



ON A NEW SPECIES OF THE GENUS *XANTHOPIMPLA* SAUSSURE
(HYMENOPTERA: ICHNEUMONIDAE) FROM INDIA

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Abstract:

A new species, *Xanthopimpla kolhapurensis* sp. nov. (Hymenoptera: Ichneumonidae) have been described from India. The above species is parasitic on lepidopterous larva. According to the key of Morley (1913) *Xanthopimpla kolhapurensis* sp. nov. runs close to *Xanthopimpla khasiana* Cameron. by following characters :

1. Metanotal areola quadrate,
2. Abdomen glabrous and impunctate throughout

However, it differs from the above species by having following characters:

1. Mesonotum with two black spots ,
2. Single black spot in the centre of the basal abdominal segments, black dots on lateral sides of III, V and VIII abdominal segments,
3. Hind tarsi dark brown,
4. Ovipositor slightly shorter than the length of abdomen,
5. Ovipositor slightly longer than ovipositor sheath,
6. Flagellar formula: $2L / W = 2.54$, $16L / W = 2.27$, $30L / W = 1.08$, $L2 / 30 = 2.15$, $W2 / 30 = 0.91$.

Keywords: *Xanthopimpla kolhapurensis*, parasitoid, new species, description

Introduction:

The genus *Xanthopimpla* was erected by Saussure in 1892. Genus *Xanthopimpla* belongs to the tribe Ephialtini of subfamily Ephialtinae. *Xanthopimpla* is one of the largest genus of family Ichneumonidae (Hymenoptera). Most of the species of this genus are found in old world tropics and majority of them in the Indo-Australian region. Indo-Australian species of *Xanthopimpla* are studied by Townes and Chiu (1970). They divided the genus into twenty species groups with key. Up to recent years, 165 species and 105 subspecies have been described under this genus. Morely (1913), Cushman (1934), Momois (1961), Townes & Gupta (1961), Townes et. al. (1961), Oehlke (1967), Gupta & Tikar (1976), Constantineanu et. al. (1977), Gupta & Gupta (1983), Townes (1988), Sathe & Dawale (1997, 2002), Sathe & Nadaf (2008), Chougale & Sathe (2008), etc have been worked on Indian Ichneumonids.

Materials and Methods:

The species considered in this paper were collected from the Kalamba, Kolhapur and included description of new species *Xanthopimpla kolhapurensis* sp. nov. Cocoons were collected on Sorghum plants and also parasitized larvae of Lepidoptera and parasitoids reared in laboratory for the purpose of study of wings, antennae, legs, propodeum, ovipositor etc mounted on slides in Canada balsam. All measurements were recorded in millimeters. The terminology adopted for description of the species was the same as that of Townes et. al. (1961).

The type materials are in the collection of T. V. Sathe, Department of Zoology, Shivaji University, Kolhapur and will be deposited in the collection of Zoological Survey of India, Calcutta.

Observations:

***XANTHOPIMPLA KOLHAPURENSIS* SP. NOV**

FEMALE (Fig. 1):

9.00 mm long excluding ovipositor, forewing 6.00 mm long, 2.00 mm broad; hind wing, 4.00 mm long, 1.20 mm broad; hind leg 4.68 mm long; ovipositor, 1.10 mm long, 0.12 mm wide.

HEAD:

From front view flat, compressed frontally, 1.25 mm broad, as long, rounded in shape; ocellar distance 0.20 mm; interocellar distance 0.34 mm, ocellular distance equal to front ocellar distance; lateral ocelli yellowish brown; frons punctate with hairs, medially convex, much hairy at the base of the socket, reticulate; eye 0.95 mm long, dark black; face 0.65 mm broad, hairy; clypeus 0.62 mm broad, reticulate; maxillary palpi faint yellow, 5 segmented, width of mandible equal to malar space.

Antenna (Fig. 2, 3):

Antenna 6.00 mm in length including scape pedicel (Fig. 2) and flagellum, dark brown, setose, not longer than body, broadly petiolate; scape 0.21 mm long, 0.11 mm wide, pedicel, 0.14 mm long, 0.08 mm wide; flagellum hairy, 5.65 mm long, 0.11 mm wide, first 6 antennal segments longer than other segments, terminal segment (Fig. 3) conical, not pointed, larger than penultimate segments, placodes arranged in

four longitudinal rows, last antennal segment conical, elongated; penultimate segments smaller, similar in length and width.

Flagellar formula:

$2L / W = 2.54$, $16L / W = 2.27$, $30L / W = 1.08$, $L2 / 30 = 2.15$,
 $W2 / 30 = 0.91$.

THORAX:

3.00 mm long and 2.26 mm broad, absolutely punctulated, convex, with a band composed of three black spots across its disc; pronotum weakly punctate; scutellum, flavous, convex, with a broadly elevated lateral border on either side; mesosternum punctate and basally produced triangularly between the intermediate coxae; metathorax with very indistinct areas; petiolar area basally weak no apophysis; an oblique black spot in the external areas, spiracles linear and oblique, propodeum carinate, 1.26 mm broad, 0.68 mm long.

Fore Wing:

6.00 mm long and 2.00 mm broad, transparent, hairy, curved anteriorly; stigma 0.65 mm long 0.24 mm broad; metacarpus 1.65 mm long, smaller than width of wing; medius 1.70 mm long; submedius longer than medius; areolet present; 1st and 2nd brachialis broken at base of brachialis; 1st intercubitus 0.22 mm long; second recurrent vein 0.53 mm long, broken anteriorly; posterior part of wing densely hairy.

Hind Wing:

4.00 mm long and 1.20 mm broad, transparent, hairy, brown, straight, venation dark brown; costella 1.20 mm, posteriorly punctulated with very short setae; subcostella 1.35 mm long, slightly broad; metacarpella equal to costella; axilus 0.54 mm, transparent; brachialia absent; discoidella 0.90 mm long; radiella longer, dark brown; mediella larger than submediella; mediellan cell is the largest cell; venal lobe convex, fringed with minute setae.

Hind leg (Fig. 4):

4.68 mm long, coxa 1.10 mm long, 0.70 mm broad, rugose, dark brown, hairy; trochanter-1st 0.20 mm long; II trochanter 0.21 mm long; femur 1.35 mm long, dorsally deeply punctuated with a pair of tibial spurs (Fig. 152), spurs unequal in length, outer shorter 0.23 mm long, inner longer 0.28 mm long brown and pointed at tips, hairy; basitarsus 0.50 mm; second tarsus half the basitarsus; third tarsus 0.20 mm long; fourth tarsus 0.19 mm long; fifth tarsal segment long, 0.40 mm long; claw simple, dark black, sharply curved, 0.25 mm long; tarsae dark brown with hairs.

ABDOMEN:

Abdomen glabrous, entirely impunctate throughout, 5.00 mm long, 2.00 mm broad, dark brown dorsally yellow brown ventrally; narrow at the basal region, broad in the middle and pointed at tip; 1st tergite (T₁) long, narrow, petiolate, round at post petiole, punctulated, 0.55 mm long and 0.50 mm broad; 2nd tergite (T₂) 0.42 mm long, hairy dorsally, deeply postulated spiracle, 3rd tergite equal in length of 2nd tergite (T₃) but broader than 2nd tergite, shiny, broad at posterior, rugose, remaining tergites are convex ventrally, rugosoreticulate; ovipositor (Fig. 5a) 1.10 mm long, pointed at tip, slightly longer than ovipositor sheath (Fig. 5b), ovipositor sheath, 1.00 mm long, dark brown, punctulate, hairy posteriorly. Abdomen flavous and distinctly shining longitudinally and confluent, a black spot in the centre of the basal segment, a curved band on the III and V, a straight one at the base of seventh, and a black dot on either side of the III, V and VII abdominal segments.

COLOUR: Black – Coxa, ovipositor, eyes; Yellowish brown – Basal and middle abdominal segments, tibia; Dark brown – Last abdominal segments, antenna.

HOST: Unknown

HOST PLANT: Unknown

HOLOTYPE: Female, India, Maharashtra, Coll. 15-XII-2008, Kolhapur, M. S., Chougale, T. M., antenna, wings, leg, tergites, ovipositor on slide labeled as above.

PARATYPE: Male 1, Females 2, sex ratio (M: F) 1:2.00, same data as above.

ETYMOLOGY: The species *Xanthopimpla kulhapurensis* sp. nov. reported from Kolhapur hence the name.

DISTRIBUTIONAL RECORD: Maharashtra: ♂ 1 ♀ 1, Bhogavati (Kolhapur), 12-X-2006; ♂ 1, ♀ 2, Islampur (Sangli), 24-XI-2008.

REMARKS:

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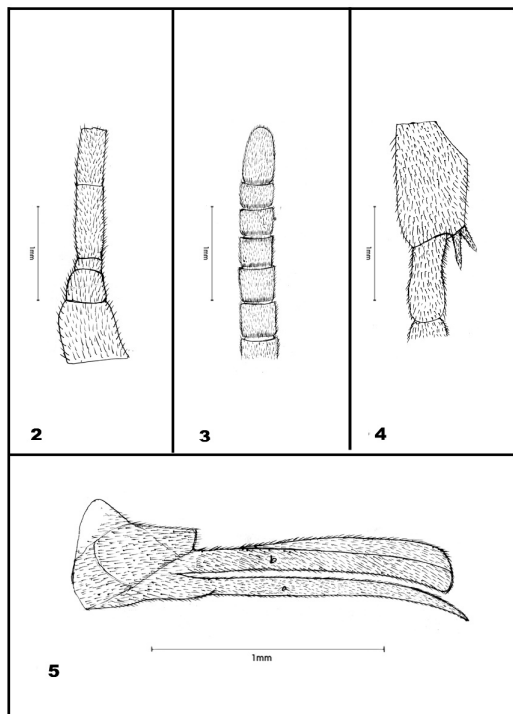
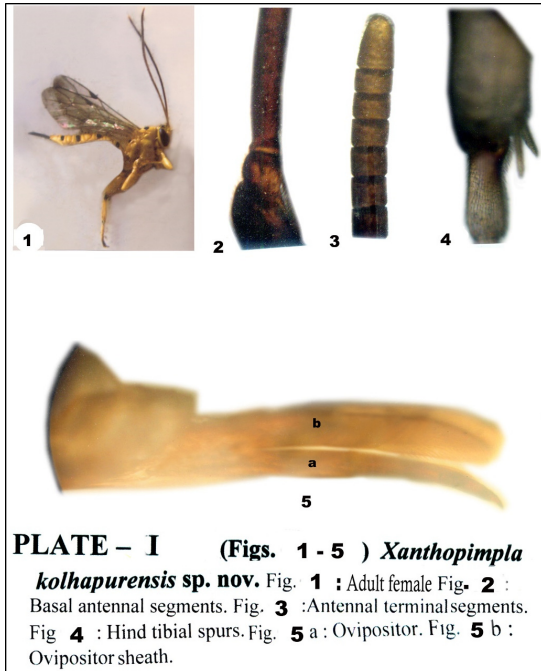


PLATE – I (Figs. 2 - 5) *Xanthopimpla kolhapurensis* sp. nov. Fig. 2 : Basal antennal segments. Fig. 3 : Antennal terminal segments. Fig. 4 : Hind tibial spurs. Fig. 5 a : Ovipositor. Fig. 5 b : Ovipositor sheath.

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