deep punctures, vertex with punctures of variable size, ranging from 0.7× to 1.6× diameter of eye-facets, separated by >0.5 diameters, interspaces smooth and shining. Pronotal surface punctate like vertex, punctures separated by 0.5–1.4 diameter, small punctures with semierect pubescence. Interspaces smooth and shining. Scutellar surface with small punctures, equal to smaller ones on pronotum, interspaces smooth and shining. Elytra with large and small serial punctures, setae semierect; large serial punctures equal to larger ones on pronotum, 2.3× diameter of small serial punctures; small punctures within a row separated by 2.3–4.7 diameter, large punctures by 0.7–1.1 diameter; rows of large punctures separated by 2.4 diameters; interspaces smooth and shining. Pygidium with dense irregular large and small punctures, smaller ones in the basal fourth, rest with large punctures; interspaces smooth. Mentum with shallowly impressed and sparse punctures, interspaces smooth. Submentum with shallowly impressed and large punctures, interspaces microreticulated. Prosternum with small punctures in middle and large punctures laterally, punctures similar to those of pronotum, interspaces microreticulate. Mesoventrite with large punctures, interspaces leathery. Metaventrite disc with fine, sparse punctures, 0.5× diameter of larger ones; posterior edge with one row of regularly arranged large punctures; lateral margin of metaventrite and metanepisternum with large and dense punctures; interspaces smooth and shining. Abdominal ventrites 1–4 in anterior half with large dense punctures, followed by row of small punctures with long setae. Hypopygium with large dense punctures at base and in middle, apex and lateral edge with small punctures, interspaces smooth.

Head widest between eyes, about 1.6 times of long. Pronotum widest near base, about 2.2 times as wide as long, anterior margin nearly truncate, posterior margin undulate, lateral margins arcuate. Scutellar shield subtriangular, apex broadly rounded. Mentum subpentagonal

with apical angle rounded. Prosternum convex in middle; prosternal process strongly expanded behind procoxae to prosternum posterior margin, and narrowing to apex. Mesoventrite carinate. Metaventricle disc slightly depressed, about 2.3 times as wide as long. Metanepisternum broad, narrowing apically; axillary space extremely small, 0.2× length of metanepisternum. First abdominal ventrite about 2.1 times as long as ventrite 2. ventrites 2–4 subequal. Hypopygium slightly shorter than ventrite 1.

Antennal scape asymmetrical, slightly hemispherical, about 1.4 times as long as pedicel; pedicel almost cylindrical, base shrinking; antennomeres 3 shorter than pedicel and about 2.0 times as long as antennomeres 4; antennomeres 4 and 5 slightly transverse, 6–8 strongly transverse; antennal club asymmetrical, about 0.4 times as long as total antennal length; terminal antennomere as long as antennomeres 9–10 combined. Apical tooth of protibial strongly prominent, longer than tarsomere 1; outer apical notch distinct. Mesotibia and metatibia with dense and long setae on lateral edge, both inner and outer apical tooth distinct.

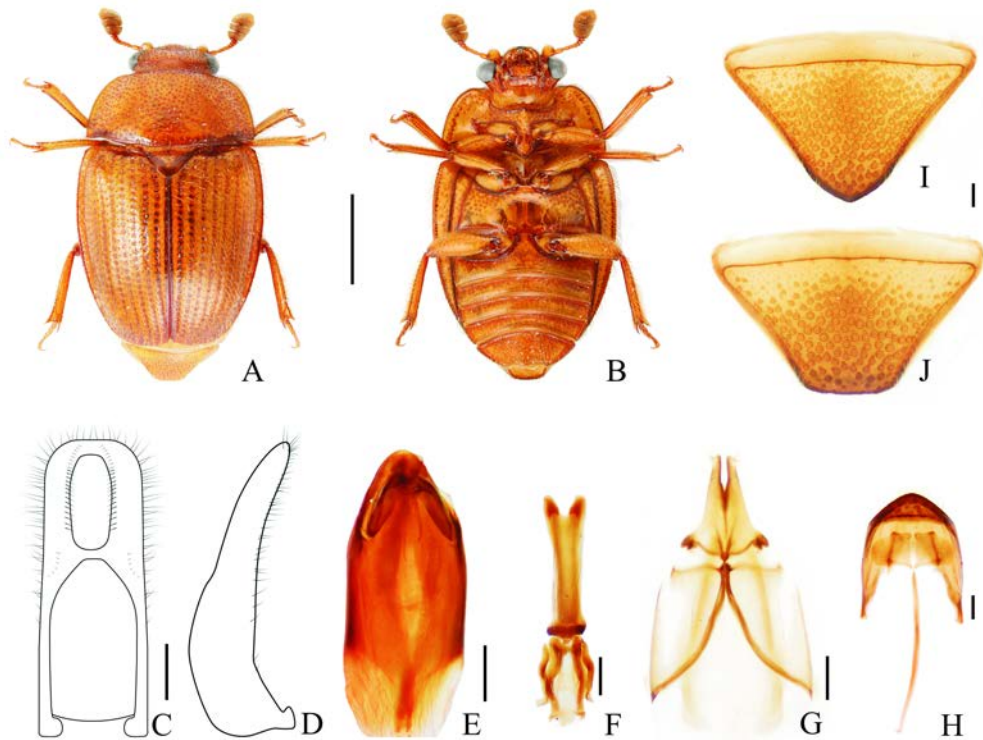


Figure 1. *Pocadius spiralis* **sp. nov.** A, B. Male habitus, dorsal and ventral views; C, D. tegmen, ventral and lateral views; E. Median lobe, dorsal; F. Internal sac sclerites of aedeagus; G. Ovipositor, dorsal view; H. Anal sclerite and male eighth abdominal sternite, ventral view; I. Female pygidium; J. Male pygidium. Scale bars = 1 mm (A, B); 0.1 mm (C–J).

Male genitalia moderately sclerotized. Anal sclerite and eighth abdominal ventrite with long fimbriae apically (Fig. 1H). Tegmen truncate apically, length 2.8× the width, lateral fringe of setae visible from basal two fifths to apex, inner row of setae not attaining apex, elongate, rectangular concavity in apical 0.4 (Figs 1C, 1D). Median lobe 0.6× the length of

tegmen, subparallel-sided, in two apical fifths gradually narrowed towards bluntly pointed apex (Fig. 1E). Sclerites of internal sac as figured (Fig. 1F).

Female. Pygidium differs from that in male, subtriangular to subpentagonal, apex narrowly rounded (Fig. 1I). Genitalia moderately sclerotized. Gonocoxites with two lateral prominences at base; elongate baculi about 0.3 times as long as gonocoxal. Gonocoxal apices smooth, without tooth, with long subapical setae (Fig. 1G).

Holotype. ♂, **China**, Sichuan, Dazhou, Tongchuan District, Wangjiashan, 07-VII-2024, Huan ZHANG (NWFU). **Paratypes.** 8♂6♀, same data as holotype.

Etymology. The specific epithet is derived from the Latin adjective “spiralis”, meaning “spiral”, referring to the shape of internal sac sclerites of aedeagus.

Bionomics. All specimens were collected from Lycoperdaceae in pine forests. Some of the mushrooms have been picked and discarded on the roadside.

Diagnosis. *Pocadius spiralis* **sp. nov.** can be distinguished from other species of the genus *Pocadius* by subtruncate pygidium in male and spiraled sclerites of the basal portion of internal sac. It is similar to *Pocadius femoralis* Cline, 2008 and *P. zhangjiajieensis* Chen & Huang, 2020, but it differs from the former in femora and tibia orange, gonocoxites with two basal lateral prominences, gonocoxal apices narrow, and from *P. zhangjiajieensis* in subpentagonal mentum, tegmen without inner row of setae and missing concavity in apical fourth.

Acknowledgements

This study was supported by the National Natural Science Foundation of China (32470477). The work of JJ (Josef Jelínek) was supported by the Ministry of Culture of the Czech Republic (DRKVO 2024-2028/5.IK.a, National Museum, 00023272). We express our sincere gratitude for the invaluable instrumental support extended by the Entomological Museum of Northwest A&F University. Additionally, we extend our heartfelt thanks to the two insect enthusiasts, Qingyu WANG and Houhua WU, who took the authors to the collection site.

References

- Chen XX & Huang M. 2020. Two new species in the mycophagous genus *Pocadius* Erichson, 1843 from China (Coleoptera: Nitidulidae: Nitidulinae). *Zootaxa*, 4802(2): 294–300.
- Cline AR. 2008. Revision of the sap beetle genus *Pocadius* Erichson, 1843 (Coleoptera: Nitidulidae: Nitidulinae). *Zootaxa*, 1799(1): 1–120.
- Erichson WF. 1843. Versuch einer systematischen Eintheilung der Nitidularien. *Zeitschrift für die Entomologie, herausgegeben von Ernst Friedrich Germar*, 4: 225–361.
- Grouvelle A. 1910. Nitidulides et Cryptophagides de l'Asie et des Indes Orientales. *Notes from the Leiden Museum*, 32: 241–256.