



ISSN : 0973-7057

## On a new species of the genus *Parahormius* (Hormiinae) from an unidentified leaf roller of *Dalbergia sisoo*

S.M.Shamim\*\* & N.N.Marandi<sup>a</sup>

<sup>a</sup>\*Dept. of Zoology, Ranchi University, Ranchi, Jharkhand, India.

Received , 15th January, 2013 ;Revised: 15th February, 2013

**Abstract :** Braconid parasitoids are one of the most important group of insects used in biological control. Genus *Parahormius* Nixon<sup>1</sup> was studied and a new species *P.ranchiensis* sp.n. has been identified, bred from an unidentified leaf roller of *Dalbergia sisoo*.

**Key words :** Taxonomy, Braconidae, *Parahormius*.

### INTRODUCTION

The subfamily Hormiinae is represented by five genera from India (Shenefelt, 1975<sup>2</sup>; Papp, 1990<sup>3</sup>;

Narendran *et.al.*, 1999<sup>4</sup>). A key to the Indian genera of the subfamily is also proposed.

#### Key to the Indian genera of the subfamily Hormiinae

1. Metasoma dorsally heavily sclerotized, forming a carapace ..... 2.  
- Metasoma dorsally usually desclerotized, not forming a carapace ..... 3.
2. Fore wing with vein r-m absent, thus the second submarginal cell open ..... *Cedria* Wilkinson<sup>5</sup>.  
- Fore wing with vein r-m present, forming a complete second submarginal cell open ..... *Aulosaphes* Muesebeck<sup>6</sup>.
3. Prepectal carina present ..... *Hormius* Nees<sup>7</sup>  
- Prepectal carina absent ..... 4
4. Mesonotum finely sculptured, usually granular, coriaceous and densely covered with short setae ..... *Avga* Nixon<sup>1</sup>  
- Mesonotum polished and largely bare ..... *Parahormius* Nixon<sup>1</sup>

#### Genus *Parahormius* Nixon

*Parahormius* Nixon, 1940<sup>1</sup> : 473

Type-species : *Parahormius jason* Nixon, 1940<sup>1</sup>; by original designation.

*Parahormius* Nixon; Narendran *et.al.*: 53

**Diagnosis:** Head usually smooth and shining, pronotum much shorter in dorsal view, mesonotum

polished and largely bare; prepectal carina absent; petiole smooth, highly polished; metasomal tergites beyond the petiole for the most part thin and membranous; ovipositor of the female usually down curved, some times near straight but never curved upward.

### MATERIAL AND METHODS

Infected leaves of *Dalbergia sissoo* were collected and put in the rearing jars covered with muslin cloth tightly held with rubber band. The emerged parasitoids were collected and preserved in 70% alcohol with a few drops of glycerin. Some of the specimens were also card

\*Corresponding author :

Phone: 09234601619

E-mail :

mounted to study the colour, sculpture etc.

The permanent slides of different parts after dissection were prepared after dehydration in ascending grade of alcohol and clearing was done in clove oil. The dissection was done under binocular microscope with the help of fine needles. The dissected part for viz., antenna, wings, legs and other body parts were placed in Canada Balsam on a slide, oriented in required position and then covered by cover slips. The slides were kept in the thermostat at

35°C±2°C to make it completely dry. The drawings were made with the help of Camera Lucida and the measurement were taken with the help of ocular micrometer fitted in the binocular.

### RESULTS AND OBSERVATION

The genus *Parahormius* Nixon is represented by six species from India. The revised key to the Indian species of the genus is provided to accommodate the new species.

#### Key to the Indian species of the genus *Parahormius* Nixon<sup>1</sup>

1. Fore wing with 3-SR shorter than r or equal to r ..... 2
- Fore wing with 3-SR distinctly longer than r ..... 4
2. Antenna with 19 segments; malar space a little more than one third length of eye..... *jason* Nixon.<sup>1</sup>
- Antenna with 23 segments; malar space not as in above ..... 3
3. Ratio of malar space to eye length 1:4; first tergite of gaster white ..... *deiphobus* Nixon<sup>1</sup>
- Ratio of malar space to eye length 1:6; first tergite of gaster not white, yellowish brown ..... *zonus* Narendran<sup>4</sup>
4. Ovipositor sheath longer than half of combined length of gastral segments; antenna of female with 19 segments ..... *absonus* Narendran.<sup>4</sup>
- Ovipositor sheath shorter than one-fourth of combined length of gastral segments; antenna of female with more than 19 segments ..... 5
5. Prescutellar sulcus crenulated; SR-1 almost straight ..... *rameshi* Narendran<sup>4</sup>
- Prescutellar sulcus smooth; SR-1 slightly filled upwards ..... *ranchiensis*

*sp.n. Parahormius ranchiensis sp.nov.*

(Figs. 1-7)

**Female:** Brownish-yellow; antenna and ovipositor sheaths light brown; tips of mandible and claws black; eyes grey; ocelli transparent; wings milky-white apically and dark-fuscous basally, veins brown, pterostigma dark-brown.

**Head:** Antenna 22 segmented; length of 3<sup>rd</sup> segment 1.1 times of 4<sup>th</sup> segment, length of 3<sup>rd</sup>, 4<sup>th</sup> and penultimate segments 3.5, 3.0 and 2.5 times their width respectively (Fig.7); length of maxillary palp 1.13 times height of head; length of eye in dorsal view 1.7 times temple (Fig.2); AOL: POL : ØOD: OOL = 3 : 3: 2: 6; frons, vertex and face postulate; frons weakly convex with medial groove (Fig.2); length of malar space as long as basal width of mandible.

**Mesosoma :** Length of mesosoma 1.6 times its height; middle lobe of mesoscutum smooth and shining, lateral lobes crenulate; scutellum crenulate; metanotum medially crenulate; propodeum smooth and shining, without mid-longitudinal carina, posterior margin weakly crenulate (Fig.3).

**Wings:** Fore wing (Fig.1) veins r: 3-SR: SR1 = 7:14::23; 1-SR+M straight; 2-SR: 3-SR: r-m = 12:14:7; cu-a interstitial.

**Legs:** Hind coxa smooth and shining; length of femur, tibia and basitarsus of hind leg 4.5, 7.4 and 4.3 times their width respectively (Fig. 5); length of hind tibial spurs both 0.6 times hind basitarsus.

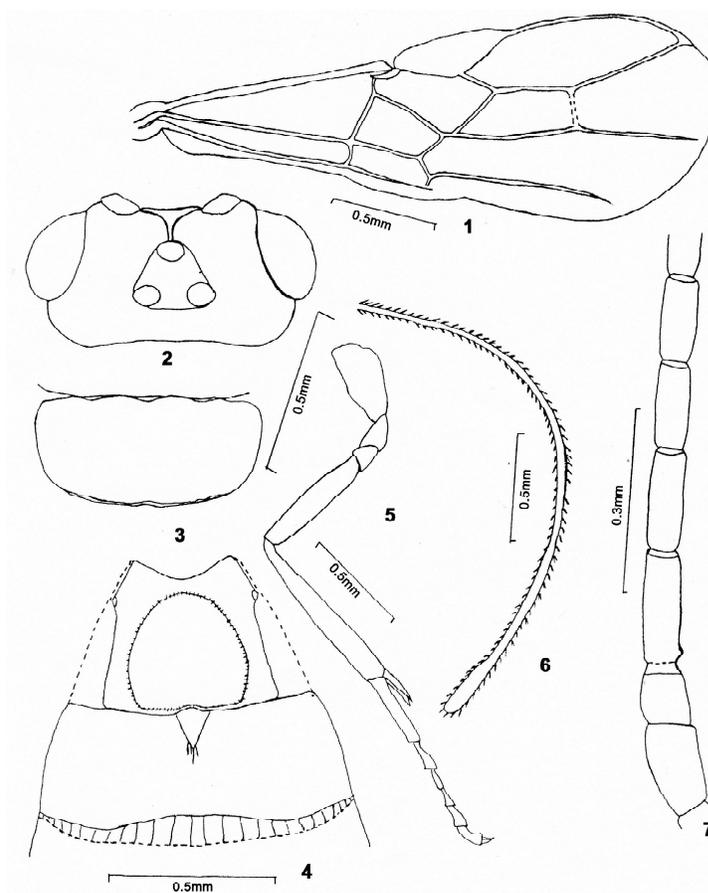
**Metasoma:** Length of 1<sup>st</sup> tergite about 0.8 times its apical width, reticulate, dorso-lateral carina crenulate and unite anteriorly (Fig.4); 2<sup>nd</sup> tergite rugose, with distinct small mid-basal triangular area which formed posteriorly into short carina (Fig.4); 2<sup>nd</sup> metasomal suture wide and widely crenulate (fig.4) rest of the tergites granulate; ovipositor sheaths about 2 times the length of metasoma (Fig.6).

**Length :** 3.0 mm, fore wing 2.8mm.

**Male:** Similar to female, except the antenna 23 segmented.

**Holotype :** 1♂, 1♀, India, Jharkhand, Ranchi 10.x.2012, ex bred from unidentified leaf roller on *Dalbergia sissoo*, (N.N.Marandi).

Shamim & Marandi: On a new species of the genus *Parahormius* (Hormiinae) from an unidentified leaf roller of *Dalbergia sisoo*



**Figs. 1-7: *Parahormius ranchiensis* sp.n., ♀**

**1 Fore wing, 2. Head, dorsal view, 3. Propodeum, 4. Metasomal tergites 1<sup>st</sup>-2<sup>nd</sup>, 5. Hind leg, 6. Ovipositor sheath, 7. Antenna, basal flagellomeres**

**ACKNOWLEDGEMENT**

The authors are thankful to the Head, Dept. of Zoology, Prof.(Dr.)M.Prasad for providing research facilities and encouragement. They are also thankful to the faculty members for their motivation.

**REFERENCES**

1. Nixon, G.E.J. 1940. New genera and species of Hormiinae with a note on *Hormiopterus* Giraud (Hymenoptera : Braconidae). *Ann. Mag.nat.Hist.* **11(5)**: 473-494.
2. Shenefelt, R.D. 1975. Hymenopterorum catalogus, 12. Braconidae 8, Exothecinae, Rogadiane, W.Junk. The Hague. pp. 1115-1262.
3. Papp, J. 1990. New Braconid wasps (Hymenoptera :

Braconidae) in the Hungarian Natural History Museum. *Ann. Hung. Nat. Hist. Soc.* **93**: 264-267.

4. Narendran, T.C.*et.al.* 1999. A study of *Parahormius* Nixon (Hymenopteran : racomidae) from India. *Ecobios.* **1(1)**: 53-59.
- 5\*. Wilkinson, D.S. 1930. New species and host records of Braconidae. *Bull.ent.Res.***21**: 481-487.
- 6\*. Muesebeck, C.F.W.1956. New synonymy in the Braconidae. *Proc.ent.Soc.Wash.***58(1)**: 34.
- 7\*. Nees von Esenbeck, C.G.D. 1834. Hymenopteroram Icheumonibus affinium monographiae, genera Europaea *et.* species illustrata vol. 1, *J.G.Cottae, Stuttgart und Tubingen*, 320pp.

\*Additional references consulted.

\* \* \*

**Biospectra : Vol. 8(1), March, 2013**

*An International Biannual Refereed Journal of Life Sciences*