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# Taxonomic Review of the Genus *Rhinoncomimus* (Coleoptera: Curculionidae: Ceutorhynchinae) with description of a new species from Yunnan, China

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#### Abstract

The genus *Rhinoncomimus* Wagner, 1940 includes seven species from Easternp Asia. One new species, *Rh. continuus* sp. nov. from Yunnan, China, is described. Habitus photos, illustrations and descriptions of all species except *Rh. rubripes* Korotyaev, 2006 (a possible junior synonym of *R. niger* Chûjô and Morimoto, 1959) are provided in detail, as well as key to species and distribution maps. In addition, the host plant of the type species *Rh. klapperichi* Wagner, 1940, *Polygonum hydropiper* L. (Polygonaceae) is newly recorded.

Key words: Ceutorhynchinae, Rhinoncomimus, new species, review

#### Introduction

*Rhinoncomimus* Wagner, 1940 is an Eastern Asian genus in the subfamily Ceutorhynchinae. It is recognized mainly by a rostrum shorter than pronotum, seven segmented antennal funicule and dentate femora. The genus was established within the subtribe Rhinoncina, currently recognized as the tribe Phytobiini Gistel, 1856. Although most subsequent researchers accepted the treatment as Phytobiini (Alonso-Zarazaga & Lyal, 1999; Colonnelli, 1986, 2004; Yoshitake et al., 2004), Korotyaev (2006) transferred the genus to Scleropterini Schultze, 1902 based mainly on the dentate femora, which it shares with Scleropterini but which is not found in any Phytobiini.

The genus is considered most closely related to *Homorosoma* Frivaldszky, 1894, since they share the important morphological characters of rounded triangular body, 7-segmented antennal funicle, coarse and uniform sculpture on elytral intervals, dentate femora and also the ability to jump (Korotyaev, 1996, 2006; Colonnelli, 2004). *Rhinoncomimus* can be clearly differentiated from *Homorosoma* by having a much shorter rostrum, and meso- and metasternum not impressed for reception of the rostrum. In addition, the other Phytobinii readily differ from *Rhinoncomimus* by their edentate femora, and 6-segmented antennal funicle (except 7-segmented in *Rhinoncus* Schoenherr, 1825).

Korotyaev (2006) revised the genus with six species and recorded their host plants as *Polygonum* and *Persicaria* (Polygonaceae). This study is a supplementary review of *Rhinoncomimus*, based on examination of very long series of specimens recently collected throughout the distribution of the genus in Eastern Asia. The genus includes seven species at present, all found in China, including six reported species and one new species. Habitus photos, illustrations and descriptions of all the species except *Rh. rubripes* Korotyaev, 2006 are provided in detail, as well as a key to species and distribution map. In addition, the biology of the type species, *Rh. klapperichi* Wagner, 1940 is observed for the first time.

*Remarks.* The species is closely related to *R. latipes* but can be distinguished by having slender tarsi with segment III less than twice as wide as segment II, and protibia minutely mucronate. Moreover, the apex of the penis is truncate, different from the rounded apex in *R. latipes*.

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### Literature cited

- Alonso-Zarazaga, M.A. & Lyal, C.H.C. (1999) A World Catalogue of Families and Genera of Curculionoidea (excepting Scolytidae and Platypodidae). Entomopraxis, Barcelona, Spain, 316 pp.
- Chûjô, M. & Morimoto, K. (1959) Curculionid-beetles from Niigata Prefecture collected by Dr. K. Baba (2nd report). Kontyu, 27, 146–155.
- Colonnelli, E. (1986) Checklist of Phytobiini of the world, with a key to the genera and description of a new species from South Africa (Coleoptera, Curculionidae, Ceutorhynchinae). *Fragmenta Entomologica*, 19 (1), 155–168.
- Colonnelli, E. (2004) *Catalogue of Ceutorhynchinae of the world, with a key to genera (Insecta: Coleoptera: Curculionidae)*, Barcelona, 124 pp.
- Colpetzer, K., Fu, W., Ding, J. & Hough-Goldstein, J. (2004) Host specificity of the Asian weevil, *Rhinoncomimus latipes* Korotyaev (Coleoptera: Curculionidae), a potential biological control agent of mile-a-minute weed, *Polygonum perfoliatum* L. (Polygonales: Polygonaceae). *Biological Control*, 30, 511–522. http://dx.doi.org/10.1016/j.biocontrol.2004.03.004
- Frye, M.J., Lake, E.C. & Hough-Goldstein, J. (2010) Field host-specificity of the mile-a-minute weevil, *Rhinoncomimus latipes* Korotyaev (Coleoptera: Curculionidae). *Biological Control*, 55, 234–240. http://dx.doi.org/10.1016/j.biocontrol.2010.08.005
- Hough-Goldstein, J. & LaCoss, S. (2012) Interactive effects of light environment and herbivory on growth and productivity of an invasive annual vine, *Persicaria perfoliata*. *Arthropod-Plant Interactions*, 6, 103–112. http://dx.doi.org/10.1007/s11829-011-9158-z
- Korotyaev, B.A. (1996) Key to genera of the tribe Ceutorhynchini. *In*: Ler, P.A. (Eds.), *Key to the insects of the Russian Far East. Vol. 3.* Dal'nauka, Vladivostok, Russia, pp. 455–468. [in Russian]
- Korotyaev, B.A. (2006) A review of the weevil genus *Rhinoncomimus* Wagner (Coleoptera: Curculionidae: Ceutorhynchinae). *Entomologische Abhandlungen*, 63 (1–2), 99–122.
- Korotyaev, B.A. & Hong, K.J. (2004) A revised list of the weevil subfamily Ceutorhynchinae (Coleoptera; Curculionidae) of the Korean fauna, with contribution to the knowledge of the fauna of neighbouring countries. *Journal of Asia-Pacific Entomology*, 7, 143–169.

http://dx.doi.org/10.1016/s1226-8615(08)60211-3

- Voss, E. (1958) Ein Beitrag zur Kenntnis der Curculioniden im Grenzgebiet der Orientalischen zur Paläarktischen Region (Col., Curcul.). Decheniana Beihefte, 5, 1–139.
- Wagner, H. (1940) Monographie der Paläarktischen Ceuthorrhynchinae(Curcul.). Entomologische Blätter, 36 (3), 65-82.