



A review of the *Colletes succinctus*-group (Hymenoptera: Colletidae) from China with redescription of the male of *C. gigas*

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Abstract

Four species of the *Colletes succinctus*-group known from China are reviewed and a key to species is provided. *Colletes gigas* Cockerell, 1918 is recognized as a member of the *Colletes succinctus*-group for the first time based on a redescription of the male.

Key words: taxonomic review, bees, distribution

Introduction

The bee genus *Colletes* Latreille, 1802 is characterized by the outwardly arcuate posterior part of the second recurrent vein, the bilobate glossa and by the base of the propodeum that has a short subhorizontal to vertical basal zone, usually limited posteriorly by a carina or sharp change in slope or sculpture, and divided by longitudinal carina (Michener, 1989, 2007). *Colletes* currently includes 470 described species with an estimated total of about 700 species (Kuhlmann & Proshchalykin, 2011, Proshchalykin & Kuhlmann, 2012), from all continents except Antarctica, Australia, Madagascar and Southeast Asia (Michener, 2007). About 205 species are known from the Palearctic region with their centre of diversity in Middle Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan) (Kuhlmann, 2005, 2006, Proshchalykin & Kuhlmann, 2012).

Within the genus *Colletes*, the *C. succinctus*-group (*sensu* Noskiewicz, 1936) is characterized by the putative synapomorphy of a pair of prominent, deep lateral grooves on the male S6, the female can be recognized by apical margin of T1 medially without hair band, margin translucent yellow to orange, disc of T1 without hairs, and basal part of T1 laterally with dense patches of hairs. The group comprises fourteen described species in Palearctic region and divides into two subgroups: the *collaris*-subgroup with three species characterized by a very small oval-shaped male S7 and the *succinctus*-subgroup with eleven species and the males having a broad sickle-shaped S7 (Dubitzki & Kuhlmann 2004; Hölzler & Mazzucco, 2011, Kuhlmann, 2000, 2003). The *collaris*-subgroup has a trans-palearctic distribution with *C. collaris* Dours, 1872 known from Spain to Japan while *C. bischoffi* Noskiewicz, 1936 (Himalaya) and *C. taiwanensis* Dubitzky & Kuhlmann, 2004 (Taiwan) are restricted to the eastern Palearctic. Species of the *succinctus*-subgroup have their center of diversity in the western and central part of the Palearctic with *C. reticulatus* (Cameron, 1897) and *C. bhutanicus* Kuhlmann, 2003 (both Himalaya) on the southeastern edge of its distribution and *C. arsenjevi* Kuhlmann, 2006 in the eastern Palearctic (Kuhlmann & Quest, 2006).

China is a country that stretches over a vast expanse of the Palearctic and Oriental region. Given its size as well as the geographical and climatic diversity and its direct neighborhood to one of the most important global centers of bee diversity in Middle Asia (Kuhlmann, 2005, 2006), the Chinese *Colletes* fauna is estimated to comprise