



## Review of Indian *Allacta* Saussure & Zehntner, 1895 (Blattodea: Ectobiidae: Pseudophyllodromiinae), with description of three new species

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### Abstract:

The known species of *Allacta* Saussure & Zehntner, 1895 in India are reviewed. Three new species, *A. jcenpro* **sp. nov.**, *A. vellimalai* **sp. nov.**, and *A. kollimalai* **sp. nov.**, are described. All are placed under *hamifera* species group. The new species can be differentiated from other members of *hamifera* species group by the pronotal and facial markings, the structure of the male genitalia and other morphological characters. Additional reports to *A. kalakadensis* Prabhakaran & Senraj 2019 and *A. figurata* (Walker, 1871) are provided. A key to the known species of Indian *Allacta* is provided.

**Key word:** *Allacta jcenpro*, *A. kollimalai*, *A. vellimalai*, Tamil Nadu, Taxonomy

### Introduction:

The distribution of the genus *Allacta* Saussure & Zehntner, 1895 comprises East Asia, South Asia, South-East Asia and Northeastern Australia. Currently, there are 45 known species (Beccaloni 2014; Prabhakaran *et al.* 2019; He *et al.* 2019) classified into three species groups: *hamifera* species group, *funebri* species group, and *polygrapha* species group (Roth 1993).

Meanwhile, only three species, all from the *hamifera* species group have been reported in India (Roth 1993; Prabhakaran *et al.* 2019). Recently, Prabhakaran *et al.* (2019) described *A. kalakadensis* from trees under the barks and light trap in Tamil Nadu, India and discussed the taxonomic placement of *incertae sedis crassivenosa* (Bolívar, 1897).

The goal of the present paper is to describe new species and include geographic records.

### Materials and method:

Specimens were collected at night through opportunistic collection and/or light trap on several areas in Tamil Nadu, India. All examined specimens were deposited in the collections of the Southern Regional Centre (SRC), Zoological Survey of India (ZSI), Chennai, Tamil Nadu State, India.

Prothoracic femora type on the basis of spines and spinules arrangement along their anteroventral edge follows Roth (2003). Genital terminology follows Klass (1997). Genital segments were dissected and preserved in glycerin. Measurements, with standard deviations, used were as follows:

**TL** (Total length) the length from the tip of the vertex (if exposed) or pronotum up to the tip of the tegmina. **BL** (Body length) the length from the tip of the vertex (if exposed) or pronotum up to the tip of the abdomen. **Pn** Pronotum length × width. **Tg** Tegmina length.

The measurements and photographs were taken by Leica M205A Stereo zoom Microscope. Photographs are stacked using Leica M205A Stereo zoom Microscope. Images were edited in Adobe Photoshop V. 7.0. Illustrations and arrangements were made using Inkscape V. 0.92.3.

## Taxonomy:

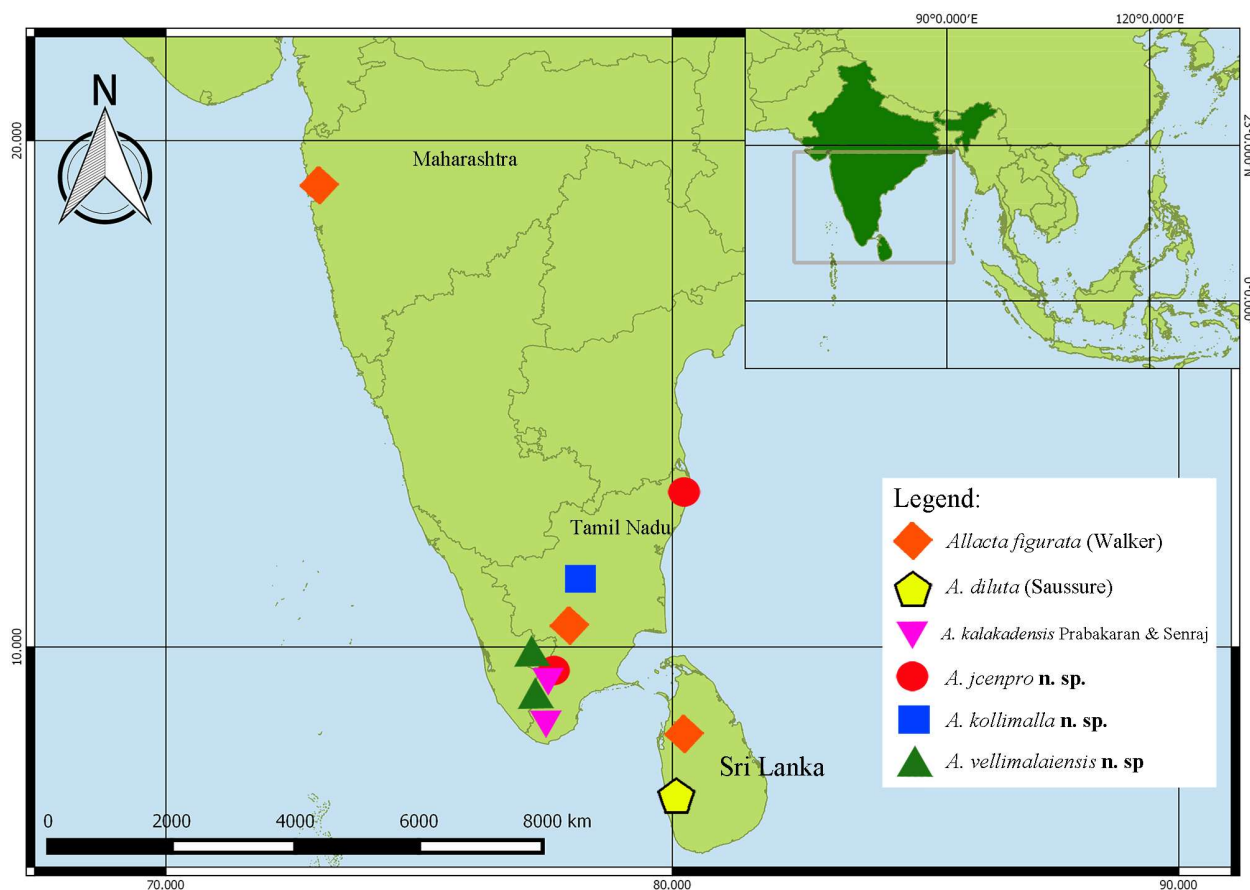
### Superfamily Blaberoidea

### Family Ectobiidae

### Subfamily Pseudophyllodromiinae

### Genus *Allacta* Saussure & Zehntner 1895

*Allacta* Saussure & Zehntner 1895: 45 (Type species: *Abrodiaeta modesta* Brunner von Wattenwyl, by selection); Hebard 1922: 326; Rehn 1931: 300; Roth 1991: 996; Roth 1993: 361; Roth 1995: 51; Roth 1996: 235; Wang *et al.* 2014: 440; He *et al.* 2019: 2; Prabakaran *et al.* 2019: 2.



**FIGURE 1.** Distribution Map of *Allacta* Saussure & Zehntner, 1895 in India and Sri Lanka.

## Synonymy

*Abrodiaeta* Brunner von Wattenwyl 1893: 13 (Type species: *Abrodiaeta modesta* Brunner von Wattenwyl, by selection); Rehn 1931: 298. [nec *Abrodiaeta* Brunner von Wattenwyl 1891]; Princis 1969: 928.

*Arublatta* Bruijning, 1947: 224 (Type species: *Blatta punctata* Walker = *Arublatta basivittata* Bruijning, by monotypy.); Princis 1969: 941; Roth 1991: 996.

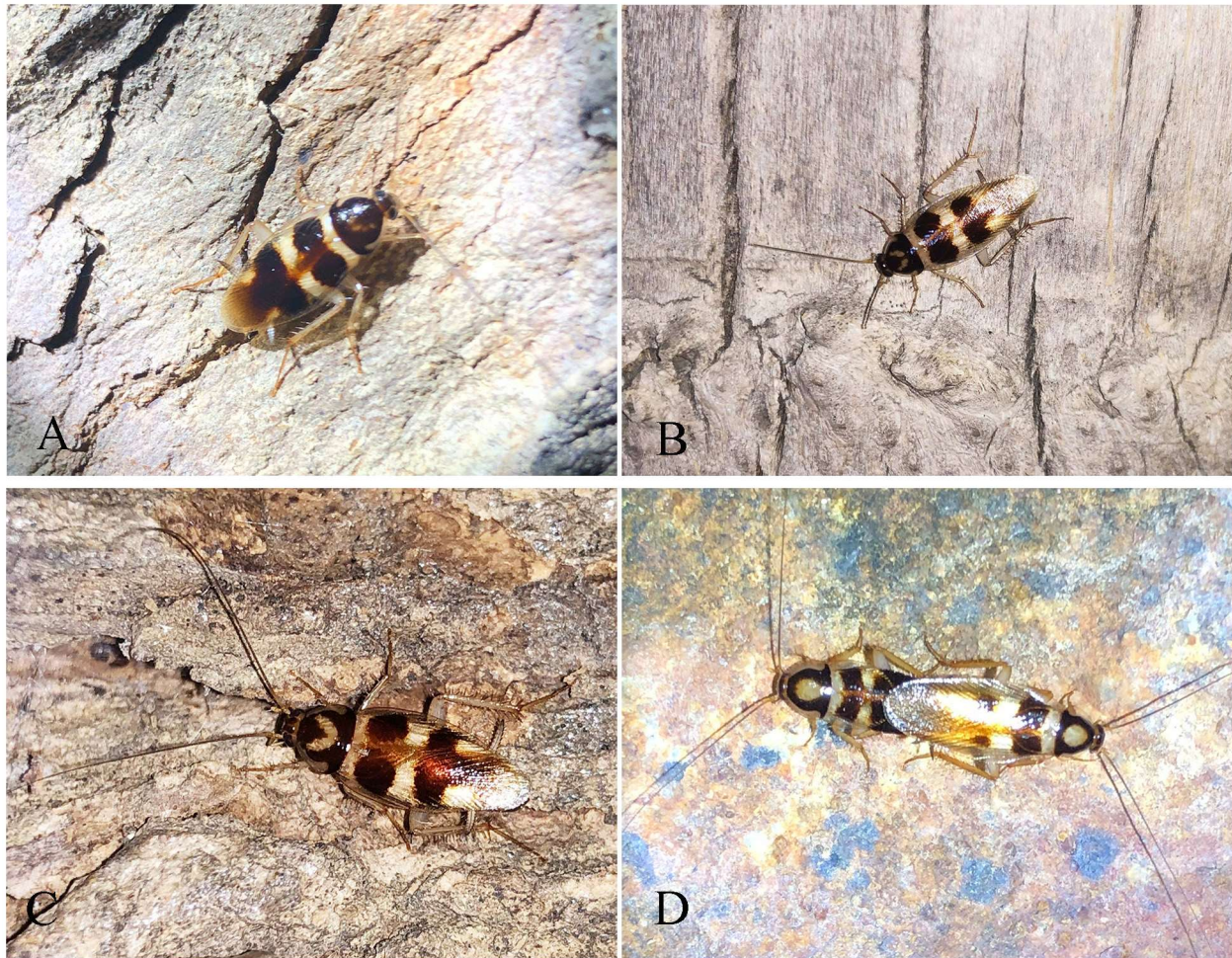
*Composilpha* Princis, 1950: 178 (Type species: *Chorisoblatta karnyi* Hanitsch, by monotypy); Princis 1969: 931; Roth 1996: 235.

*Euhanitschia* Princis, 1950: 180 (Type species: *Phyllodromia diagrammatica* Hanitsch by monotypy); Princis 1969: 931; Roth 1996: 235.

*Pseudochorisoblatta* Bruijning, 1948: 90 (Type species: *Phyllodromia interrupta* Hanitsch, by selection); Princis 1965: 151; Princis 1969: 928.

**Distribution:** Oriental and Australian regions (Beccaloni 2014).

**Remarks:** In India, only *hamifera* species group have been recorded. Majority of the known Indian species are from the Tamil Nadu and two are reported from Sri Lanka (Fig. 1). Similar to other *Allacta* spp. (Rentz 2014; Wang *et al.* 2014; He *et al.* 2019; Prabakaran *et al.* 2019), Indian *Allacta* are nocturnal and inhabits tree trunks (Fig. 2).



**FIGURE 2.** Habitat of Indian *Allacta* Saussure & Zehnther 1895: (A–C) *A. jcenpro* n. sp. at night on the bark of the trees (A) *Ficus religiosa*, L. (B) *Cocos nucifera* L. and (C) *Tamarindus indicus* L. at Elanthirairakondan, Virudhunagar, Tamil Nadu; (D) *A. kollimalai* n. sp. mating pair from Kollimalai Hills, Namakkal, Tamil Nadu.

### Checklist of *Allacta* species from India and Sri Lanka

1. *Allacta diluta* (Saussure, 1863)
2. *Allacta figurata* (Walker, 1871)
3. *Allacta kalakadensis* Prabakaran and Senraj, 2019
4. *Allacta jcenpro* sp. nov.
5. *Allacta kollimalai* sp. nov.
6. *Allacta vellimalai* sp. nov.

## Keys to the species of Genus *Allacta* Saussure & Zehntner, 1895 from India and Sri Lanka

1. Pronotum with dark reddish–brown macula and V shaped pale marking in the center; **R1'** with 2 lobes (Fig. 3H) ..... *A. jcenpro* **sp. nov.**  
 - Pronotum without a V shaped pale marking in the center ..... 2
2. Pronotum with two broad longitudinal bands, converging anteriorly (Fig. 74 in Roth 1996) ..... *A. diluta* (Saussure)  
 - Pronotal longitudinal bands joined anteriorly and posteriorly with a distinct pale central macula ..... 3
3. **L4'** without setal brush; lateral expansion of **R2'** bifurcate, directed posteriorly (Fig.4H) ..... 4  
 - **L4'** with setal brush; lateral expansion of **R2'** not bifurcate, directed laterally (Figs.5E, 6F) ..... 5
4. Pronotum pale central macula nearly pentagonal, with thin margin; **R1'** with 4 spines (Fig. 1A-B, J in Prabakaran *et al.* 2019)  
 ..... *A. kalakadensis* Prabakaran & Senraj.  
 - Pronotum pale central macula rhomboid, with thick margin; **R1'** without spines (Fig. 4A-B, H) ..... *A. kollimalai* **sp. nov.**
5. **R1'** posteriorly rounded with two lateral teeth; Lateral expansion of **R2'** axe-like (Fig. 6F) ..... *A. figurata* (Walker)  
 - **R1'** posteriorly acute; lateral expansion of **R2'** club-like (Fig. 5E) ..... *A. vellimalai* **sp. nov.**

### Species *Allacta jcenpro* **sp. nov.**

Fig.3 (A–I)

**Material examined:** HOLOTYPE: 1 ♂ INDIA, Tamil Nadu, Chennai, K.K.Nagar. [13°2'19.608 'N 80°12'20.7972" E 14 masl] (24/X/2018 P. Santhakumar, ZSI/SRC I/B-703).

PARATYPES: 1 ♂ same location as Holotype (22/IV/2019 Santhakumar, ZSI/SRC I/B-704); 1 ♂ same location as Holotype (24/X/2018. P. Santhakumar, ZSI/SRC I/B-705); 1 ♂ same location as Holotype, (05/II/2018 P. Santhakumar and Senraj M, ZSI/SRC I/B-706); 1 ♂, 2 ♀ Tamil Nadu, Virudhunagar, Elanthiraikondan, [9°22'32.0016" N 77°31'32.9988" E, 142 masl] (09/III/2019 Coll. M. Senraj. ZSI/SRC I/B-707)

**Diagnosis:** Sexual dimorphism absent. Vertex slightly exposed. Head with a distinct V shaped pale macula. Ocelli distinct. Pronotum subparabolic with a V shaped pale macula surrounded by reddish brown borders, margin hyaline. Tegmina with a pair of brown macula. Profemur spines on the antero-ventral margin type B<sub>2</sub>. Pulvilli present only in the fourth tarsomere of all legs. Tarsal claws simple, symmetrical. Supra–anal plate entire, symmetrical. Subgenital plate weakly asymmetrical. Styles curved towards the interstyler margin. Interstyler margin extended ventrally as a keel-like ridge. Genital hook (**L3'**) with a preapical incision; accessory median phallomere (**L4'**) present with setal brush on base; the median phallomere **L2D'** elongate; **L2E'** recurved, with setal brush; **R1'** ends with 2 finger-like projections; **R2'** with an elongate ventral expansion; **R3'** triangular with rounded apex.

*A. jcenpro* **sp. nov.** is placed in the *hamifera* species group based on its coloration and the interstyler invagination. This species is closely related with other Indian *Allacta* and can easily be differentiated from other specimens by its pronotum having a V–shaped white patch in the center of the macula.

**Description: Measurements (mm):** Male: Total Length: 13.3–14.8; Tegmina 10.9–11.8; Pronotum 2.4–2.87 x 3.63–3.77; Body Length 9.5–10.7. Female: Total Length: 12.04–13.3; Tegmina 9.0–10.2; Pronotum 2.87–3.16 x 3.58–3.82; Body Length 9.9–10.66. Ootheca: Length 4.00 mm.

**Male:** Body light brown with light yellowish patches (Fig. 3A). Vertex exposed black. Similar interocular and interantennal distance. Ocelli present above antennal socket. Frons with V–shaped white patches between antennal sockets (Fig. 3C). Maxillary palpi light yellowish; 5<sup>th</sup> segment enlarged, shorter than 3<sup>rd</sup> & 4<sup>th</sup> segments.

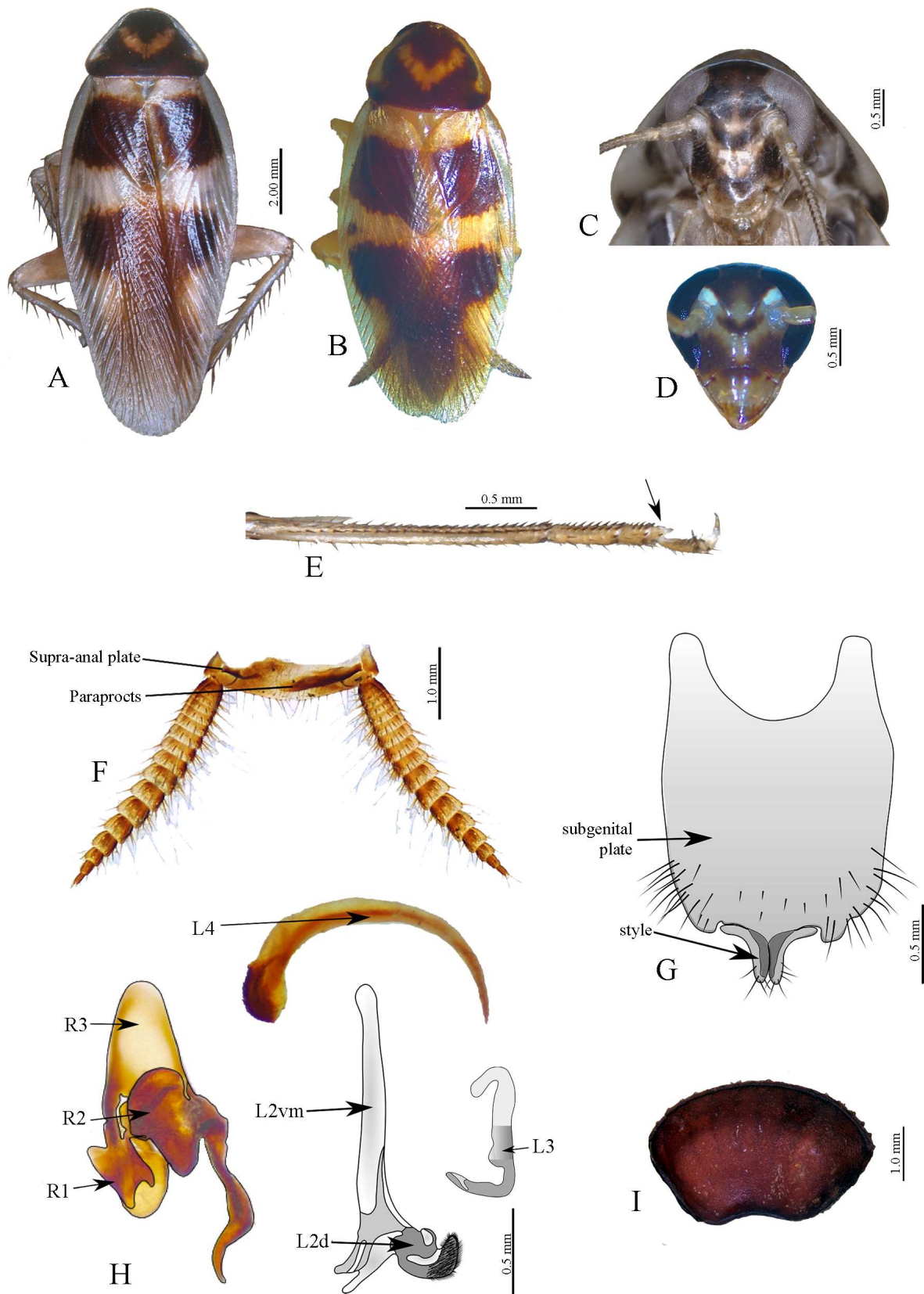
Pronotum subparabolic covered with reddish brown macula with medial V–shaped pale marking, lateral margin hyaline. Tegmina and hind wing fully developed reaching beyond the abdomen. Tegmen yellowish brown, anal region dark brown and radial region light dark brown. Profemur B<sub>2</sub>, with 4–6 proximal stout spines succeed by a row of uniform pilliform spinules and ends with 2 large spines that increase in size distally. Pulvilli present on only 4<sup>th</sup> tarsomere of all legs (Fig. 3D). Tarsal claws simple and symmetrical; arolia present.

Abdominal terga unspecialized. Supra anal plate yellowish brown, entire (Fig. 3F). Cerci yellowish brown. Subgenital plate weakly asymmetrical; Styles similar, curved towards the interstyler margin with minute spines (Fig. 3G). Interstyler margin extended ventrally as a keel-like ridge. Genitalia as illustrated (Fig. 3H); Genital hook (**L3'**) preapical incision; accessory median phallomere (**L4'**) present with setal brush on base; the median phallomere **L2D'** elongate; **L2E'** recurved, with setal brush; **R1'** with 2 distal spines; **R2'** with elongate ventral expansion; **R3'** triangular with rounded apex.

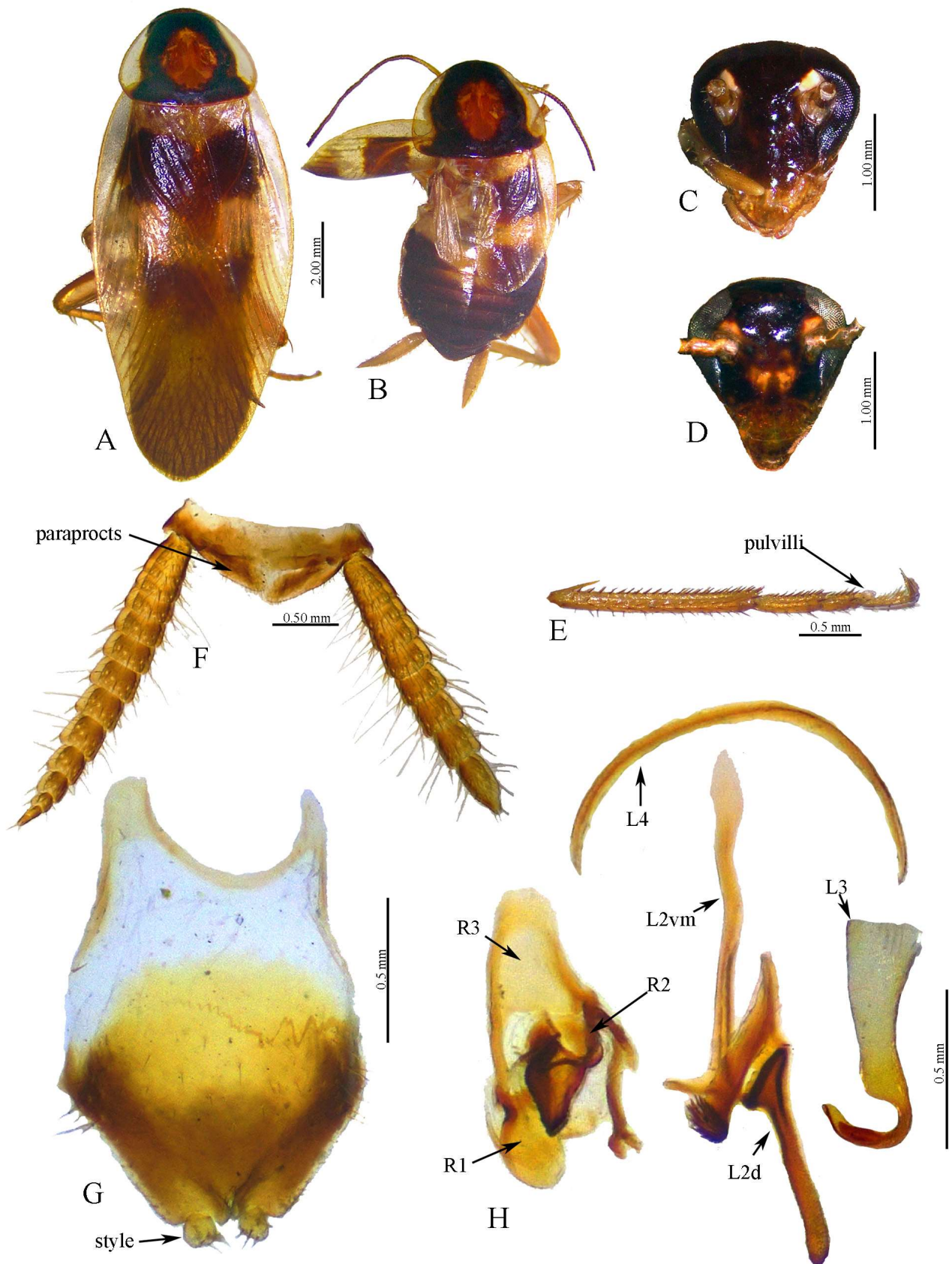
**Female:** Similar to male; except facial marking (Fig. 3 B, D) Frons covered with macula in the middle V–shaped white patches little heavier than male. Ootheca dark brown in color (Fig.3I).

**Etymology:** named in honor of the “Jesuits Chennai Province”, a part of Loyola College, Chennai who initiated empowering the marginalized peoples, especially the rural poor and the Dalits.

**Known Distribution:** India: Tamil Nadu.



**FIGURE 3.** *Allacta jcenpro* sp. nov.: Habitus: (A) adult male, dorsal; (B) adult female, dorsal; Head: (C) male; (D) female; (E) hind tarsomeres; (F) supra-anal plate, ventral; (G) subgenital plate, ventral; (H) male genitalia, dorsal; (I) ootheca.



**FIGURE 4.** *Allacta kollimalai* sp. nov.: Habitus (A) adult male, and (B) adult female; Head: (C) adult male, and (D) adult female; (E) hind tarsomeres; (F) supra-anal plate, ventral; (G) subgenital plate, ventral; (H) male genitalia, dorsal.

**Species** *Allacta kollimalai* sp. nov.

Fig.4 (A–H)

**Material examined:** HOLOTYPE: 1 ♂, INDIA, Tamil Nadu, Namakkal, Valappurnadu View Point, Arappaleeswarar Temple near. [11°15'02.320"N 78°23'16.652"E, 980 masl.] (29/XII/2018. M. Senraj and N. Kumaresan ZSI/SRC I/B-708).

PARATYPES: 1 ♂ and 1 ♀ same location and coll. as Holotype (ZSI/SRC I/B-709)

**Diagnosis:** Sexual dimorphism present; males macropterous, females brachypterous. Vertex slightly exposed. Head reddish brown (males) or with pale central marking (female). Ocelli present. Pronotum subparabolic with distinct pale rhomboid central macula surrounded by thick reddish–brown borders; lateral margins hyaline. Tegmina with a pair of brown macula. Profemur Type B<sub>3</sub>. Pulvilli present only in the fourth tarsomere of all legs. Tarsal claws simple, symmetrical. Supra–anal plate entire, symmetrical. Subgenital plate weakly asymmetrical. Styles short, rounded. Interstyler margin with weak medial invagination. Genital hook (**L3'**) with a preapical incision; accessory median phallomere (**L4'**) present without setal brush; the median phallomere **L2D'** elongate; **L2E'** extended posteriorly, with setal brush; **R1'** posteriorly rounded; **R2'** with elongate lateral extension forked distally; **R3'** triangular with rounded apex.

Based on its coloration and interstyler invagination, *A. kollimalai* sp. nov. is placed in the *hamifera*–species group. This species is closely related with other Indian *Allacta* base in its coloration and the structure of its subgenital plate and genitalia. It is closely similar to *A. kalakadensis* Prabakaran & Senraj, 2019 in terms of the females brachypterous, supra-anal plate entire, subgenital plate with weak mesal invagination of interstyler margin, absence of setal brush on **L4'** and **R2'** with bifurcate lateral expansion. It differs from *A. kalakadensis* in terms of the central macula rhomboid (nearly pentagonal in *A. kalakadensis*) broad margin surrounding the central pale macula of the pronotum (thin margin in *A. kalakadensis*), facial marking entirely reddish brown in males (patterns distinct pale and dark spots in *A. kalakadensis*), styles short and rounded

**Description:** *Measurements* (mm): Male: Total Length 13.6–13.8; Tegmina 10.7–10.9, Pronotum 2.7–2.75 x 3.6–3.64; Body Length 10.3; Female: Overall Length and Body Length: 8.4; Tegmina 4.3, Pronotum 2.7 x 3.8.

**Male:** Body dark brown with yellowish patches (Fig4.A). Vertex exposed, black. The interocular distance equal to interantennal distance. Ocelli present above antennal socket. Frons dark brown (Fig 4.C). Maxillary palpi light yellowish; 5<sup>th</sup> segment enlarged, shorter than 3<sup>rd</sup> and 4<sup>th</sup> segments.

Pronotum subparabolic covered with pale rhomboid central macula surrounded by thick dark brown border, lateral margin hyaline. Tegmina and hind wing fully developed reaching beyond the abdomen, Tegmen yellowish brown, anal region dark brown and radial region light dark brown. Profemur B<sub>3</sub>, with 5–6 proximal stout spines succeed by a row of uniform pilliform spinules and ends with 3 large spines that increase in size distally. Pulvilli present on only 4<sup>th</sup> tarsomere of all legs (Fig 4.E). Tarsal claws simple and symmetrical; arolia present. Abdominal terga unspecialized. Supra-anal plate yellowish brown, entire (Fig 4.F), paraprocts simple, similar. Cerci yellowish brown. Subgenital plate weakly asymmetrical. Styles short, rounded (Fig 4.G). Interstyler margin with weak invagination. Genitalia as illustrated (Fig4.H): Genital hook (**L3'**) with a preapical incision; accessory median phallomere (**L4'**) present without setal brush; the median phallomere **L2D'** elongate; **L2E'** extended posteriorly with basal setal brush; **R1'** posteriorly rounded; **R2'** with elongate lateral expansion forked distally (**le**); **R3'** triangular with rounded apex.

**Female:** Brachypterous (Fig. 4B). Frons with two medial yellowish spots (Fig. 4D) Tegmina reduced, reaching up to 4<sup>th</sup> abdominal segment; hind wing reaching up to 3<sup>rd</sup> abdominal segment. Abdominal tergites dark brown.

**Etymology:** named after the type locality is located in the Kollimalai Hills, Tamil Nadu India.

**Known Distribution:** India: Tamil Nadu.

**Remarks:** Male and female were paired based on the mating pairs collected in the type location (Fig. 2D).

**Species** *Allacta vellimalai* sp. nov.

Fig.5 (A–E)

**Material examined:** HOLOTYPE: 1 ♂, INDIA, Tamil Nadu, Theni, Megamalai Range, Vellimalai Forest Rest House [9°34' 5.196"N 77° 24' 4.86"E, 773 masl.] (25/V/2019 M. Senraj, ZSI–SRC I/B-710).

PARATYPES: 1 ♂, same as holotype (ZSI–SRC I/B-711). 1 ♂ INDIA, Tamil Nadu, Tirunelveli, Courtallam, Sivanthi Athithanar Estate [8°55'31.548"N 77°14'16.512"E 324 masl] (02/XII/2018 M. Senraj, ZSI–SRC I/B-712).

**Diagnosis:** Vertex slightly exposed. Head with a distinct V-shaped brown interantennal macula. Ocelli distinct. Pronotum subparabolic with a pentagonal pale macula surrounded by broad brown borders, margin hyaline. Tegmina well developed, with a pair of brown macula. Profemur type B<sub>3</sub>, Pulvilli present only in the fourth tarsomere of all legs. Tarsal claws simple, symmetrical. Supra-anal plate entire, symmetrical. Subgenital plate weakly asymmetrical. Styles short, angular. Interstyler margin slightly extended ventrally as with deep mesal invagination (Fig. 5D). Genital hook (L3') with a preapical incision; accessory median phallomere (L4') with setal brush; the median phallomere L2D' elongate; L2E' extended anteriorly, with setal brush; R1' acute; R2' with elongate lateral expansion (le); R3' quadrangular with rounded apex.

Based on its coloration and interstyler invagination, *A. kollimalai* sp. nov. is placed in the *hamifera* species group. This species is closely related with other Indian *Allacta* base in its coloration and the structure of its subgenital plate and genitalia. It is closely similar to *A. figurata* (Walker) in terms of the facial and tegminal coloration, supra-anal plate entire, subgenital plate with weak mesal invagination of pronounced interstyler margin, presence of setal brush on L4' and R2' with elongate lateral expansion (le). It differs from *A. figurata* in terms of the pentagonal central macula (ovoid to rhomboid in *A. figurata*), R1' posteriorly acute (rounded with two lateral teeth on *A. figurata*), R2' lateral expansion club-like (axe-like in *A. figurata*), R3' quadrangular (triangular in *A. figurata*) and L3' with weak pre-apical expansion (tapered on *A. figurata*).

**Description:** *Measurements* (mm): Male: Total Length: 15.9–17.3; Tegmina: 12.5–14.2; Pronotum: 3.0 x 4.2 Body Length: 12.5–14.0

**Male:** Body light brown with yellowish patches (Fig 5.A). Vertex exposed, dark brown. The intraocular distance smaller than interantennal distance. Ocelli present above antennal socket. Clypeus yellowish-brown. Frons dark brown underneath antennal sockets, with V-shaped macula in interantennal space (Fig. 5B). Maxillary palpi light yellowish-brown; 5<sup>th</sup> segment enlarged, shorter than 3<sup>rd</sup> & 4<sup>th</sup> segments which have similar lengths.

Pronotum subparabolic covered with pale pentagonal central macula surrounded by thick dark brown border, lateral margin hyaline. Tegmina and hind wing fully developed reaching beyond the abdomen. Tegmen yellowish brown, anal region dark brown and radial region light dark brown. Profemur type B<sub>3</sub>, with 5–6 proximal stout spines succeeded by a row of uniform pilliform spinules and ends with 3 large spines increased in size distally. Pulvilli present on only 4<sup>th</sup> tarsomere of all legs. Tarsal claws simple and symmetrical; arolia present.

Abdominal terga unspecialized. Supra-anal plate yellowish brown, entire (Fig 5.C), paraprocts simple, similar. Cerci yellowish brown. Subgenital plate weakly asymmetrical. Styles short, rounded (Fig 5.D). Interstyler margin pronounced, with weak invagination. Genitalia as illustrated (Fig 5.E): Genital hook (L3') with weak preapical expansion; accessory median phallomere (L4') present, with setal brush; the median phallomere L2D' elongate; L2E' extended anteriorly with basal setal brush; R1' posteriorly triangular; R2' with elongate lateral expansion, club-like; R3' quadrangular with rounded apex.

**Female:** Unknown

**Etymology:** named after the type locality is located in the Vellimalai Hills, Megamalai, Theni, Tamil Nadu, India.

**Known Distribution:** India: Tamil Nadu.

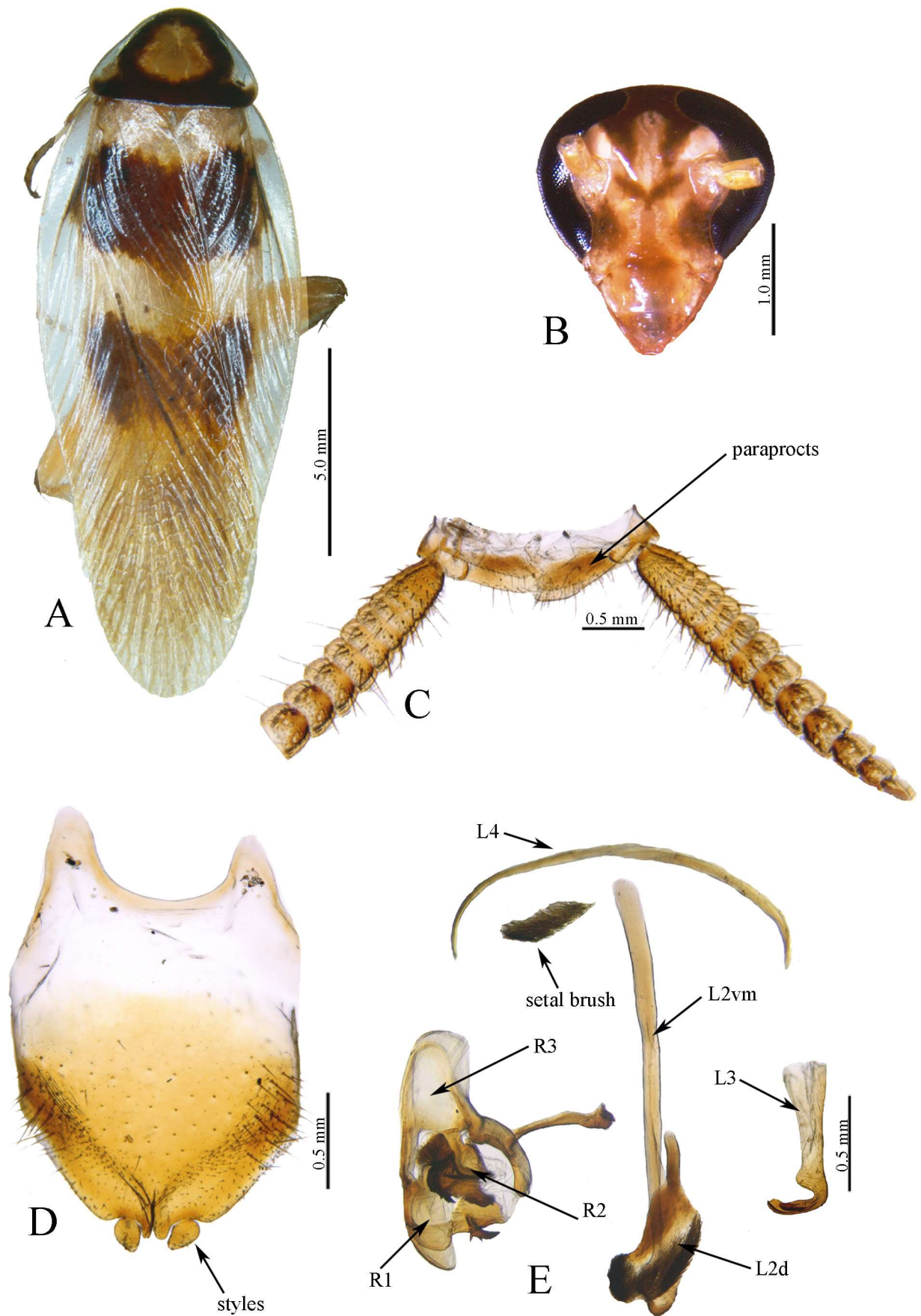
### Species *Allacta kalakadensis* Prabakaran and Senraj 2019

*Allacta kalakadensis* Prabakaran and Senraj, in Prabakaran, Senraj & Lucañas 2019: 3  
(Type: ♂ INDIA, Tamil Nadu, Thirukurungudi Range, Valaiyathu odai; ZSI, India)

**Material examined:** Holotype 1 ♂, Paratype 3 ♂ and 1 ♀: INDIA: Tamil Nadu, Tirunelveli, Thirukurungudi Range, Valaiyathu odai [8°24'38.808"N 77°33'23.832"E, 142.2 masl], (24/IX/2018; R. Venkitesan *et al.*, collected in Light trap. ZSI/SRC (I/B 542–I/B 546).

**Additional material:** 2 ♂ INDIA: Tamil Nadu, Virudhunagar, Elanthiraikondan, [9°22'33.9996" N 77°31'32.9988" E, 141 masl], 22/II/2020 (M. Senraj, at night) ZSI–SRC I/B-713.





**FIGURE 5.** *Allacta vellimalai* sp. nov.: Habitus (A) adult male; (B) head; (C) supra-anal plate, ventral; (D) subgenital plate, ventral; (E) male genitalia, dorsal.

**Remarks:** Prabakaran *et al.* (2019) described and placed this species in the *hamifera* species group. It is closely related to *A. figurata* (Walker 1871) and *A. diluta* (Saussure 1863), unfortunately, Prabakaran *et al.* (2019) missed Roth's (1996) description of the genitalia of both species. The following is added to the diagnosis of *A. kalakadensis*:

In terms of genitalia, *Allacta kalakadensis* differs from *A. figurata* from the styles elongate, directed interiorly (styles short, directed exteriorly in *A. figurata*), **L4'** without setal brush (**L4'** with setal brush in *A. figurata*), **R1'** with four spikes directed ventrally (**R1'** with two teeth directed laterally in *A. figurata*), **R2'** with bifurcate lateral expansion (**R2'** with axe-like lateral expansion (**le**) in *A. figurata*).

On the other hand, *A. kalakadensis* differs from *A. diluta* in terms of **R1'** triangular with spikes directed ventrally (**R1'** quadrangular, with setal brush in *A. diluta*) and **R2'** with bifurcate lateral expansion (**R2'** with single sickle-like lateral expansion in *A. diluta*).

This additional study material collected from Banyan tree *Ficus benghalensis* L.

**Known Distribution:** India: Tamil Nadu: Thirunelveli; Rajapalayam, Virudhunagar, (**new record**).

### Species *Allacta figurata* (Walker, 1871)

Fig. 6 (A–H)

*Blatta figurata* Walker 1871: 24 (Holotype: ♂ INDIA; British Museum of Natural History, London); Shelford 1908: 11.

*Phyllodromia figurata* (Walker): Kirby 1904: 91.

*Allacta figurata* (Walker): Princis 1969: 929; Roth 1993: 370; 1996: 240.

**Material examined:** 1 ♂ INDIA: Tamil Nadu, Dindigul, Thandikudi [10°17'16.9188" N 77°37'43.1436" E, 1332 masl], (14/X/2017 M. Senraj, ZSI/SRC I/B-714).

**Brief Diagnosis:** Vertex slightly exposed. Head with a distinct pale rectangular interantennal macula surrounded by dark brown margin. Ocelli distinct. Pronotum subparabolic with large ovoid pale macula surrounded by broad brown borders, margin hyaline. Tegmina well developed, with a pair of brown macula. Profemur B<sub>3</sub>. Pulvilli present only in the fourth tarsomere of all legs. Tarsal claws simple, symmetrical. Supra-anal plate entire, symmetrical. Subgenital plate weakly asymmetrical. Styles short, angular. Genital hook (**L3'**) with a preapical incision; accessory median phallomere (**L4'**) present with setal brush; the median phallomere **L2D'** elongate; **L2E'** extended anteriorly, with setal brush; **R1'** ovoid with two acute lateral teeth; **R2'** posteriorly rounded two acute lateral teeth; **R3'** scalar-trapezoidal with rounded edges.

**Distribution:** India: Maharashtra: Bombay (Mumbai); Tamil Nadu: Dindigul (**new record**); Sri Lanka: North Central Province.

### Species *Allacta diluta* (Saussure, 1863)

*Blatta diluta* Saussure 1863: 153 (Type: ♀ Sri Lanka; Muséum d'histoire naturelle de Genève, Switzerland);

Walker 1868: 89; Saussure & Zehntner 1895: 31.

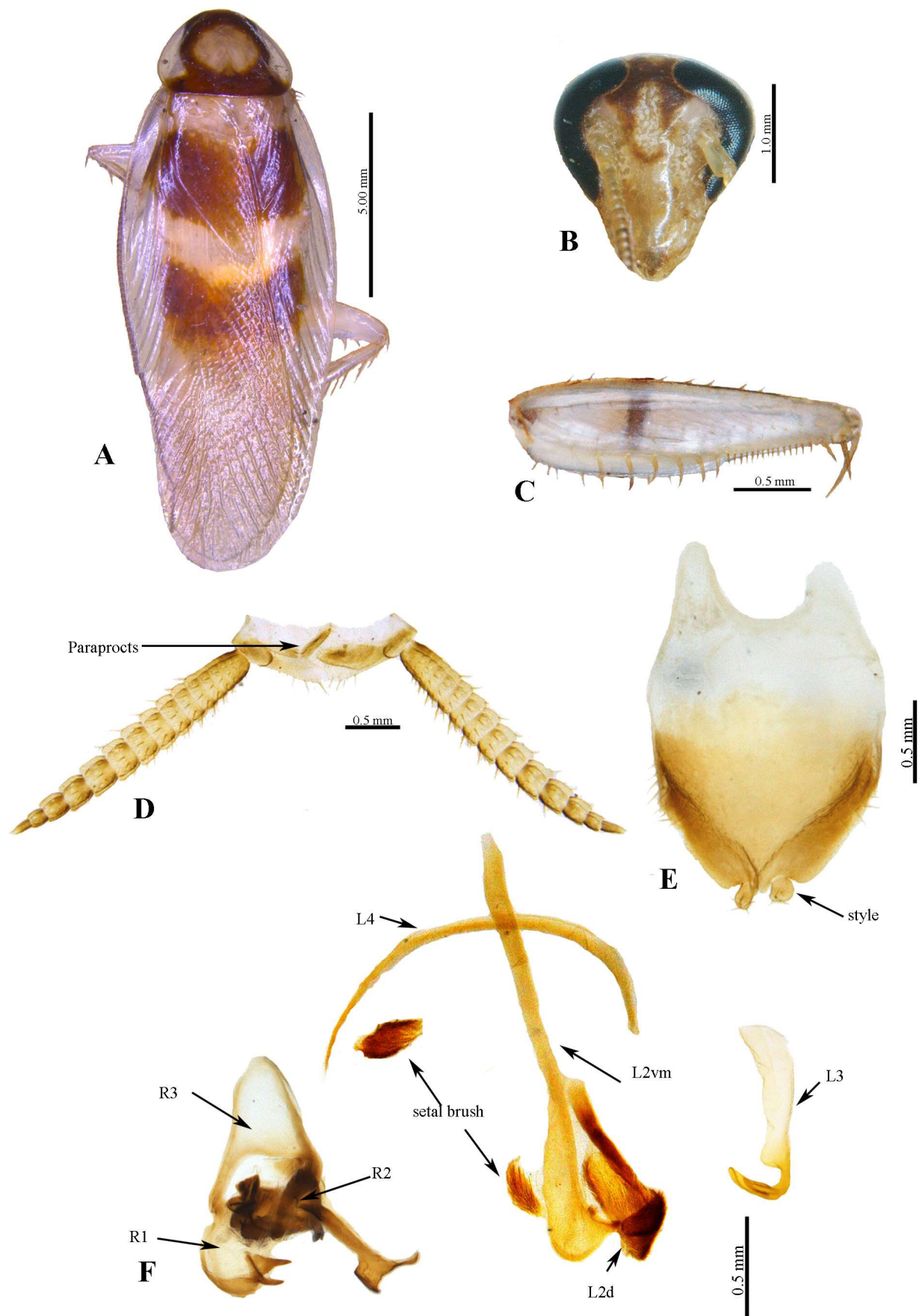
*Phyllodromia diluta* (Saussure): Kirby 1904: 91; Shelford 1908: 12.

*Pseudochorisoblatta diluta* (Saussure): Princis 1951: 90; 1959: 132.

*Allacta diluta* (Saussure) Princis, 1965: 151; 1969: 928; Roth 1993: 371; 1996: 240.

**Remarks:** Saussure (1863) described this species from a female specimen from Ceylon (=Sri Lanka). Princis (1951) reported it from India (no exact locality) based on specimens of the British Museum. Princis (1959) considered *A. diluta* (Saussure) as a senior synonym of *A. figurata* (Walker). Roth (1993) resurrected *A. figurata* from synonymy and redescribed both. Roth (1996) described the male genitalia of both *A. figurata* and *A. diluta*. It is easily recognized from the known Indian and Sri Lankan *Allacta* in terms of the two elongate black bands of the pronotum, which slightly resembles that of the genus *Blattella* Caudell.

**Known Distribution:** Sri Lanka (Saussure 1863); India (Princis 1951).



**FIGURE 6.** *Allacta figurata* (Walker, 1871). Habitus (A) adult male; (B) head; (C) profemur; (D) supra-anal plate, ventral; (E) subgenital plate, ventral; (F) male genitalia, dorsal.

## Discussion

The species included in the genus *Allacta* Saussure & Zehntner are generally nocturnal and arboreal, which makes them scanty in most Indian collections. Increased interest in cockroach diversity has resulted in the discovery of three new species from Southern India: *A. jcenpro* sp. nov., *A. kollimalai* sp. nov. and *A. vellimalai* sp. nov. All three species are placed under *hamifera* species group, based on the keel-like ridges in the subgenital plate, and pronotal and facial markings. This highlights the undiscovered diversity of cockroach species in India. It is likely that additional surveys particularly in Western and Central India would yield further undescribed species of *Allacta*.

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