

FIVE NEW SPECIES OF *PHANUROMYIA* DODD
(HYMENOPTERA: PLATYGASTRIDAE) FROM INDIA

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ABSTRACT

The genus *Phanuromyia* is reported from India for the first time. These wasps are parasitoids of auchenorrhynchan Hemiptera eggs. Five new species of *Phanuromyia*: *Phanuromyia andamanensis* sp. n., *P. kapilae* sp. n., *P. koenigi* sp. n., *P. nabakovi* sp. n. and *P. jarawa* sp. n. are described as new to science and illustrated from India.

Keywords: Hymenoptera, Platygastriidae, Telenominae, *Phanuromyia*, new species, India

INTRODUCTION

The genus *Phanuromyia* (Platygastriidae: Telenominae) is represented by nine species throughout the world. The type species, *P. rufobasalis* Dodd, was described from South Queensland (Australia). Johnson & Musetti (2003) redefined the genus *Phanuromyia* and transferred six species from *Telenomus* to *Phanuromyia*. Earlier, Masner (1976) had already transferred *T. necopinata* to *Phanuromyia*. The nine species of *Phanuromyia* are *P. bidentata* Johnson & Musetti, 2003 (Indonesia), *P. flavescens* (Dodd, 1915) (North Queensland, Australia), *P. hysteropteri* (Bin, 1975) (Italy), *P. necopinata* Dodd, 1916 (New South Wales, Australia), *P. obscuripes* (Pélov, 1975) (Bulgaria), *P. oocida* (Pélov, 1975) (Bulgaria), *P. pulcherrima* (Dodd, 1914) (South Australia), *P. rufobasalis* Dodd, 1914 (South Australia), and *P. sacchii* (Ogloblin, 1930) (Italy) (Dodd, 1914a; 1914b; 1915; 1916; Ogloblin, 1930; Bin, 1975; Pélov, 1975; Johnson & Musetti, 2003). Of these nine species, four are Australian, four Palaearctic and one Indomalayan in distribution. Species in this genus are known to parasitize eggs of plant hoppers belonging to the families Issidae and Fulgoridae (Hemiptera: Auchenorrhyncha) (Johnson & Musetti, 2003). This genus is here reported for the first time from India, with description of five new species.

The genus *Phanuromyia* is distinguished from other genera in Telenominae by the presence of the following character states: five transverse to quadrate clavomeres; the meeting point of the malar sulcus with the compound eye being almost perpendicular when head is viewed laterally; expanded gena below the compound eye; lack of the space between the lateral ocelli and compound eye; sternaulus extending from apex of the acetabular pit to the mesopleural pit; frons convex and ovipositor exerted. In *Telenomus*, on the other hand, the malar sulcus meets the eye either straight on or at an obtuse angle, frons does not bulge and microsculpture is not present on T2 (Johnson & Musetti, 2003).

MATERIAL AND METHODS

Auto Montage version 3.6, using a Leica DFC 425 camera and Leica M205A stereomicroscope, was employed for measurements and digital

images. Abbreviations and morphological terminology used in the text follow Masner (1976; 1979) and Mikó *et al.* (2007; 2010). Specimens were obtained using yellow pan traps (YPT), Malaise traps (MT) and sweep net (SN) collections. All the holotypes and paratypes are deposited at the National Bureau of Agriculturally Important Insects, Bangalore, India.

Abbreviations: Frontal cephalic index (FCI), Lateral cephalic index (LCI), Interorbital space (IOS), Length (L), Width (W), Ocular ocellar length (OOL), Post Ocellar length (POL), Lateral ocellar line (LOL), A1-A12 antennal segments 1–12, A1 being scape; metasomal tergites 1–6 (T1-T6), metasomal sternites (S1-S2).

***Phanuromyia andamanensis* sp. n. Veenakumari**
(Figs 1–10)

Description

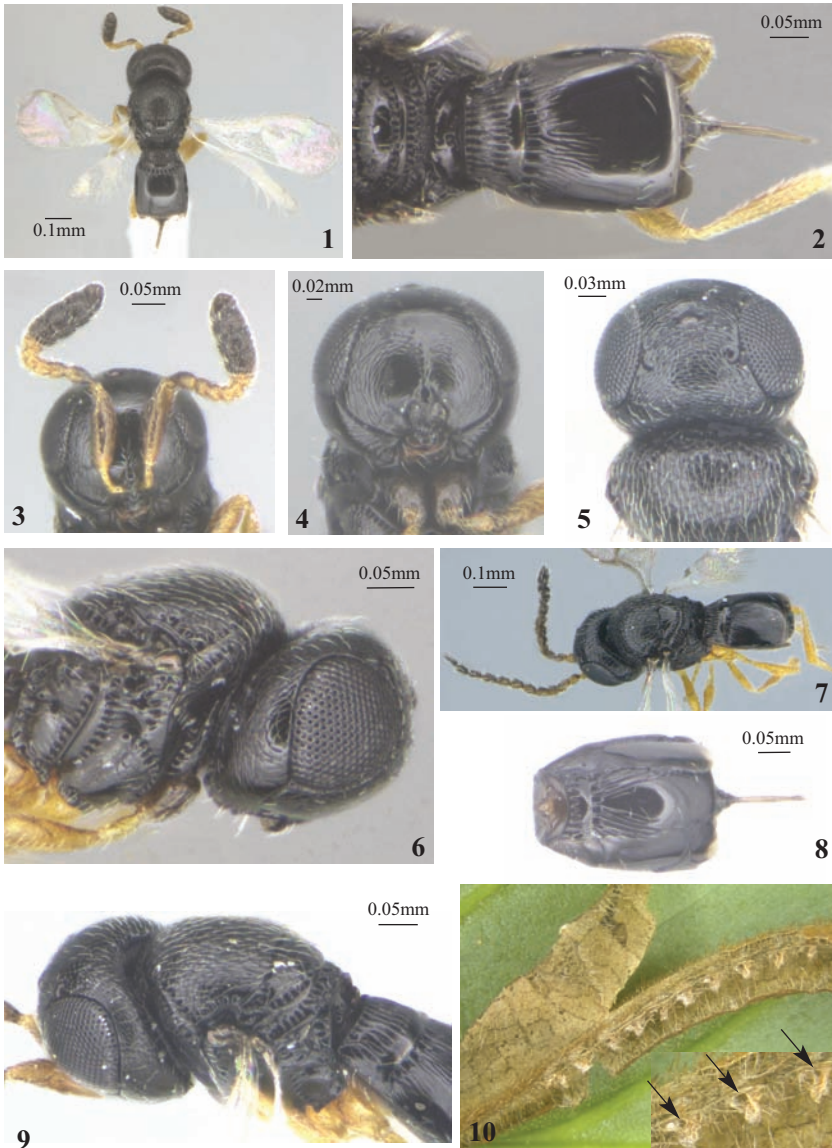
♂, Holotype, body length = 0.849mm. Black; radicle yellow with a few irregular patches of black; A1 basally yellow, rest dark brown with small uneven patches of yellow; A2 and A3 blackish brown with patches of yellow; A4-A7 brownish yellow; fore coxae blackish brown, basitarsi light brown, rest of the legs yellow; mandibles brownish black. Head: FCI = 1.17; LCI = 1.16; head round when viewed dorsally, 1.17× wider than high and 1.16× higher than long; IOS 0.46× width of head and shortest above anterior ocellus; lower and lateral frons longitudinally coriaceous; medial frons transversely coriaceous; a short branched central keel present above torular triangle; vertex transversally coriaceous with sparse short white setae; two rows of long white setae present towards posterior margin of vertex; a row of short white setae present along inner orbit and four white long setae above malar sulcus; gena longitudinally coriaceous; long setae present on mandibles; ocelli in a triangle, with posterior ocelli adjacent to compound eye; ratio of LOL: POL = 5.0 : 8.5; eye height 0.65× height of head; eyes glabrous, bulging. Antenna eleven-segmented with a five-segmented clava; length and width of antennal segments A1-A11 in ratio of 13.9 : 4.2, 4.4 : 2.7, 2.8 : 2.5, 2.0 : 2.6, 1.5 : 2.5, 1.5 : 2.5, 2.0 : 3.9, 3.3 : 5.8, 3.6 : 6.7, 3.3 : 6.4, 4.0 : 4.4, respectively; radicle 0.38× length of A1; entire antenna covered with setae, setae denser on clava compared to other segments.

Mesosoma: Mesoscutum (L : W = 14.3 : 22.5), 0.63× longer than wide; entire mesoscutum reticulate coriaceous with dense long pilosity; notauli absent; mesoscutal suprahumeral sulcus and mesoscutal humeral sulcus deeply foveate; pronotum barely visible from above; upper lateral pronotal area costate; a row of foveae present on anterior margin of smooth netrion; mesopleura with distinct pleural pit; sternaulus foveate reaching mesopleural pit; a reticulate coriaceous patch present beneath mesopleural pit; metapleural pit distinct; paracoxal sulcus deeply foveate with rest of metapleura smooth; mesoscutellum (L : W = 6.3 : 14.0) semicircular, smooth with setae sparser than on mesoscutum; scutoscuteellar sulcus foveate; posterior mesoscutellar sulcus deeply foveate; metascutellum transverse, anterior margin of metascutellum deeply foveate, shallow foveae present along posterior margin; metanotal trough foveate. Forewing (L : W = 63.7 : 22.2) and hind wing (L : W = 53.3 : 8.4) hyaline, covered with short brown microtrichia; postmarginalis elongate, 3× length of stigmalis; hind-wing cilia 0.7× width of wing; long setae present on the submarginalis of forewing, 0.91× length of hind-wing cilia; setae on posterior margin of forewing 0.88× length of hind-wing cilia.

Metasoma: T1 and T2 clearly visible, remaining tergites telescoped; ovipositor exerted, 0.62× length of T2; T1 deeply costate, length of costae 0.75× length of T1; T1 with two lateral and two sublateral setae; T2 elongate with deep foveae on anterior margin from which long striae extend 0.7× length of T2; rest of T2 smooth; 6 setae present transversely on posterior margin of T2; four lateral setae present on T2; laterotergites loose; long setae present on remaining tergites; length and width of T1 and T2 in ratio of 7.3 : 17.2 and 19.8 : 20.8 respectively; S1 with deep foveae on anterior margin, posterior margin smooth; S2

with basal foveae from which long costae extend $0.7\times$ length of S2; S2 basally and medially smooth with sparse setae.

♂, body length = 0.826mm. ♂ similar to ♀; antenna twelve-segmented; length and width of antennal segments A1-A12 in ratio of 11.3 : 3.5, 3.4 : 2.6, 3.8 : 3.0, 3.7 : 3.2, 3.9 :



Figs 1–10. — *Phanuromyia andamanensis* sp. n.: 1, ♀; 2, metasoma; 3, antennae; 4, frons; 5, vertex; 6, pleura; 7, ♂; 8, sternites; 9, mesosoma (lateral view); 10, eggs of hoppers (inset: emergence holes of parasitoids).

3.0, 4.1 : 3.4, 4.1 : 3.2, 4.1 : 2.9, 4.3 : 3.1, 4.9 : 2.7, 4.0 : 3.2, 7.6 : 2.6, respectively; radicle $0.39\times$ length of A1.

Diagnosis: This species is similar to *P. bidentata*, which has medially excised metascutellum and broadly humped T1. In *P. andamanensis* metascutellum is uniformly even and T1 not humped. *P. andamanensis* can be distinguished from *P. sacchii*, which has elevated T2 with a smooth, shining anterior margin unlike *P. andamanensis*.

Host: Six females and one male emerged from eggs of hoppers, laid on midrib of leaves of the ornamental shrub *Mussaenda* sp. (Rubiaceae) (Fig.10).

Etymology: Named after type locality.

Material examined

Holotype, ♀, INDIA: Andaman Islands, Middle Andaman, Rangat Bay, 23.i.2013, (Reg.No. ICAR/NBAII/P186).

Paratypes, 5♀ (Reg.No. ICAR/NBAII/P187–191) and 1♂ (Reg.No. ICAR/NBAII/P192) with same data as that of the holotype.

***Phanuromyia kapilae* sp. n. Veenakumari**
(Figs 11–16)

Description

♀, Holotype, body length = 0.985mm. Head, mesosoma black; T1 orange-brown; rest of metasoma dark brown; mandibles brown; radicle, basal A1, apex of A5, A6–A8 yellow, rest of antenna blackish brown; fore coxae and basitarsi of all legs brownish black, rest of all legs yellowish with patches of black. Head: FCI = 1.37; LCI = 1.04; head $1.37\times$ wider than high, almost as high as long; IOS shortest below anterior ocellus; IOS $0.56\times$ width of head; frons coriaceous reticulate; four long setae present along malar sulcus; gena striate; malar sulcus joining the anterior margin of compound eye; upper frons transversely coriaceous reticulate; vertex coriaceous reticulate; two rows of long yellowish setae present on posterior margin of vertex; sparse short white setae present on upper frons and gena; height of compound eye $0.63\times$ height of head; eye with very sparse short setae; ocelli in a triangle, with posterior ocelli very close to compound eye; ratio of LOL : POL = 7.4 : 13.5; antenna eleven-segmented; length and width of antennal segments A1–A11 in ratio of 13.1 : 4.0, 4.6 : 2.6, 2.6 : 2.7, 1.8 : 2.4, 1.7 : 2.4, 1.8 : 2.5, 1.8 : 3.5, 2.9 : 4.5, 2.8 : 5.0, 2.9 : 5.0, 3.2 : 4.2, respectively; radicle $0.37\times$ length of A1; entire antenna clothed with short setae, setae distribution denser on clava than other segments.

Mesosoma: Mesoscutum (L : W = 17.8 : 24.5), $1.37\times$ wider than long, imbricate with dense yellow setae; notauli absent; pronotum hardly visible from above; lateral pronotal area with three costae in lower half; netrion fusiform and smooth; upper lateral pronotal area with irregular sculpturing; a row of white long setae present on anterior margin of mesopleura; mesopleura beneath mesopleural pit with a reticulate patch; metapleura with a deep metapleural pit; paracoxal sulcus with transversely elongate foveae; rest of metapleura smooth. Mesoscutellum (L : W = 5.4 : 18.7) semicircular, smooth, $3.46\times$ wider than long, with setae similar to that present on mesoscutum; scutoscutellar sulcus foveate; posterior mesoscutellar sulcus foveate; posterior margin of mesoscutellum smooth and light brown; metascutellum slightly projecting medially; metascutellum foveate on anterior margin, with shallow foveae on posterior margin; metanotal trough foveate. Forewing (L : W = 61.2 : 22.2) and hind wing ((L : W = 56.7 : 9.8) hyaline, with short microtrichiae; postmarginalis $2\times$ length of stigmalis; hind-wing cilia $0.71\times$ width of hind wing; long setae, $0.6\times$ length of hind-wing cilia, present on submarginalis.

Metasoma: T1 costate, costae $0.87\times$ length of T1; posterior margin of T1 smooth; T1 with two lateral and one sublateral setae; T1 slightly projecting medially; T2 with a row of

deep foveae on anterior margin from which elongate striae extend, ending basally with fine reticulations; posterior margin of T2 smooth; few long setae present on lateral and posterior margins of T2; remaining tergites with long setae; T3-T6 punctate on anterior margin and smooth on posterior margin; length and width of tergite T1 is 5.2 : 11.6 (anterior margin) and 5.2 : 18.5 (posterior margin); length and width of T2-T6 in ratio of 23.9 : 24.7, 1.8 : 22.4, 1.6 : 19.7, 1.6 : 12.3, 1.2 : 7.2, respectively; length of ovipositor 1.35× length of T1.

♂: Not known.

Diagnosis: *Phanuromyia kapilae* differs from *P. obscuripes* in having antennal segments A8-A10 wider than long; while in the latter they are longer than wide. T1 has 12 longitudinal grooves at its base and costae extending up to 0.87× length of T1 in *P. kapilae*, while the number of longitudinal grooves is sixteen and costae do not extend beyond 0.5× length of T1 in *P. obscuripes* and *P. oocida*. Mesoscutellum is ellipsoidal in *P. obscuripes* and *P. oocida*, but semicircular in *P. kapilae*. *P. hysteropteri* and *P. obscuripes* are fully black while *P. kapilae* has T1 orange-brown and rest of metasoma dark brown; forewings with dark transverse band medially in *P. hysteropteri* while no such band is present in *P. kapilae*. In *P. hysteropteri* T2 smooth, laterally with short striations, medially with long striations that never extend beyond one third the length of T2. This is opposite to the situation in *P. kapilae*.

Etymology: This species is named *kapilae*, which is derived from the Sanskrit word *kapila* meaning brown and refers to the brown metasoma of the wasp.

Material examined

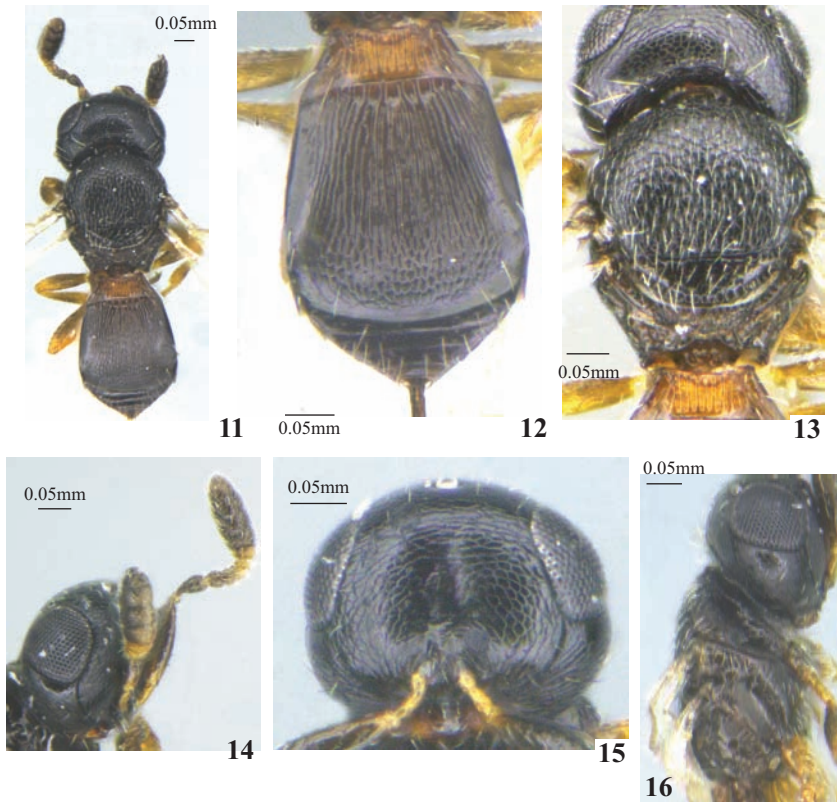
Holotype, ♀, INDIA: Karnataka, Bengaluru, Attur, YPT, 23.ix.2013 (Reg.No. ICAR/NBAII/P193).

Paratypes, 1♀, INDIA: Karnataka, Bengaluru, Hessaraghatta, MT, 29.x.2013 (Reg.No. ICAR/NBAII/P194); 1♀, Karnataka, Bengaluru, GKVK, SN, 04.viii.2010 (Reg.No. ICAR/NBAII/P195); 1♀, Karnataka, Chikkaballapur, Brahmagiri, YPT, 05.vii.2013 (Reg.No. ICAR/NBAII/P196); 1♀, Karnataka, Bengaluru, Hessaraghatta, YPT, 24.viii.2013 (Reg.No. ICAR/NBAII/P197); 1♀, Karnataka, Chikkaballapur, SN, 22.iv.2009 (Reg.No. ICAR/NBAII/P198); 1♀, Karnataka, Mandya, Barachukki Falls, SN, 07.i.2013 (Reg.No. ICAR/NBAII/P199); 1♀, Karnataka, Bengaluru, Hebbal, SN, 22.ix.2010 (Reg.No. ICAR/NBAII/P200); 1♀, Karnataka, Tumkur, Kunigal, SN, 11.x.2011 (Reg.No. ICAR/NBAII/P201); 1♀, Karnataka, Bengaluru, Lalbagh, SN, 18.xi.2010 (Reg.No. ICAR/NBAII/P202); 1♀, Karnataka, Tumkur, Rangnathaswamy Betta, SN, 26.x.2013 (Reg.No. ICAR/NBAII/P203).

Phanuromyia koenigi sp. n. Veenakumari (Figs 17–23)

Description

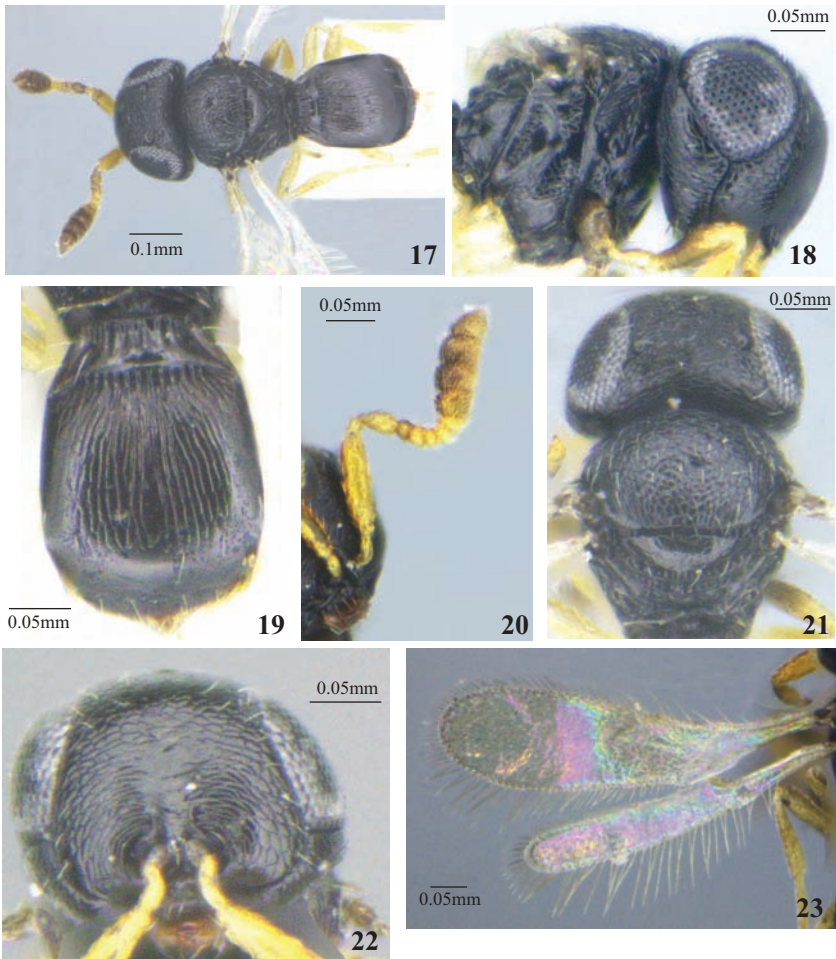
♀, Holotype, body length = 0.70mm. Black; antennae with A1, A2, A4-A7 yellowish brown, A3, A8-A11, brown; mandibles dark brown; fore coxae dark brown, mid and hind coxae light yellow; legs pale yellow except basal fore femur which is brownish black. Head: FCI = 1.26; LCI = 1.17; head 1.26× wider than high and 1.17× higher than long; lower frons transversely coriaceous reticulate; frons above interantennal process with a narrow irregular smooth patch; gena coriaceous reticulate, reticulations broad; vertex coriaceous reticulate and with short white setae; a row of short setae present along inner orbit and two rows of setae beneath anterior ocellus; two rows of long setae present towards posterior margin of vertex; IOS shortest beneath anterior ocellus and is 0.53× width of head; posterior ocelli



Figs 11–16. — *Phanuromyia kapilae* sp. n.: 11, ♀; 12, metasoma; 13, vertex and mesosoma; 14, antennae; 15, frons; 16, pleura.

contiguous with compound eye; LOL : POL in ratio of 5.3 : 9.6; height and width of compound eye in ratio of 11.7 : 11.3; height of compound eye 0.66× height of head; long white setae present on clypeus and mandibles; antenna eleven-segmented; length and width of antennal segments A1-A11 in ratio of 12.6 : 2.9, 4.3 : 2.4, 1.6 : 2.1, 1.7 : 2.0, 1.3 : 2.0, 1.2 : 2.0, 2.0 : 3.1, 2.9 : 4.0, 3.0 : 4.3, 3.0 : 4.4, 3.3 : 3.8, respectively; entire antenna clothed with setae, setae distribution denser on clava than A1-A6; radicle 0.3× length of A1.

Mesosoma: Mesoscutum (L : W = 11.7 : 19.1); 1.63× wider than long, coriaceous reticulate, with reticulations longitudinal posterolaterally; sparsely setose; notauli absent; pronotum barely visible from above; upper lateral pronotal area coriaceous reticulate; reticulations transversely elongate on upper margin; netrion linear, smooth; mesopleura with reticulations on lower margin; mesopleural pit deep; mesepimeral sulcus foveate; metapleura with deep metapleural pit; paracoxal sulcus foveate in upper half; rest of metapleura smooth; mesoscutellum semicircular, smooth with posterior mesoscutellar sulcus deeply foveate; scutoscutellar sulcus broad, weakly foveate; metascutellum foveate on anterior margin; weak and broad foveae present along posterior margin; metanotal trough foveate. Forewing (L : W = 51.1 : 13.7) and hind wing (L : W = 45.6 : 5.6) hyaline with short brown microtrichiae and long marginal cilia; postmarginalis 1.1× the length of



Figs 17–23. — *Phanuromyia koenigi* sp. n.: 17, ♀; 18, pleura; 19, metasoma; 20, antenna; 21, head & mesosoma; 22, frons; 23, wings.

stigmalis; hind-wing cilia $1.63\times$ width of hind wing and $1.23\times$ length of cilia on posterior margin of forewing; setae on submarginalis long, almost the width of hind wing.

Metasoma: T1 costate on anterior margin; a distinct broad smooth patch present submedially on posterior margin of T1; T1 with two lateral and one sublateral setae; T1 slightly projecting medially; T2 deeply foveate on anterior margin from which long striae extend up to $0.84\times$ length of T2; rest of T2 smooth with a row of sparse white setae on posterior margin; rest of tergites narrow and telescoped; S2 medially smooth, weakly reticulate towards base, three faint costae present sublaterally. Length and width of tergites T1 in ratio of $4.1 : 10.8$ (anterior margin) $4.1 : 17.7$ (posterior margin); length and width of T2 in ratio of $20.1 : 21.5$; ovipositor extruded, $0.86\times$ length of T1.

♂: Not known.

Diagnosis: *Phanuromyia koenigi* is close to *P. andamanensis* but has a distinct broad smooth patch present submedially on posterior margin of T1; length of T1 in *P. koenigi* is 0.56× length of T1 in *P. andamanensis*. *P. koenigi* can be distinguished from *P. sacchii* which has T2 elevated with a smooth, shining anterior margin unlike *P. koenigi*. *P. koenigi* can be distinguished from *P. bidentata*, which has a bidentate metascutellum unlike in *P. koenigi*.

Etymology: Named after J.G. Koenig the pioneering Danish-English naturalist and student of C. Linnaeus who was stationed in India and died in Andhra Pradesh in 1785.

Material examined

Holotype, ♀, INDIA: Karnataka, Bengaluru, Attur, Jarakabande Kaval, MT, 06.viii.2013 (Reg.No. ICAR/NBAII/P204).

Paratypes, 1♀, same data as holotype (Reg.No. ICAR/NBAII/P205); 1♀, same data as holotype, 13.viii.2013 (Reg.No. ICAR/NBAII/P206); 1♀, Karnataka, Bengaluru, Hebbal, YPT, 24.xii.2011 (Reg.No. ICAR/NBAII/P207); 1♀, Karnataka, Bengaluru, Attur, MT, 25.iv.2011 (Reg.No. ICAR/NBAII/P208).

***Phanuromyia nabakovi* sp. n. Veenakumari**
(Figs 24–29)

Description

♀, Holotype, body length = 0.775mm. Head, mesosoma black; T1 brown, T2 dark brown; legs yellow except fore coxae which are brownish-yellow; antenna with radicle, base and apical portion of A1, A2 partially, A5-A7 fully yellow, rest of antennal segments brownish black; mandibles dark brown. Head: FCI = 1.31; LCI = 1.03; frons and vertex coriaceous reticulate; reticulations on lower frons above toruli transversely elongate; gena broadly and weakly reticulate; two rows of setae present on the posterior margin of vertex; IOS 0.53× width of head; ocelli in a triangle with posterior ocelli contiguous with compound eye; LOL : POL in ratio of 5.5 : 8.6; height and width of compound eye in ratio of 12 : 10; height of compound eye 0.76× height of head; long setae present on clypeus and mandibles; a short irregular keel present above interantennal process; interantennal process pointed; antenna eleven-segmented, setose, setae denser on clava; length and width of antennal segments A1-A11 in ratio of 11.0 : 3.0, 4.9 : 2.4, 2.2 : 2.1, 1.5 : 1.7, 1.6 : 1.7, 1.5 : 1.7, 1.5 : 2.8, 2.7 : 3.9, 2.0 : 4.4, 2.5 : 4.4, 3.6 : 3.3; radicle 0.43× length of scape.

Mesosoma: Mesoscutum (L : W = 13 : 18), coriaceous reticulate, 1.38× wider than long, with sparse short white setae; notauli absent; pronotum barely visible from above; upper lateral pronotal area coriaceous reticulate; a row of deep foveae present on anterior margin of netrium; netrium smooth; sternaulus foveate reaching mesopleural pit; mesepimeral sulcus foveate; a small reticulate patch found posterior to sternaulus; metapleura with a row of foveae on anterior margin; metapleural pit distinct; few faint striae present at base of metapleura; mesoscutellum (L : W = 5.1 : 14.1), semicircular, smooth, sparsely setose; scutocutellar sulcus weakly foveate; posterior mesoscutellar sulcus deeply foveate; metascutellum broad and smooth; anterior margin of metascutellum foveate; metanotal trough foveate with a smooth posterior margin. Forewing (L : W = 55.8 : 18.0) and hind wing (L : W = 49.8 : 6.2) hyaline, with short microtrichiae; postmarginalis 2.85× length of stigmatalis; hind-wing cilia 1.24× width of hind wing, 1.67× length of cilia on posterior margin of forewing; submarginalis with long setae, 0.87× length of cilia on posterior margin of forewing.

Metasoma: T1 shining, weakly costate, length of costae 0.7× length of T1; posterior margin of T1 smooth; T1 with two lateral and one sublateral setae; T2 basally foveate, several longitudinal striae running up to 0.65× length of T2; posterior margin of T2 smooth, with four white setae; T3-T6 sparsely setose; ovipositor extruded, 0.94× length of T1;

laterotergites very wide almost reaching each other medially; length and width of metasomal tergites T1-T6 in ratio of 6.5 : 14.0, 18.2 : 15.6, 3.4 : 12.6, 2.3 : 9.7, 2.3 : 7.1, 1.8 : 3.2, respectively.

♂: Not known.

Diagnosis: *Phanuromyia nabakovi* is similar to *P. rufobasalis*, but varies in having A2 2.22× longer than A3, whereas A2 and A3 are subequal in *P. rufobasalis*. A1 brownish black in *P. nabakovi*, while it is golden yellow in *P. rufobasalis*; T1 bright reddish in *P. rufobasalis*, while T1 is brown in *P. nabakovi*.

Etymology: Named after Vladimir Nabakov, the Russian born novelist who was also an accomplished lepidopterist.

Material examined

Holotype, ♀, INDIA: Karnataka, Kodagu, Chettahalli, SN, 02.vii.2010 (Reg.No. ICAR/NBAII/P210).

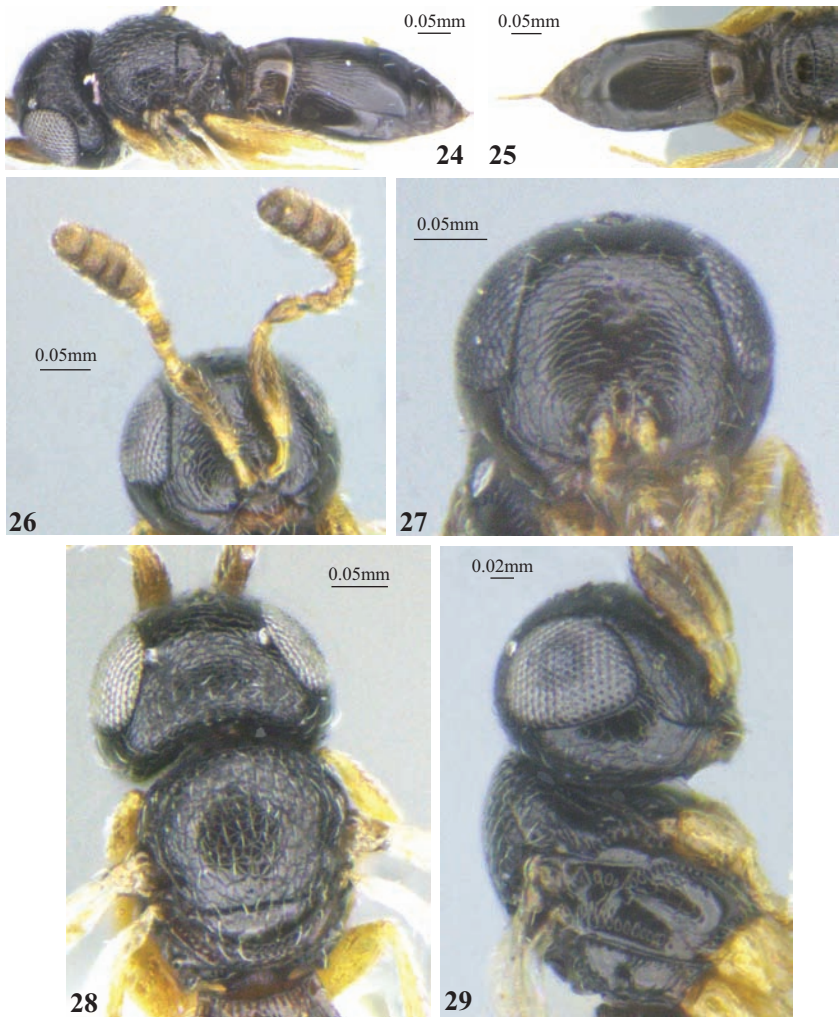
Paratypes, 1♀, INDIA: Karnataka, Mandya, MT, 01.ii.2012 (Reg.No. ICAR/NBAII/P211); 1♀, Karnataka, Bengaluru, Doddaballapur, SN, 08.xii.2009 (Reg.No. ICAR/NBAII/P212); 1♀, Karnataka, Bengaluru, Hesaraghatta, MT, 13.xi.2013 (Reg.No. ICAR/NBAII/P213); 1♀, Karnataka, Bengaluru, GKVK, SN, 22.ii.2010 (Reg.No. ICAR/NBAII/P214); 1♀ Karnataka, Bengaluru, Hesaraghatta, MT, 13.i.2014 (Reg.No. ICAR/NBAII/P215).

Phanuromyia jarawa sp. n. Veenakumari (Figs 30–35)

Description

♀, Holotype, body length = 0.83 mm. Black; coxae, trochanter and femur (except base) of fore leg blackish brown; remaining parts of foreleg and mid and hind legs pale yellow, with all basitarsus brown; antenna with radicle blackish brown, club light brown, rest of antennal segments pale yellow; mandible brown, metasoma dark brown. Head: FCI = 1.32; LCI = 1.05; head 1.32× wider than high and almost as high as long; IOS 0.47× width of head; IOS minimum just below anterior ocellus; frons and gena smoothly reticulate; lower frons above toruli coriaceous reticulate, reticulations transversely elongate medially; short sparse setae present on upper frons; a short branched central keel present above interantennal process; interocellar area smoothly reticulate; vertex coriaceous reticulate with reticulations transversely elongate; a row of long yellow setae present towards the posterior margin of vertex; ocelli in a triangle with posterior ocelli contiguous with compound eye; ratio of LOL : POL is 4.7 : 8.1; compound eyes with sparse short white setae; long white setae present on clypeus and mandible; antenna eleven-segmented, covered with short setae, setae sparser on A1-A6 and denser on clava; ratio of length and width of antennal segments A1-A11 in ratio of 12.7 : 3.5, 3.5 : 2.7, 1.9 : 2.0, 1.7 : 2.0, 1.1 : 2.1, 1.4 : 2.3, 1.6 : 3.7, 4.0 : 4.7, 3.1 : 5.2, 2.8 : 5.1, 4.1 : 4.5, respectively; radicle 0.36× length of A1.

Mesosoma: Mesoscutum (L : W = 12.7 : 19.3), 1.52× wider than long; finely reticulate, sparsely setose; notauli absent; pronotum barely visible from above; lateral pronotal area with a depression with a few costae on either side; netrion short and smooth; mesopleura with foveate mesepimeral sulcus, a reticulate area posterior to mesopleural pit present; metapleura with foveate paracoxal sulcus; metapleural pit with a few vertical carinae posteriorly; scutoscuteellar sulcus weakly foveate; mesoscutellum (L : W = 5.1 : 13.7) semicircular, smooth, shining, with a few sparse setae towards posterior margin; posterior mesoscutellar sulcus foveate; metascutellum foveate anteriorly, posteriorly with very weak foveae; metanotal trough weakly foveate with a smooth, broad posterior margin. Forewing (L : W = 52.1 : 13.8) and hind wing (L : W = 46.0 : 4.9), hyaline, with short microtrichiae;



Figs 24–29. — *Phanuromyia nabakovi* sp. n.: 24, ♀; 25, metasoma; 26, antennae; 27, frons; 28, head & mesosoma; 29, pleura.

postmarginalis $1.1 \times$ length of stigmalis; cilia on posterior margin of hind wing $1.39 \times$ width of hind wing; cilia on posterior margin of forewing $0.51 \times$ length of hind wing cilia.

Metasoma: T1 costate; T1 with a smooth patch submedially on posterior margin; T1 with two lateral and one sublateral setae; T2 basally foveate from which long striae extend up to $0.77 \times$ length of T2; T2 with five lateral setae; T3-T6, smooth with sparse setae; S2 anteromedially smooth, posteromedially weakly reticulate and with four longitudinal costae sublaterally; length and width of T1 in ratio of $3.6 : 9.6$ (along anterior margin) $3.6 : 14.3$ (along posterior margin); length and width of T2-T6 in ratio of $18.2 : 18.4$, $2.1 : 14.8$, $1.7 : 12.0$, $1.4 : 8.2$, $1.3 : 4.1$ respectively; ovipositor extruded, $0.8 \times$ length of T1.

♂: Not known.



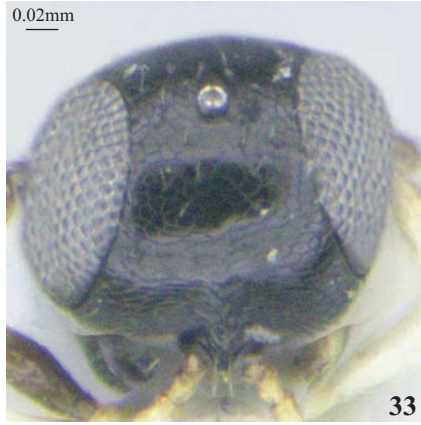
30



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35

Figs 30–35. — *Phanuromyia jarawa* sp. n.: 30, ♀; 31, antennae; 32, head & mesosoma; 33, upper frons; 34, metasoma; 35, pleura.

Diagnosis: *Phanuromyia jarawa* is closer to *P. koenigi* but differs in having finely reticulate upper frons and mesoscutum as compared to coriaceous reticulate sculpturing in *P. koenigi*; hind-wing cilia in *P. jarawa* 1.2× longer than in *P. koenigi*. *P. jarawa* can be distinguished from *P. sacchii*, which has T2 elevated with a smooth, shining anterior margin. This is not the case in *P. jarawa*. *P. jarawa* can be distinguished from *P. bidentata* by the absence of bidentate metascutellum.

Etymology: Named after the 'Jarawa', one of the last surviving negritoid tribes in the Andaman Islands.

Material examined

Holotype, ♀, INDIA: Andaman Islands, South Andaman, Garacharma, YPT, 22.ii.2012 (Reg.No. ICAR/NBAII/P216).

Paratype, 1♀, same data as holotype (Reg.No. ICAR/NBAII/P217).

Key to the Indian species of *Phanuromyia*

- | | | |
|---|--|----------------------------|
| 1 | Length of cilia on posterior margin of forewing 1.3× the width of hind wing | <i>koenigi</i> sp. n. |
| – | Length of cilia on posterior margin of forewing less than width of hind wing | 2 |
| 2 | T1 weakly costate | <i>nabakovi</i> sp. n. |
| – | T1 strongly costate | 3 |
| 3 | Frons smoothly reticulate | <i>jarawa</i> sp. n. |
| – | Frons coriaceous reticulate | 4 |
| 4 | T1 0.2× length of T2, brown; postmarginalis 2× length of stigmalis | <i>kapilae</i> sp. n. |
| – | T1 0.4× length of T2, black; postmarginalis 3× length of stigmalis | <i>andamanensis</i> sp. n. |

ACKNOWLEDGMENTS

The authors thank Dr Abraham Verghese, Director, NBAII, Bangalore for providing facilities for carrying out this work. We also thank Ms B.L. Lakshmi, Vinod and V. Shashikala for all help rendered. Literature support by 'The Platygastridae Planetary Biodiversity Inventory Project' is acknowledged.

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February 4th, 2014.

SHORT NOTE

Aprostocetus escherichi (Szelényi, 1941) and *Aprostocetus salictorum* Graham, 1987 (Hymenoptera: Eulophidae) new to the British Isles. — In preparation for a new Checklist of Hymenoptera from the British Isles (G. Broad *et al.*, in prep.), I add the parasitoid wasps *Aprostocetus escherichi* (Szelényi) and *Aprostocetus salictorum* Graham (Chalcidoidea: Eulophidae, Tetrastichinae) to the British list. Both species are described and figured by Graham (1987, A reclassification of the European Tetrastichinae (Hymenoptera: Eulophidae) with a revision of certain genera, *Bulletin of the British Museum (Natural History) Entomology series*, **55**(1): 1–392).

On 26.xii.2004, I collected some female catkins of *Betula pendula* Roth at Chalk, Kent, (TQ6773). Many of the fruits contained either galls of *Semudobia betulae* (Winnertz) or *S. tarda* (Roskam) (Diptera: Cecidomyiidae). The galls were identified by reference to Redfern & Shirley (2002, *British Plant Galls, Identification of galls on plants and fungi*, AIDGAP, Field Studies Council). The galled fruits were retained in a well-ventilated and shaded garden shed. On the 4.vi.2005, 1 ♀ *A. escherichi* emerged. Collections of galls were made from the same tree in most years thereafter, but it was not until 12.vi.2013 that another specimen (1 ♀) was reared from galls of *S. tarda* collected 2.iii.2013. Graham (*op. cit.*) states that the male is unknown and gives the host as *S. betulae*. *Aprostocetus escherichi* is known from Czech Republic, Germany, Netherlands and Russia (Noyes, 2013, *Universal Chalcidoidea Database*, World Wide Web electronic publication, <http://www.nhm.ac.uk/chalcidoids> [accessed 1.xii.2013]).

On 8.iv.2005, I collected some 'rosette' galls of *Rabdophaga strobilina* Bremi (Diptera: Cecidomyiidae) off *Salix* sp. at Lochbuie, Mull, (NM5823), Scotland. The galls were identified by reference to Redfern & Shirley (*op. cit.*). The galls were retained in a well-ventilated and shaded garden shed and on 25.vi.2005 2 ♂♂ 3 ♀♀ *Aprostocetus salictorum* emerged followed by 2 ♂♂ 1 ♀ on 30.vi.2005. *Aprostocetus salictorum* is known from Czech Republic, Germany, Netherlands, Russia and Sweden (Noyes, *op. cit.*). Graham (*op. cit.*) gives the host as *R. heterobia* (Loew) on *Salix triandra* L.

Specimens of *A. escherichi* and *A. salictorum* have been placed in the collections of R.R. Askew whom I thank for their identification. — M.T. JENNINGS, 206 Lower Higham Road, Gravesend, Kent DA12 2NN, U.K.; e-mail: malcolm.chalkland@btinternet.com December 1st, 2013.