



## ORIGINAL ARTICLE

**A new species of genus *Ashmeadiella cockerell* (Hymenoptera: Apoidea: Megachilidae) from India****Virendra Kumar**

Deptt. of zoology, D.S. college, Aligarh

Email: [vv\\_kv28@rediffmail.com](mailto:vv_kv28@rediffmail.com)Received: 28<sup>th</sup> April 2016, Revised: 22<sup>nd</sup> May 2016, Accepted: 29<sup>th</sup> May 2016**ABSTRACT**

A new species *Ashmeadiella (Titusella) joginderensis* of genus *Ashmeadiella* Cockerell (Family: Megachilidae) has been described. The distinctive features of their species are: apical margin of clypeus with two lobes projecting downwards on either side of mid line; mandible with four distinct teeth with a short cutting edge in second to third interspace in female; gonostylus of male genitalia apically outwardly curved; penis valves projecting basally; gonobase broad; sternum 6 is fan shaped and with setae on midventral surface; 8<sup>th</sup> sternum is roughly pent angular in shape.

**Key words:** *Ashmeadiella cockerell*, Hymeniptera, Apoidea, Megachilidae

**INTRODUCTION**

The bees of the genus *Ashmeadiella* are of small size, with the usual narrow abdominal fasciae. The following features are of the basic importance, regarding their identification: small in size; abdomen almost parallel sided, constricted at base and apex; head and thorax black (except propodeum and tegulae); abdominal terga more or less brown or black; the basal tergum is anteriorly concave; the posterior face of propodeum is perpendicular; dorsally more sloping; narrowly pitted; scutellum rounded at the posterior margin; intertergal fasciae of abdomen are continuous and of pale coloration.

The specimens of this genus probably use very small mouthed narrow barrows left vacated by small wasps, depositing fine leaf cuttings. The bees were foraging over a species of *Murraya* (citraceae), quite slow and appeared for hardly few minutes in the field.

**METHODOLOGY**

The adults were collected in the field with traps, manually and aerial sweep net. The collected insects were killed by using benzene. These were stretched, pinned, labelled, identified, preserved in the wooden collection boxes and deposited at Department of Zoology, Agra College, Agra in year 1988 during Ph.D. of the author. The comparative study of morphological characters of this species with prior described species, makes the way to differentiate and identify the species as a new species. The specific characters of the new species are as follows-

**MALE**

**Measurement:** Total length 236 lines (5.9 mm)

**Integument:** Head entirely black; thorax-black, except tegulae which are with red touch; abdomen-first tergum brownish to pale yellow lining between segmental terga brown, rest is black. Legs-pale yellow.

**Pubescence:** All the body covered with white silky hairs. Hind tarsi ventrally and last sternum with few pale yellow hairs.

**Genitalia:**

**Gonobase:** (a) broad and flattened. (b) Apical part medially invaginated and broader than base. (c) Base slightly notched medially.

**Gonoforceps:**

a) Gonocoxites: Base- broad, flattened and narrow towards the apex.

b) Gonostylus: (i) narrow, rod shaped and flattened, (ii) Apex-curved outwardly and with a constriction at the base.

Volsellae: Absent.

Penis valve: (a) Long or rod shaped, with broad base.

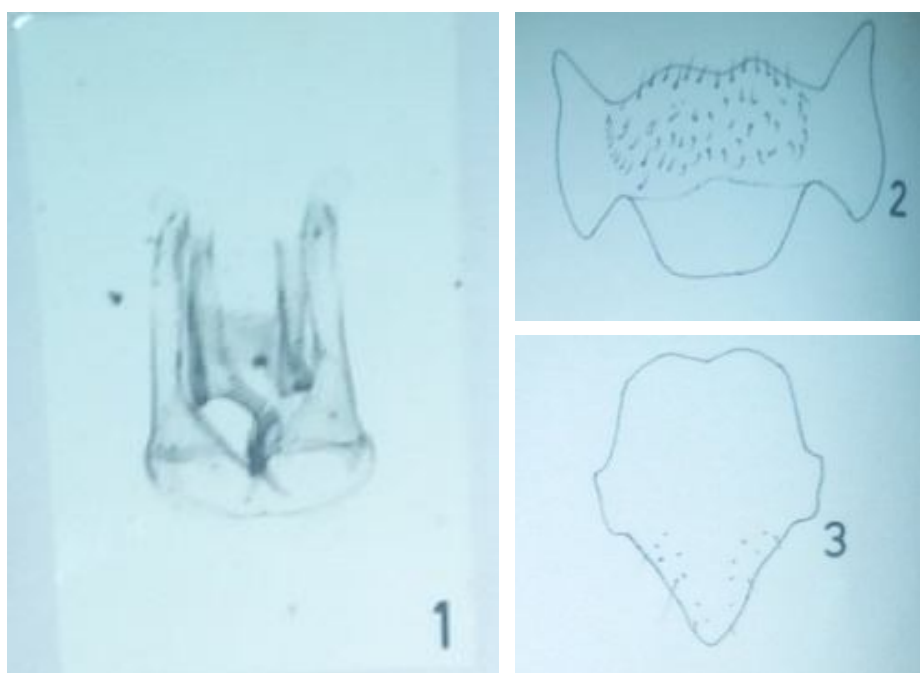
(b) Penis: thin, delicate and membranous; reaching up to apex of penis valves.

Sternum 6: (a) Exposed, laterally flattened or fan-shaped, setae present all over the mid-ventral surface. (b) Apical margin-convex with medial invagination. (c) pregradular area protects beyond the apical margin of post-gradular area.

Sternum 7: Not traced out.

Sternum 8: (a) Roughly pentagonal in shape. (b) Apical lobe triangular in shape, with few setae. (c) Posterior lobe, broad, flattened and roughly quadrangular in shape. (d) Basal margin medially invaginated.

**Fig. 1:** *Ashmeadiella (Titusella) joginderensis*  
(1). Male Genitalia (2). Sternum-6 (3). Sternum-8



## FEMALE

Measurement: Total length 268 lines (6.7 mm)

Integument: Head- entirely black, thorax- black, except propodeal triangle and tagulae, which are to yellow. Abdomen first tergum broad, rest black with thin and brown lining in between segmental terga. Legs- pale yellow to brown.

Pubescence: All over body white with silky luster, ventrally on hind tarsi and last sternum pale yellow partially plumose scopa white.

Genitalia

Quadrante plate: (a) well developed and triangular in shape. (b) Basal margin- angulated. (c) Outer margin- Slightly concave. (d) Inner margin- convex and rounded. (e) Apically narrow and articulates with the arm of sitting bulb through well-developed fulcral plate.

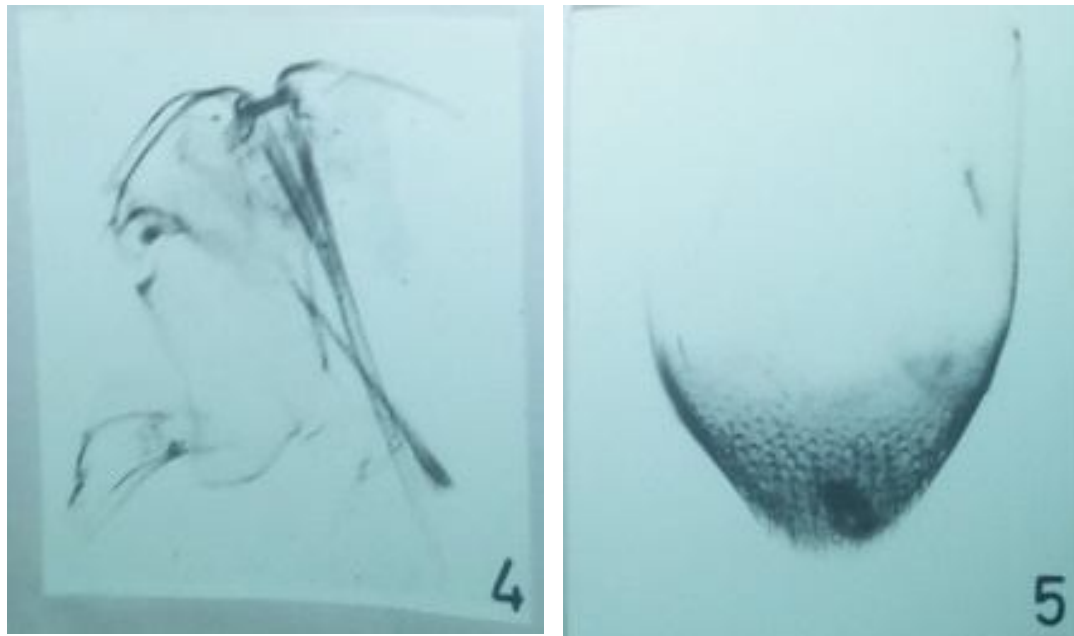
Stylet: (a) Elongated, narrow and apically pointed. (b) Covered with the membranous stylet sheath.

Sting bulb: (a) Narrow, elongated and tubular. (b) Less than the half of stylet sheath. (c) Chitinous hooks are absent totally. (d) Few minute setae located at the apex.

Palp Appendages: (a) Elongated, narrow and with a row of fine setae at their inner margin. (b) Apices slightly club-shaped and with a fringe of fine and comparatively long hairs.

Sternum 6: Uniformly punctured with large 'pits' well pubescent. Apical margin broadly rounded, notched at middle. Short fringe at apex only. Basal area (excavating out from fifth sternum) is with striations like preceding sterna.

**Fig. 2:** *Ashmeadiella (Titusella) joginderensis* (4). Female genitalia, (5). Sternum-6



**Distribution:** Collected from Joginder Nagar (H.P.) on 20.X.1985.

**Floral record:** Merygold and other wild flowers.

This specimen has been named after the name of place Joginder Nagar from where it was collected.

#### REMARKS

This new species is close to *A. floridana* Robertson however *A. joginderensis* sp. nov. can be distinctly separated from *A. floridana* by: apical margin of clypeus with two lobes projecting downwards on either side of mid line; mandible with four distinct teeth with a short cutting edge in second to third interspace in female; gonostylus of male genitalia apically outwardly curved; penis valves projecting basally; gonobase broad; sternum 6 is fan shaped and with setae on mid ventral surface; 8<sup>th</sup> sternum is roughly pent angular in shape.

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