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## A New Species of the Genus *Sphecodes* (Hymenoptera: Halictidae) from Kazakhstan Collected by the Kyushu University Expeditions

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**Abstract.** A large-sized new species of the genus *Sphecodes* from Kazakhstan, collected by the Kyushu University Expeditions, is herein described.

**Key words:** taxonomy, new species, Hymenoptera, Halictidae, Kazakhstan, *Sphecodes*.

### Introduction

The genus *Sphecodes* contains 285 species found in the world (Michener, 2007). The western Palearctic species of the genus were revised by Warncke (1992), enumerating 39 species. From the other area in the Palearctic Region, the taxonomic records have been sporadic except for the Japanese fauna, which Tsuneki (1983, 1984, 1986) revised and enumerated 51 species.

The Entomological Laboratory of Kyushu University conducted a project "Field Studies of Wild Bee Fauna and Pollination Biology for Combating Desertification and Planting Campaign in Asian Arid Areas" (Tadauchi, 2005). In this project, five biological expeditions were carried out in Central Asia, namely in Kazakhstan, Kyrgyzstan and northwestern China from 2002 to 2004, and as a result, a large amount of hymenopteran specimens were brought back to Kyushu University. Among these, the present author found about 800 cleptoparasitic bee specimens, and has already published the results of a taxonomic study of the genus *Nomada* (Mitai & Tadauchi, 2008). This present paper reports one of the taxonomic results of another cleptoparasitic genus, *Sphecodes* Latreille, 1804, and is dedicated to Professor Osamu Tadauchi in commemoration of his retirement from the Faculty of Agriculture of Kyushu University.

At present the examined specimens are kept in the collection of the Entomological Laboratory, Faculty of Agriculture, Kyushu University. In the future half of them will be returned to the Zoological Institute of the Kazakhstan Academy of Science (Almaty).

### *Sphecodes tadauchii* sp. nov.

(Figs. 1-8)

Female.

**Color.** Body black except the following: antenna beneath reddish brown; mandible reddish medially or wholly black; metasoma red except pygidial plate; tibiae more or less reddish or dark brown. Fore wing uniformly infuscated, hind wing similar infuscated, but lighter posteriorly.

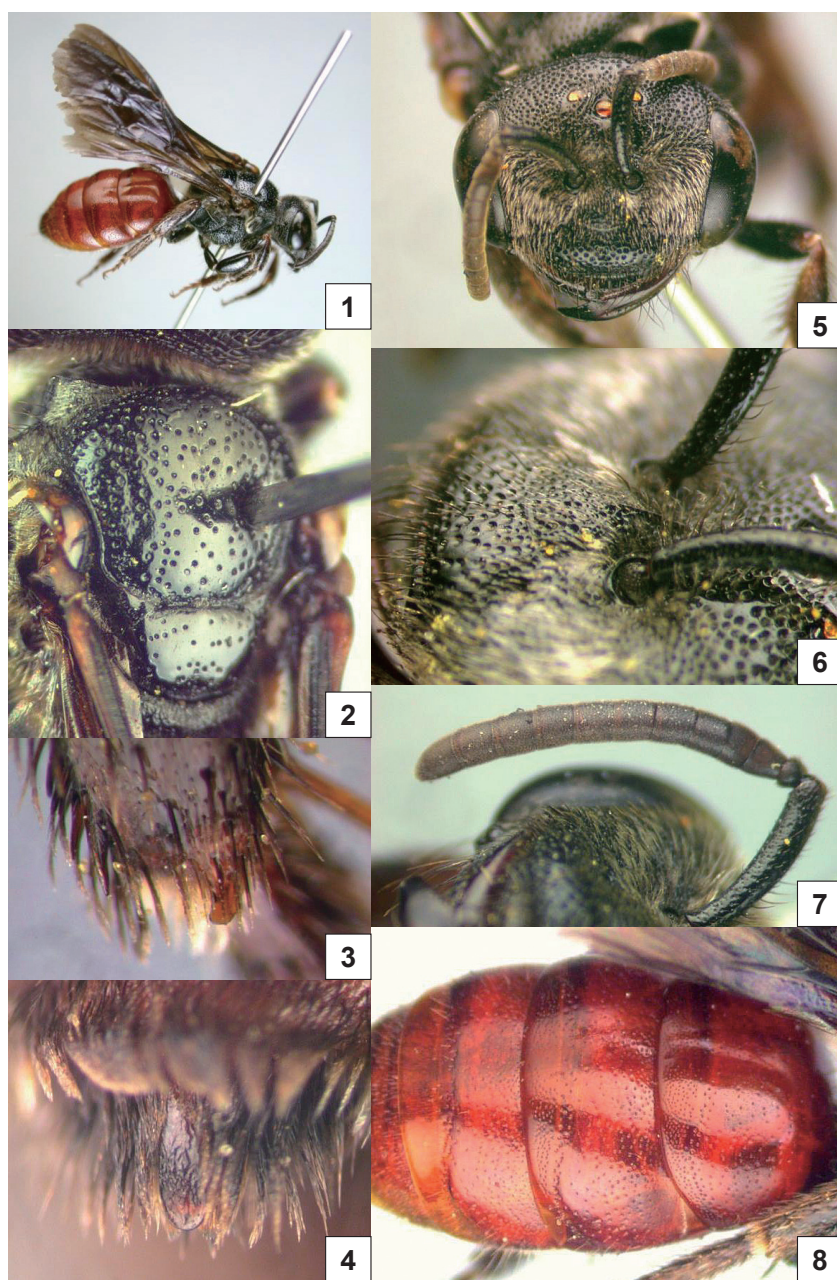
**Sculpture.** Clypeus with feeble median furrow; puncture coarse and moderately dense, at most 1.5 times puncture diameter apart; punctures on apical margin small and continuous. Punctures on supraclypeal area smaller and denser than those of clypeus. Frons punctate-reticulate. Vertex punctate-reticulate, somewhat sparser behind lateral ocelli, where punctures are separated generally by about a puncture diameter width. Area around preoccipital carina costate, changing to punctate toward outer orbit of compound eye. Scutum and scutellum with scattered punctures mixed with sparser punctules. Propodeal triangle reticulate with indistinct lateral carina. Mesepisternum areolate moderately. First to 4th terga polished; 1st tergum scattered with moderate-sized punctures mixed with more dense punctules; apical marginal area only with moderate-sized punctures; brim of segment impunctate. Punctures on basal depressed area of 2nd tergum dense; punctures on medial 2nd tergum sparser, deeper, slightly larger mixed much denser punctules; apical marginal area only with moderate-sized punctures; brim of segment impunctate. Third tergum above apical depressed area punctate

similar to 2nd tergum; upper portion of apical depressed area sparsely punctate, otherwise impunctate. Fourth tergum punctate similar to 3rd tergum, but with apical depressed area wholly impunctate. Fifth tergum faintly coriaceous with punctate much more densely than preceding terga. Pygidial plate not wide, 0.7 times as wide as width of 3rd flagellar segment; surface shagreen, turned upward apically.

*Vestiture.* Vestiture on clypeus simple or slightly plumose, composed of mainly black hairs mixed with

sparse white ones, integument below vestiture clearly can be seen. That on area around antennal sockets moderately to densely plumose, composed of mainly white hairs, moderately dense but not so dense to obscure integument. Pronotum covered with white or slightly yellowish, moderately dense, plumose vestiture, otherwise mesonotum with rather sparse, short hairs. Fifth tergum with dark brown hairs. Leg with dark brown to black, not especially dense hairs.

*Structure.* Body size about 15 mm. Head 0.7 times as



**Figs. 1-8.** *Sphecodes tadauchii* sp. nov. Female: 1: habitus in dorsal view; 2: scutum and scutellum; 3: apical process of hind tibia; 4: pygidial plate; 5: head in frontal view; 6: interantennal elevation; 7: antenna; 8: metasomal terga.

long as wide. Labrum roughly trapezoidal with apical margin straight. Interantennal elevation low with frontal carina gradually fading out ventrally. Vertex behind lateral ocelli well developed upward in frontal view. Genal area gently roundly convex, narrower than compound eye in lateral view, 0.6-0.7 times as wide as compound eye. Exposed portion of pedicel shorter than 1st flagellar segment. Relatively length of flagellar segments 1st : 2nd : 3rd = 1.0 : 0.7 : 1.0, and 1st segment 0.8 times as long as width, 2nd 0.6 times, 3rd 0.9 times, and remaining segments except last segment about equal to width. First and 2nd flagellar segments densely shagreen, matt, undersides of 3rd and following segments more or less weakly shagreen. Mandible with inner tooth as those of many *Sphecodes* species. Collar sharply angulate between frontal and lateral sides. Pronotum with lateral ridge sharply raised. Scutellum flat. Hind femora broad, relative value of maximum breadth to length of hind femur 0.4. Apical process on hind tibia as Fig. 3. Hind wing with 13-16 hamuli, 15-16 in most specimens.

Male. Unknown.

Distribution. Kazakhstan (Kazakhstan Prov., Jambul Prov., Almaty Prov.).

*Specimens Examined.* Holotype (Type No. 3315. ELKU), ♀, [KAZAKHSTAN] Achisai, Mts. Karatau, S. Kazakhstan Prov., 5. VI. 2003 (K. Mitai). Paratypes: 5♀, same data as the holotype (4♀: K. Mitai, 1♀: O. Tadauchi); 1♀, Aksu Valley, S. Kazakhstan Prov., 16. VI. 2003 (K. Mitai); 1♀, Jabagly, S. Kazakhstan Prov., 27. VI. 2003 (K. Mitai); 1♀, same locality, 11. V. 2004 (R. Murao); 1♀, NW of Tatti, Muyunkum desert, Jambul Prov., 15. V. 2004 (O. Tadauchi); 1♀, Riverside, Ili R., NW of Kapchagay, Almaty Prov., 19. V. 2004 (O. Tadauchi).

*Floral record.* *Ferula tenuisecta* [Umbelliferae]

*Etymology.* It is with pleasure that I dedicate this large species to Prof. Osamu Tadauchi in commemoration of his retirement.

*Remarks.* This is one of large species among the Palearctic *Sphecodes*. The similar-sized and -looking species is *Sphecodes albilabris* (Fabricius 1793). *Sphecodes tadauchii* can be easily separated from it by the poorly raised interantennal elevation and the evidently narrower pygidial plate.

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