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BRIEF COMMUNICATION

New record of the stingless bee *Tetragonula gressitti* from India (Hymenoptera: Apidae: Meliponini)

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Abstract. *Tetragonula gressitti* (Sakagami, 1978), currently known from southern Vietnam, is here reported for the first time from dense forests in the state of Arunachal Pradesh, India. This new record is about 2000 km northwest of the type locality of *T. gressitti* in Vietnam and increases to seven the number of stingless bees known in India. Taxonomic comments on *T. gressitti* are also provided.

INTRODUCTION

Six named species of stingless bees (Hymenoptera: Apidae: Meliponini), belonging to three genera, have been reported from India (Sakagami, 1978; Rasmussen, 2008; Rasmussen & Cameron, 2007, 2010): *Lepidotrigona arcifera* (Cockerell), *Lisotrigona cacciae* (Nurse), *L. mohandasi* Jobiraj & Narendran, *Tetragonula* aff. *laeviceps* (Smith), *T. bengalensis* (Cameron), and *T. ruficornis* (Smith). *Tetragonula* Moure is the single largest and most widespread genus of stingless bees in the Indo-Malayan/Australasian region. It has been reported from India to the Solomon and Caroline Islands and contains about 32 species (Rasmussen, 2008). Sakagami (1978) revised the genus from continental Asia and described and recorded *T. gressitti* (Sakagami) from Vietnam, which we here report for the first time from India, thus raising the number of stingless bees known from India to seven species.

Specimens examined in this study were collected during the day time while sweeping flowers in dense forests of Hunli and Pashighat of Arunachal Pradesh, India. The workers were collected at 550 and 1325 m a.s.l. Terminology and measurements follow Camargo & Pedro (2009) and Sakagami (1978). Measurements were taken with

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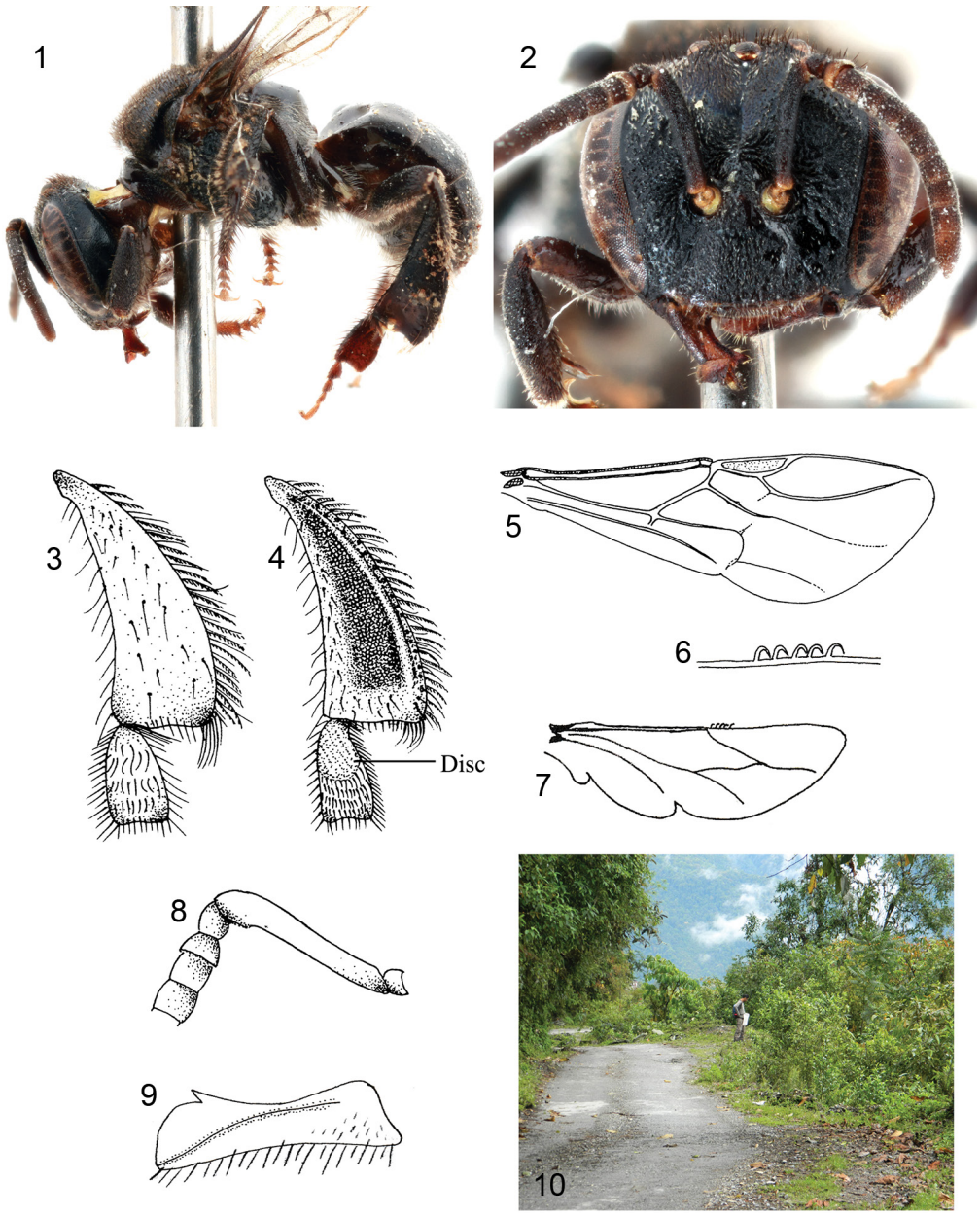

Figures 1–10. Worker of *Tetragonula gressitti* (Sakagami). **1.** Lateral habitus. **2.** Frontal view of head. **3, 4.** Outer and inner views of metatibia and metabasitarsus. **5.** Forewing. **6.** Hamuli of hind wing. **7.** Hind wing. **8.** Antennal scape, pedicel, and basal flagellomeres. **9.** Outer view of mandible. **10.** Collection site in India, Arunachal Pradesh, Hunli.

an ocular reticule and are given in millimeters. Drawings were made with the aid of graph eyepiece over a Nikon SMZ 1500 zoom stereomicroscope and finished in Adobe Photoshop v8.0.

SYSTEMATICS

Genus *Tetragonula* Moure, 1961
Tetragonula gressitti (Sakagami, 1978)
(Figs. 1–10, Table 1)

Diagnosis: Workers of this species are conspicuous amongst other species of *Tetragonula* by the melanism of its body and the relatively long and black scape (Figs. 1, 2, 8). All other species of *Tetragonula* are testaceous to ferruginous throughout. Additional distinctive characters (Figs. 1–9) are the pubescence and integumental sculpturing, as described by Sakagami (1978). Dimensions (Appendix, *vide infra*): Head 1.1x wider than long, compound eye 2.7x longer than wide and approximately subparallel (Fig. 2), metabasitarsus 1.4x longer than wide and 0.7x metatibia width (Figs. 3, 4).

Material examined: INDIA (4 workers): 3♀♀, Arunachal Pradesh (30 km from Pashighat, District Lower Dibang Valley), 01.iv.2010, 28°13'N 95°15'E, 550 m a.s.l., coll. V.S. Rathor; 1♀, Hunli (District Lower Dibang Valley), 30.iv.2011, 28°17'N 95°82'E, 1325 m a.s.l., coll. V.S. Rathor. Vouchers are deposited in the collection of the Punjabi University Zoological Museum and personal collection of Claus Rasmussen.

New record: India: Hunli (Figs. 10, 11) and Pashighat, Lower Dibang Valley district of Arunachal Pradesh in the extreme northeastern Himalayan region, close to China.

Geographical distribution: This species was previously known from three localities in southern Vietnam (Lâm Đồng Province in the central highlands) (*vide* Sakagami, 1978).

Figure 11. Distribution records of *Tetragonula gressitti* (Sakagami). Circles are records of the type series from Sakagami (1978) and squares represent the new records reported herein.

NESTING BIOLOGY: Unknown.

MALE: Known from Vietnam (Sakagami, 1978), but not yet recorded from India.

COMMENTS: Four worker specimens of *T. gressitti* are here reported for the first time from India, extending the known range approximately 2000 km to the northwest of the type locality. The external morphology and measurements of these specimens closely agree with the original description of *T. gressitti*. However, the whereabouts of the type specimens of *T. gressitti* are unknown (Rasmussen, 2008) and the identity of these Indian specimens remain to be confirmed. Additional collections and molecular or comparative studies of the male genitalia may confirm if this is the same species, otherwise not reported from outside Vietnam. While it is known that the stingless bee fauna of India is rather small, additional species are to be expected, in particular from poorly sampled regions or areas adjacent to the otherwise more species-rich fauna of Southeast Asia.

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APPENDIX

The following table summarizes measurements (mm) of two workers of *Tetragonula gressitti* (Sakagami) collected in India.

Character measurement	**Value**
Total body length	6.09–6.12
Width of head	1.90–1.92
Length of head (from clypeal apex to vertex)	1.64–1.65
Length of compound eye	1.32
Width of compound eye	0.48
Genal width	0.19
Upper interorbital distance	1.10–1.12
Maximum interorbital distance	1.28–1.29
Lower interorbital distance	1.00–1.01
Diameter of median ocellus	0.21
Interocellar distance	0.39
Ocellorbital distance	0.28
Interalveolar distance	0.17
Alveolorbital distance	0.37
Alveolocellar distance	0.82
Alveolar diameter	0.16
Length of clypeus	0.40
Maximum width of clypeus	0.69
Intertentorial distance	0.54
Length of malar space	0.11
Length of scape	0.76–0.77
Diameter of scape	0.11
Diameter of third flagellomere	0.90
Distance between M-Cu bifurcation and basal tip of marginal cell	1.32–1.33
Length of metatibia	1.60–1.61
Forewing length (including tegula)	4.81
Forewing length (excluding tegula)	4.36

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