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## First report of *Phaenacantha (Phaenacantha) sedula* (Hemiptera: Lygaeoidea: Colobathristidae) from India

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### Abstract

Present communication is the first record of a species of *Phaenacantha* Horváth, 1904 of family Colobathristidae from India. The species was redescribed with morphological measurements, additional taxonomic details and illustrations.

**Keywords:** Colobathristidae, colobathristinae, *Phaenacantha (Phaenacantha) sedula*, India, new record

### 1. Introduction

The genus, *Phaenacantha* belonging to the subfamily Colobathristinae of the family Colobathristidae was erected by Horváth (1904) <sup>[1]</sup> for the species *Phaenacantha biroi* Horvath from New Guinea. It is the largest genus of Colobathristidae including 33 species distributed mainly in Oriental region and New Guinea, but four species occur in Queensland, Fiji Island, Palaearctic China and Guatemala respectively (Stys, 1974) <sup>[2]</sup>. Some of them are serious pests of sugarcane. Horváth (1904) <sup>[1]</sup> has published a monograph of Colobathristinae with detailed description of each species. Stys, (1974) <sup>[2]</sup> has published a synopsis of the genus *Phaenacantha* Horvath (Subgenus *Anorygma* Horv.) including eight known species with detailed keys, their status, diagnostic characters and illustrations. Prior to study, no species under this genus was known from India. Distant (1910) <sup>[3]</sup> recorded *Phaenacantha (Phaenacantha) sedula* Horváth from Myanmar, Malaysia (Penang), Singapore, Philippines (Cape Engano), Indonesia (Mentawai Island).

During the study of the collections from Nagaland, the species *Phaenacantha (Phaenacantha) sedula* Horváth, 1904, has been identified and recorded for the first time from India.

### 2. Material and Methods

This study is based on the sample collected in field survey from Intanki National Park, Peren District, Nagaland, West Bengal (India). The specimen is deposited in the National Zoological Collection of Zoological Survey of India, Hemiptera Section, Kolkata. Morphological measurement and images of the species were taken with a Leica (M 205A) stereo microscope using the proprietary software (Leica application suite, V3.8). All measurements are in millimetres.

### 3. Results and Discussion

#### Genus *Phaenacantha* Horváth, 1904

1904. *Phaenacantha* Horváth, *Ann. Mus. Hung.*, 2: 120.

**Type species:** *Phaenacantha biroi* Horváth, from New Guinea.

**Diagnosis:** Head vertical, not carinate on lateral side, gula horizontal; eyes shortly stylate, ocelli appropriate and remote from the eyes; antennae longer than body; rostrum reaching nearly intermediate coxae and slightly passing the middle of mesosternum, fourth segment shorter than third; pronotum slightly narrow at anterior region, posterior lobe twice longer than anterior lobe; scutellum with a long erect spine; hemelytra not or slightly passing apex of abdomen; corium without an ante-apical areola; abdomen incrassated apically or behind middle for male and narrowed near apex for female; anterior femora marked with ante-apical spine, anterior tibiae unarmed.

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**Distribution:** Oriental, Malayan Regions and Fiji Islands.

**Subgenus *Phaenacantha* Horváth, 1904**

1904. *Phaenacantha* subg. *Phaenacantha* Horváth, *Ann. Mus. Hung.*, 2: 120, 123.

**Type species:** *Phaenacantha biroi* Horváth, by subsequent designation.

***Phaenacantha (Phaenacantha) sedula* Horváth, 1904**

1904. *Phaenacantha (Phaenacantha) sedula* Horváth, *Ann. Mus. Hung.*, 2: 130.

1910. *Phaenacantha (Phaenacantha) sedula*: Distant, *Fauna Brit. India, Rhynch.*, 5: 31.

**Description: Colour:** General colour rusty reddish-brown to brownish yellow; gula, anterior lobe of pronotum, scutellum and sternum, greenish black (Fig.1); head above marked with two anteriorly diverging dark brown bands; eyes reddish-brown; apex of third antennal segment and fourth segment, dark brown (Fig.5); apex of rostrum, black (Fig.4); scutellum pale, with apex black or dark brown (Fig.6); veins of hemelytra, brownish yellow (Fig.1); posterior lobe of prosternum and the acetabula reddish-brown to brownish-yellow; orifices, posterior angle of the metasternum, connexivum and lateral margins of abdomen beneath whitish-yellow, first and base of last abdominal segment, black; apices and bases of tibia, dark brown; apex of tarsi, black (Fig.2).

**Structure: Head:** Head short, vertical, pilose, not carinate on lateral area, broader than pronotum (1.00:0.90), ocelli four times remote from eyes but close to each other; eyes slightly longer than broad (1.00:0.70) (Fig.6); antennae four-segmented, slightly longer than body, second segment of antennae slightly shorter than third, fourth segment a little longer than the preceding segments, relative length of antennal segments : I (1.12) : II (1.78) : III (2.25) : IV (2.62) = 0.42 : 0.67 : 0.85 : 1.00 (Fig.5); rostrum long, almost reaching the intermediate coxae and slightly passing middle of mesonotum, second segment shortest, fourth segment longest, relative length of rostral segments: I (0.35) : II (0.32) : III (0.38) : IV (0.39) = 0.89 : 0.82 : 0.97 : 1.00 (Fig.7).

**Thorax:** Pronotum longer than broad (1.00 : 0.87), anteriorly narrowed and sloping gradually downwards, anterior lobe moderately convex, pilose, sloping downwards with vertex raised, centrally impressed and twice shorter than posterior lobe (0.44: 1.00), posterior lobe with distinct punctuations (Fig.6); scutellum longer than broad and with scattered punctures, armed with a long, vertical or subvertical (80°), erect apical spine (Fig.6); hemelytra complete, longer than broad, slightly passing the apex of abdomen (Fig.3); sternum punctuate (Fig.7); legs long, pilose, fore femora with ante-apical spine near apex (Fig.4), fore tibia unarmed, tibia cylindrical and longer than femora (Fig.3).

**Abdomen:** Abdomen smooth, pilose, longer than broad (1.00: 0.22) (Fig.8, 9), apically distinctly incrassated in male (Fig.8) or slightly ampliate behind middle, narrowed at apex, third segment on ventral region more than twice as long as 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> segments in female (Fig.9), the third segment slightly longer than the last three segments; male genital segments as in Fig.10, whereas female genital segments as in Fig.11.

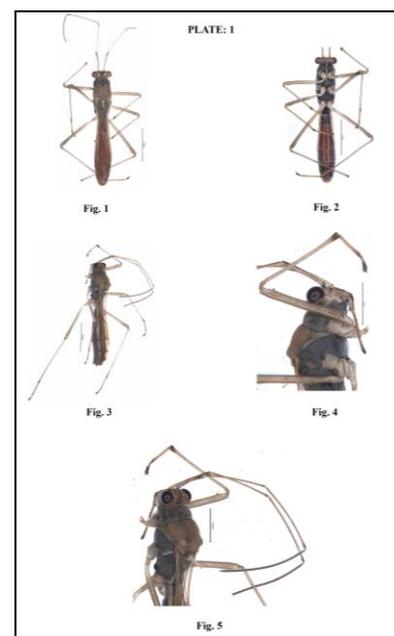
**Measurements:** [in mm, ♀ (n=1)]. Body length 7.45; head length 0.46, width between eyes 0.59; length of eye 0.42, width of eye 0.31; length of antennae 7.77, lengths of antennal segments I: 1.12, II: 1.78, III: 2.25, and IV: 2.62, relative length of antennal segments: I: II: III: IV= 0.42 : 0.67 : 0.85 : 1.00; rostral length 1.44, length of rostral segments I: 0.35, II: 0.32, III: 0.38 and IV: 0.39, relative length of rostral segments: I: II: III= 0.89 : 0.82 : 0.97 : 1.00; length of pronotum 1.26, length of anterior pronotal lobe 0.39, posterior pronotal lobe 0.87, width of anterior pronotal lobe 1.03, posterior pronotal lobe 1.10; length of scutellum 0.69, width of scutellum 0.51; length of abdomen 4.09, width of abdomen 0.89; length of forecoxa: 0.38, trochanter: 0.32, femur: 2.12, tibia: 2.23, tarsus: 1.10, claws: 0.09; midcoxa: 0.41, trochanter: 0.34, femur: 2.23, tibia: 2.31, tarsus: 1.13, claw: 0.10; hindcoxa: 0.47, trochanter: 0.37, femur: 2.77, tibia: 3.67, tarsus: 1.41, claw: 0.13.

**Material examined:** 1♀1♂, India: Nagaland: Peren District: Intanki National Park, 24.III.2017, C. Selvakumar and party (Lat.: 25° 32' 58.75" N, Long.: 93° 31' 14.03" E, Alt.: 165m).

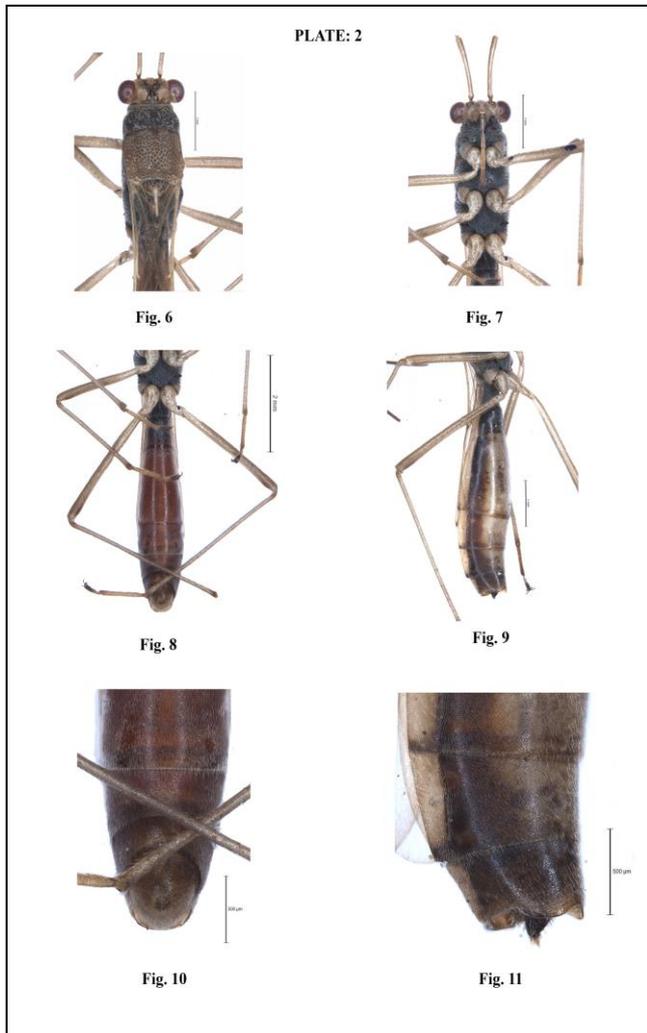
**Distribution:** India: Nagaland. Elsewhere: Myanmar, Malaysia (Penang), Singapore, Philippines (Cape Engano), Indonesia (Mentawai Island).

**4. Summary**

This study deals with *Phaenacantha (Phaenacantha) sedula* Horváth, 1904, belonging to the subfamily Colobathristinae of the family Colobathristidae, which is reported for the first time from the Peren District of Nagaland. Prior to study, no species under this genus was known from India. Distant (1910) [3] recorded *Phaenacantha (Phaenacantha) sedula* Horváth from Myanmar, Malaysia (Penang), Singapore, Philippines (Cape Engano), Indonesia (Mentawai Island). Measurements of different body parts were taken and ratios between stable body parts were calculated, which can be utilised as an additional diagnostic characters to separate allied species and may serve as tool for the revisionary work.



**Fig 1-5:** *Phaenacantha (Phaenacantha) sedula* Horváth, 1904-1. Dorsal view of male; 2. ventral view of male; 3. lateral view of female; 4. foreleg, lateral view; 5. antennae, lateral view.



**Fig 6-11:** *Phaenacantha (Phaenacantha) sedula* Horváth, 1904-6. head, pronotum, scutellum, dorsal view; 7. rostrum, ventral view; 8. abdomen of male, ventral view; 9. abdomen of female, lateral view; 10. abdominal tip of male, ventral view; 11. abdominal tip of female, lateral view.

## 5. Acknowledgement

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