

New record of the Palearctic species *Stigmus convergens* Tsuneki (Hymenoptera: Crabronidae: Pemphredoninae) from India

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Abstract

The crabronid wasp species *Stigmus convergens* Tsuneki, 1954 is newly recorded from India. A key to the Indian species is also provided.

Keywords: *Pemphredoninae*, *Stigmus convergens*, new record, key, India.

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Introduction

The crabronid wasp genus *Stigmus* Panzer, 1804, consists of small wasps with petiolated abdomen. All the members of this genus are hunters of aphids. They burrow in dead twigs or rotten branches of certain shrubs and arrange several brood-chambers in lineal order. Sometimes the wasps utilize pre-existing cavities but may excavate their own nests (Tsuneki, 1954; Bohart & Menke, 1976). This genus consists of 25 species worldwide of which only one species is reported from India viz. *Stigmus cuculus* Dudgeon (Pulawski, 2018). In this paper, we are reporting *Stigmus convergens* Tsuneki, 1954, for the first time from India. This species is so far recorded from Japan, Russia and Korea (Tsuneki, 1954; Budrys, 1987; Kim, 2014). Further, Tsuneki (1971) described an additional subspecies viz., *Stigmus convergens ami* from Taiwan and Porter *et al.* (1999) reported it from China.

Materials and Methods

This study is based on a single female specimen collected from the Heff village of Shopian district of Kashmir; three female specimens from Nowpora village of Anantnag district of Kashmir and a female specimen from Kanatal village of Tehri Garhwal district of

Uttarakhand. The specimens are studied and photographed by using a Leica Stereo microscope model LEICA M 205A with LEICA DFC 500 Camera. The identified specimens are deposited at Western Ghat Regional Centre, Zoological Survey of India, Kozhikode (ZSIK).

Results

Stigmus convergens Tsuneki, 1954

(Figs 1-9)

Stigmus convergens Tsuneki, 1954: 33, ♀.
Holotype: ♀, Japan: Hokkaido: Akagawa near Kucchian (originally K. Tsuneki coll., now Hyogo Mus.).

Diagnosis: *Female:* Apex of clypeus deeply emarginate (Fig. 4); paraorbital sulcus absent (Fig. 2); pronotal lobe white (Fig. 8); head from above markedly convergent posteriorly (Fig. 6); head entirely smooth and polished (Figs 2, 3 & 6); mesoscutum and scutellum with bronzy reflection in certain light; mesopleuron except triangular furrows smooth and shining (Fig. 8); inner orbits of eyes roundly convergent below (Fig. 2); mesonotum anteriorly half-mat, disc scattered with somewhat large shallow indistinctly-outlined punctures (Fig. 6); petiole longitudinally sparsely carinate with irregular



Figures 1-9: *Stigmus convergens* Tsuneki, female: 1. Body, in profile view; 2. Head, in frontal view; 3. Head, in lateral view; 4. Lower half of head showing clypeus and mandible; 5. Antenna; 6. Head and mesosoma in dorsal view; 7. Fore wing; 8. Mesosoma, in lateral view; 9. Metanotum, propodeum, petiole and second tergite.



rugulose punctures in between (Fig. 9); pygidial area very minutely rugulose, half-mat.

Colour description: Body black and shining. Following whitish yellow: mandibles except apex and palpi. Following whitish: pronotal lobe. Following testaceous: scape of antennae wholly and flagellum beneath, tegulae, last metasomal tergum and sternum (except base), ovipositor and ovipositor sheath, apex of coxae, trochanters wholly, base and apex of all femora, fore tibia, mid tibia except inner surface, base of hind tibia broadly and all tarsi. Wings hyaline, veins and stigma dark brown. Sides of lower front, clypeus, mandibles, mesopleuron in part and apical metasomal segment with sparse short pubescence, hairs on anterior margin of clypeus longer.

Length (up to the apex of second tergite): 2.28 mm.

Discussion: The nominate subspecies differs from *Stigmus convergens ami* in having: (1) on an average head more strongly convergent backwards, (2) petiole relatively shorter and (3) punctures on head and mesoscutum slightly more pronounced (Tsuneki, 1971).

Material examined: India: Jammu & Kashmir, Shopian district, Heff village, 1 female, 17.vii.2018, Coll. Altaf Hussain Sheikh, ZSIK Regd. No. ZSI/WGRC/IR/INV.11864; Jammu & Kashmir, Anantnag district, Nowpora village, 3 females, 4.ix.2015, Coll. Abdul Lateef Khanday, ZSIK Regd. Nos. ZSI/WGRC/IR/INV.13006-13008; Uttarakhand, Tehri Garhwal district, Kanatal village, 1 female, 20.vii.2019, Coll. P. Girish Kumar, ZSIK Regd. No. ZSI/WGRC/IR/INV.13005.

Distribution: India: Jammu & Kashmir (**new record**) and Uttarakhand (**new record**); Japan, Russia, North Korea, Taiwan, China.

Key to Indian species of *Stigmus*

1. Apex of clypeus deeply emarginate (Fig. 4); paraorbital sulcus absent (Fig. 2); pronotal lobe white (Fig. 8).....*S. convergens* **Tsuneki, 1954**
- Apex of clypeus not emarginate, but truncate (as in Fig. 2 of Pulawski and Gracy, 2018: 334); paraorbital sulcus present on the frons (as in Fig. 1 of Pulawski and Gracy, 2018: 334); pronotal lobe black..... *S. cuculus* **Dudgeon, 1903**

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