

## New records of two genera of Mymaridae (Hymenoptera:Chalcidoidea) from Northeast India

Bankerdonbor Kharbisnop and Sudhanya R. Hajong\*

Department of Zoology, North-Eastern Hill University, Shillong-793022, Meghalaya, India.

(Email: srhajong@nehu.ac.in)

### Abstract

The paper reports the occurrence of the two genera of Mymaridae viz., *Narayanella* Subba Rao, 1976 with record of one species - *Narayanella pilipes* Subba Rao, 1976 from Khasi Hills, Meghalaya and the genus *Eubroncus* Yoshimoto, Kozlov and Trjapitzin, 1972 with two species viz., *E. indicus* Hayat & Khan, 2009 and *E. scutatus* Manickavasagam & Palanivel, 2015.

**Keywords:** *New records, Mymaridae, Meghalaya, Northeast India.*

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### Introduction:

The family Mymaridae currently consists of 109 genera and 1457 species known globally (Aguilar *et al.*, 2013). From India, 38 genera and 194 species are recorded (Manickavasagam and Athithya, 2018). Commonly referred to as fairy flies, they are tiny in size ranging from 0.5- 1.00 mm in length. They are non metallic and are usually black, brown or yellow.

From Meghalaya, including Northeast India, there are only few trace and fragmentary reports available on these insects. As per the checklist of Mymaridae compiled by Manickavasagam and Athithya (2018), a total of 31 species belonging to 17 genera are reported from various districts of Meghalaya.

The present paper reports the occurrence of the two genera of Mymaridae viz., *Narayanella* Subba Rao, 1976 with the occurrence of one species - *Narayanella pilipes* Subba Rao, 1976 from Khasi Hills of Meghalaya and *Eubroncus* Yoshimoto, Kozlov and Trjapitzin with two species - *E. indicus* Hayat & Khan, 2009 and *E. scutatus* Manickavasagam & Palanivel, 2015 from Khasi Hills of Meghalaya.

### Materials and Methods

Specimens were collected from the forests of Upper Shillong, Mawsynram and Nongkhyllam using yellow pan traps. The collected specimens were mounted in Canada balsam following the method described by Noyes (1982). Photographs were taken with a Sony digital camera under Leica microscope. Measurements were made from slide-mounted specimens using a compound microscope. All measurements are given in millimeters (mm). Specimens collected are deposited in Entomology Laboratory, Department of Zoology, North Eastern Hill University, Shillong, Meghalaya, India and also in the Entomology Laboratory, Annamalai University, Tamil Nadu.

### Observations:

#### 1. Genus *Eubroncus*

*Eubroncus* Yoshimoto, Kozlov & Trjapitzin, 1972: 879.

Type species: *Eubroncus orientalis* Yoshimoto, Kozlov & Trjapitzin, 1972, by original designation.

*Stomarostrum* Yoshimoto, Kozlov & Trjapitzin, 1972: 879.

Type species: *Stomarostrum prodigiosum* Yoshimoto, Kozlov & Trjapitzin, 1972, by original designation; synonymy of

*Eubroncus* by Triapitsyn and Huber 2000: 603.

**Diagnosis:** Head sub-triangular in lateral view. Vertex smooth with a pair of placoid sensilla in front of post ocelli. Mandibles long and narrow, with strong apical teeth. Female antenna with funicle 6-segmented and clava 1-segmented. Pedicel longer than fl1. Pedicel, funicle (fl1–fl6) and clava with numerous multiporous plate sensilla; few in scape. Hind wing wide and broadly with rounded apex. Abdomen with 4 ridges. Tarsi 4-segmented. Protibial bears non uniform spur.

***Eubroncus indicus* Hayat and Khan, 2009**

**Female** (Figure 1): Body length= 1.62 mm, Head = 0.35 mm; vertex smooth = 0.05 mm. Mid ocellus = 0.025 mm. Antenna darkish brown with light brown radical; flagellum clavate with funicle 6-segmented, clava 1-segment with radical = 0.06 mm. Scape = 0.2 mm; pedicel = 0.063 mm. Scape, pedicel, funicle (fl1–fl6) and clava with numerous multiporous plate sensilla. Eyes pinkish-red wine in colour; sub-triangular measuring 0.1 mm. Mandible 0.24 mm with prominent teeth. Mesosoma metallic darkish brown measuring 0.52 mm. The pronotum 0.11 mm. Mesoscutum 0.225 mm reticulate with a pair of strong setae at postero-lateral angle, lateral lobes also sculptured with a seta in each lobe postero-laterally. Forewing 1.125 mm and hind wing 0.9 mm. Legs light brown. Ovipositor yellowish. Axilla with longitudinal carinae laterally fading towards anterior scutellum. Each axilla bearing one strong seta, posterior end with reticulate sculpture. Scutellum measuring 0.18 mm, anterior part bearing two placoid sensillae at the middle. Post scutellum with 2–3 longitudinal carinae on lateral sides and strongly foveate on the entire anterior margin; Propodeum 0.31 mm with strong reticulate sculpture medially and laterally and with a pair of setae. Mesophragma broadly ‘v’ shaped almost reaching posterior margin of propodeum. Gaster measures 0.42 mm, somewhat oval in shape showing ridges at the dorsal and ventral posterior part; petiole 0.157 mm with antero-lateral spines. Ovipositor 0.15 mm slightly exerted, as long as mesotibia.

**Materials examined:** 3♀, India, North East, Meghalaya, Upper-Shillong, 1652m, 25°32’51.09’’N and 91°51’11.32’’E, 5.iv.2017, Coll. B. Kharbisnop.

**Distribution:** West Bengal: Darjeeling (Hayat and Khan, 2009), Meghalaya (New Record).

***Eubroncus scutatus* Manickavasagam and Palanivel, 2015**

**Female** (Figure 2): Body length = 1.22 mm. Head 0.375 mm. Antenna 6-segmented; clava 1-segment 0.2 mm; scape measuring 0.2 mm; pedicel 0.075 mm. Mandible 0.225 mm as long as the head with prominent teeth. Thorax as the length of the gaster measuring 0.463 mm; mesoscutum 0.3 mm; propodeum 0.125 mm; scutellum 0.2 mm. Forewing 1.43 mm and hind wing 1.025 mm. Legs approximately 1.05 mm, ovipositor slightly exerted measuring 0.125 mm. Gaster globose measuring 0.487 mm. Petiole 0.087 mm.

**Material examined:** 1♀, 5.iv.2017; 2♀, 9. v. 2017, India, North East, Meghalaya, Upper-Shillong, 1652m, 25°32’51.09’’N and 91°51’11.32’’E, Coll. B. Kharbisnop.

**Distribution:** Karnataka and Tamil Nadu (Palanivel and Manickavasagam, 2015), Meghalaya (New Record).

**2. Genus *Narayanella***

*Narayana*, Subba Rao, Orient. Ins., 10 (1): 87. 1976 (preoccupied in Distant, 1908).

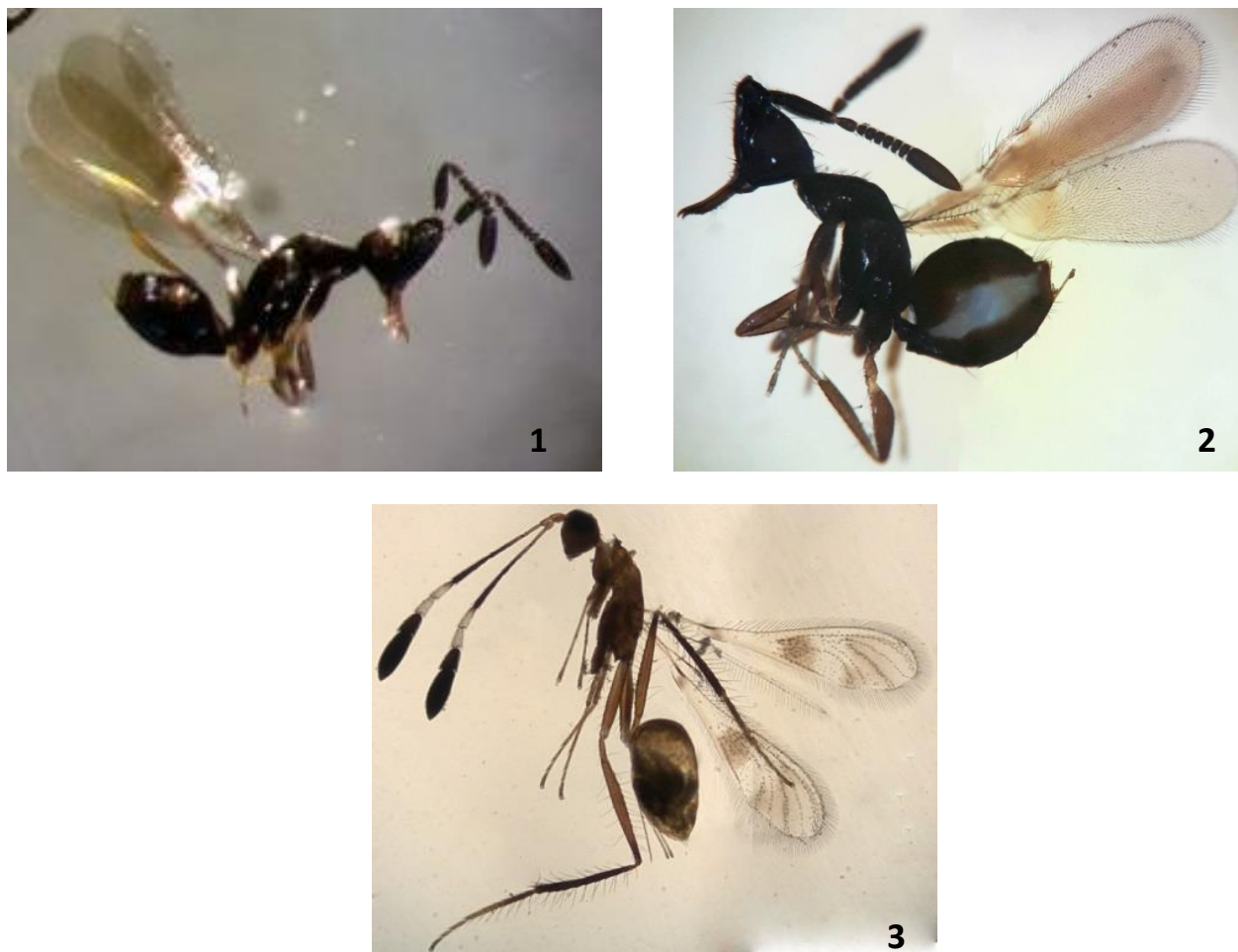
*Narayanella*, Subba Rao, Orient. Ins., 10 (3): 352. 1976

*Narayanella*, Subba Rao & Hayat, Contr. A mer. ent. Inst., 20: 138. 1983

**Diagnosis:** Hind legs with exceedingly long spiny hairs; hind coxae longer than petiole; fore wings with cilia in curved alternately strong and weak rows; terminal funicular segment forming club.

***Narayanella pilipes* Subba Rao, 1976**

**Female** (Figure 3): The body length = 2.6 mm. Head oval, broader than long measuring 0.35-0.37/0.24-0.23 mm. Mandible as long as maxilla. Ocelli three, arranged in triangular fashion; middle ocellus much bigger than the



**Figure 1-3.** Body Profile of: **1.** *Eubroncus indicus* (40x); **2.** *Eubroncus scutatus* (40x); **3.** *Narayanella pilipes* (40x).

two measuring 0.03 mm. Antenna multi-coloured; brown with some part darkish brown and white; scape = 0.07-0.1 mm; pedicel = 0.03-0.075 mm; funicle 7-segmented, 1<sup>st</sup> segment brown (0.12 mm), 2<sup>nd</sup> and 3<sup>rd</sup> darkish brown and the longest among the funicles measures 0.25 mm each, the 4<sup>th</sup> (0.18 mm) and 5<sup>th</sup> (0.08 mm) segments white and the 6<sup>th</sup> segment (0.11 mm) black and clava 1-segment measuring 0.375mm black with 8 multiporous plate sensilla. Thorax smooth, elongated, measures 0.75-0.87 mm; pronotum 0.20-0.23/0.20-0.24 mm; mesoscutum 0.07-0.08/0.19-0.27 mm; scutellum 0.14-0.18/0.18-0.20 mm; propodeum 0.10-0.12 mm. Forewing 1.8/0.40-2.30/0.43 mm supported by the distribution of strong cilia arranging in a discoidal pattern. Hind wing 1.50/0.05-

1.55/0.05 mm. Legs elongated; fore and mid leg measures 1.80 mm, 2.04 mm, and hind leg very long with 2.89 mm. Petiole 0.54-0.6 mm. Gaster ovate 0.74/0.42-0.875/0.45 mm bearing ovipositor.

**Male:** Unknown; **Host:** Unknown

**Material examined:** 6 ♀, India, North East, Meghalaya, Ingkyrsa, 1214m, 25°14'30.28"N and 91°27'40.90"E, 9.x.2017 (Yellow Pan Trap); 1 ♀, Nongkhylllem Wildlife Sanctuary, Nongpoh, 25°55'24.58"N and 91°49'23.70"E. 18.viii.017 (Yellow Pan Trap). Coll. B. Kharbisonop.

**Distribution:** India: West Bengal (Hayat, 1992), Andhra Pradesh, Tamil Nadu (Manickavasagam and Rameshkumar, 2011),

Andaman and Nicobar Islands (Rameshkumar *et al.*, 2017), Uttarakhand (Joshi *et al.*, 2017) and Meghalaya (New record); Burma.

**Comment:** Collected specimens of *N. pilipes* are yellowish brown in colour with the exception of some antennal parts and legs which are white and dark brown. These specimens from Meghalaya show slight variations of the following features as compared to that described by Subba Rao.

- (1) The 4<sup>th</sup> and 5<sup>th</sup> funicular segment, white in colour which differs from other existing species.
- (2) 8 multiporous plate sensilla distributed in clava.
- (3) Forewing well marked with patch and cilia are more distributed towards the base.
- (4) Gaster oval in shape.

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