

A taxonomic review of the genus *Parancistrocerus* Bequaert (Hymenoptera: Vespidae: Eumeninae) from the Indian subcontinent with the description of three new species

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Abstract

The potter wasp genus *Parancistrocerus* Bequaert, 1925, is reviewed from the Indian subcontinent. Three new species, namely, *Parancistrocerus jaferpaloti* Girish Kumar and Carpenter sp. n., *P. loharbandensis* Girish Kumar and Carpenter sp. n. and *P. turensis* Girish Kumar and Carpenter sp. n. are described. The species *P. holzschuhi* Gusenleitner, 1987, is recorded here for the first time from India. The male of *P. vicinus* Giordani Soika, 1994, is described. *Parancistrocerus intermediatus* (Sonan, 1939), *P. nitobei* (Sonan, 1939), *P. kuraruensis* (Sonan, 1939) and *P. taikonus* (Sonan, 1939) are new combinations. A key to species and subspecies from the Indian subcontinent and an updated checklist of Oriental species are also provided.

Keywords: *Parancistrocerus*, new species, key, checklist, new combination, new record, India, Indian subcontinent, Oriental Region.

Received: 5 August 2016; Revised: 8 October 2016; Online: 2 December 2016.

Introduction

Bequaert (1925) described the genus *Parancistrocerus* as a subgenus of *Ancistrocerus* Wesmael based on the type species *Odynerus fulvipes* de Saussure, 1855 [= *O. "flavipes* Fabricius" *sensu* de Saussure, 1852, *non Vespa flavipes* Fabricius, 1775]. This genus is distributed in the Nearctic, Neotropical, Oriental and Palaearctic regions. Forty three species with 11 additional subspecies are reported from the Oriental region of which eight species with two additional subspecies are known from the Indian subcontinent. In this paper three new species, namely, *Parancistrocerus jaferpaloti* Girish Kumar and Carpenter sp. n., *P. loharbandensis* Girish Kumar and Carpenter sp. n. and *P. turensis* Girish Kumar and Carpenter sp. n. are described from India. The species *P. holzschuhi* Gusenleitner, 1987, is recorded here for the first time from India. The male of *P. vicinus* Giordani Soika, 1994, is described. *Parancistrocerus intermediatus* (Sonan, 1939), *P. nitobei* (Sonan, 1939), *P. kuraruensis* (Sonan, 1939) and *P. taikonus*

(Sonan, 1939) are new combinations. A key to species of the Indian subcontinent and an updated checklist of Oriental species are also provided here.

Materials and Methods

The specimens were studied and photographed using a Leica Stereo microscope with LAS software version 3.6.0. Type specimens and other specimens are properly preserved and added to the 'National Zoological Collections' of ZSIK.

Abbreviations used for the Museums: BMNH: British Museum (Natural History), London, England; MSNG: Museo Civico di Storia Naturale di Genova Giacomo Doria, Genova, Italy; MSNV: Museo di Storia Naturale di Venezia, Venice, Italy; OLM: Oberösterreichischen Landesmuseum, Linz, Austria; RMNH: Nationaal Natuurhistorisch Museum (formerly Rijksmuseum van Natuurlijke Historie), Leiden, Netherlands; ZMB: Museum für

A taxonomic review of the genus *Parancistrocerus* Bequaert from the India subcontinent

Naturkunde, Berlin, Germany; ZSIK: Western Ghat Regional Centre, Zoological Survey of India, Kozhikode (= Calicut), India.

Abbreviations used for the terms: F = Flagellar segments; H = Head; M = Mesosoma; OOL = Ocellocular distance; POL = Post ocellar distance; S = Metasomal sterna; T = Metasomal terga.

Genus *Parancistrocerus* Bequaert

Parancistrocerus Bequaert, 1925: 64, subgenus of *Ancistrocerus* Wesmael. Type species: *Odynerus fulvipes* de Saussure, 1855 [= *O. "flavipes* Fabricius" *sensu* de Saussure, 1852, *non Vespa flavipes* Fabricius, 1775], by original designation.

Diagnosis: T2 smooth basally, forming acarinarium beneath apex of T1 that is often full of mites (often concealed, tergum should be bent backwards to expose acarinarium); anterior face of pronotum with two close set, deeply impressed fovea, which may be approximated; propodeum with submarginal carina produced into pointed lamella apically and valvula enlarged and free posteriorly from submarginal carina; metanotum without tubercles; forewing with second submarginal cell not petiolate; metasoma sessile.

Distribution: Nearctic, Neotropical, Oriental and Palaearctic regions.

Key to species and subspecies of *Parancistrocerus* Bequaert from the Indian subcontinent

(Modified from Giordani Soika, 1994)

1. T2 with apical margin prolonged in middle (see Fig. 1 of Giordani Soika, 1972: 102 and Fig. 41 of Giordani Soika, 1994: 163).....2
 - T2 with apical margin normal, not prolonged in middle (Figs. 6, 12, 18, 27, 33 & 39).....6
2. Superior carina of the propodeum well developed and distinct, especially at the top, where they clearly separate the horizontal dorsal face of the propodeum from the posterior face.....*P. capocacciai* Giordani Soika
 - Superior carina of propodeum not developed as above and irregular, no clear separation of dorsal and posterior surfaces

- of the propodeum.....3
3. Female unknown. Male: distance between clypeal teeth much shorter than basal width of clypeus, area between clypeal teeth more closely emarginate at apex; antennae with 11th article short, not longer than wide; apical antennal article very long, its apex reaches far beyond base of 11th article.....*P. irritatus* Giordani Soika
 - Male: distance between clypeal teeth slightly less than basal width of clypeus, area between clypeal teeth broadly emarginate at apex; antennae with 11th article long, about 1.50x as long as wide; apical antennal article short, its apex reaches to or slightly beyond base of 11th article.....*P. incorruptus* Giordani Soika..... 4
4. T1 mostly red-ferruginous.....5
 - T1 not red-ferruginous.....ssp. *kalimpongensis* Giordani Soika
5. Propodeum mostly red-ferruginous; T2 without apical yellow band.....ssp. *incorruptus* Giordani Soika
 - Propodeum black; T2 with apical yellow band.....ssp. *demens* Giordani Soika
6. T2 strongly reflexed at apex.....
 -*P. assamensis* (Meade-Waldo)
 - T2 not reflexed at apex.....7
7. S2 strongly and sharply lowered at base then widely and almost entirely depressed.....8
 - S2 convex at base, very weakly depressed after.....9
8. Anterior face of T1 without median vertical carina on its upper half; clypeus of female more widely and deeply emarginate at apex.....*P. rhipheus* (Cameron)
 - Anterior face of T1 with median vertical carina on its upper half (Fig. 11); clypeus of female more narrowly and less deeply emarginate at apex (Fig. 8).....*P. holzschuhi* Gusenleitner
9. Vertical anterior face of T1 about as long as, or even longer than dorsal horizontal face.....10
 - Vertical anterior face of T1 distinctly shorter than dorsal horizontal face.....11
10. Width between apical teeth of clypeus equal to width between antennal sockets; upper carina of propodeum lamellate; punctures on T1 and T2 denser; markings

- on pronotum, mesopleuron, metanotum, T1, T2 and S2 ferruginous.....*P. feai*
Giordani Soika
- Width between apical teeth of clypeus less than width between antennal sockets (Fig. 29); upper carina of propodeum not lamellate (Fig. 32); punctures on T1 and T2 fine, superficial; markings on pronotum, mesopleuron, metanotum, T1, T2 and S2 yellow.....*P. turensis*
Girish Kumar & Carpenter sp. n.
11. Dorsal face of propodeum absent mesally, not forming horizontal area behind midline of metanotum (Figs. 16 & 38).....12
 - Dorsal face of propodeum forming horizontal area behind midline of metanotum (Figs. 5 & 26).....13
 12. T2 with almost regular apical yellow band, about 2 irregular rows of punctures at median area of yellow band; punctures on T2 larger than that of alternative species; T1 with narrow apical yellow band, about 2-3 irregular rows of punctures at yellow band; clypeus of female black with broad yellow band at base and apex.....
.....*P. vicinus* **Giordani Soika**
 - T2 with wavy apical yellow band, about 4-5 irregular rows of punctures at median area of yellow band; punctures on T2 smaller than that of alternative species; T1 with broad apical yellow band, about 4-6 irregular rows of punctures at yellow band; clypeus of female yellow except a brownish black spot at middle.....
.....*P. jaferpaloti* **Girish Kumar & Carpenter sp. n.**
 13. Occipital carina complete (Fig. 4); interspaces between punctures on mesopleuron and posterior portion of mesoscutum not carinate; body punctures less strong than that of alternative species; in female, cephalic fovea with a single deep pit.....*P. androcles androcles*
(Meade-Waldo)
 - Occipital carina not complete, evanescent at vertex (Fig. 25); interspaces between punctures on mesopleuron and posterior portion of mesoscutum carinate; body punctures stronger than that of alternative species; in female, cephalic fovea with two closely set pits.....*P. loharbandensis*
Girish Kumar & Carpenter sp. n.

1. *Parancistrocerus androcles androcles*

(Meade-Waldo, 1910)

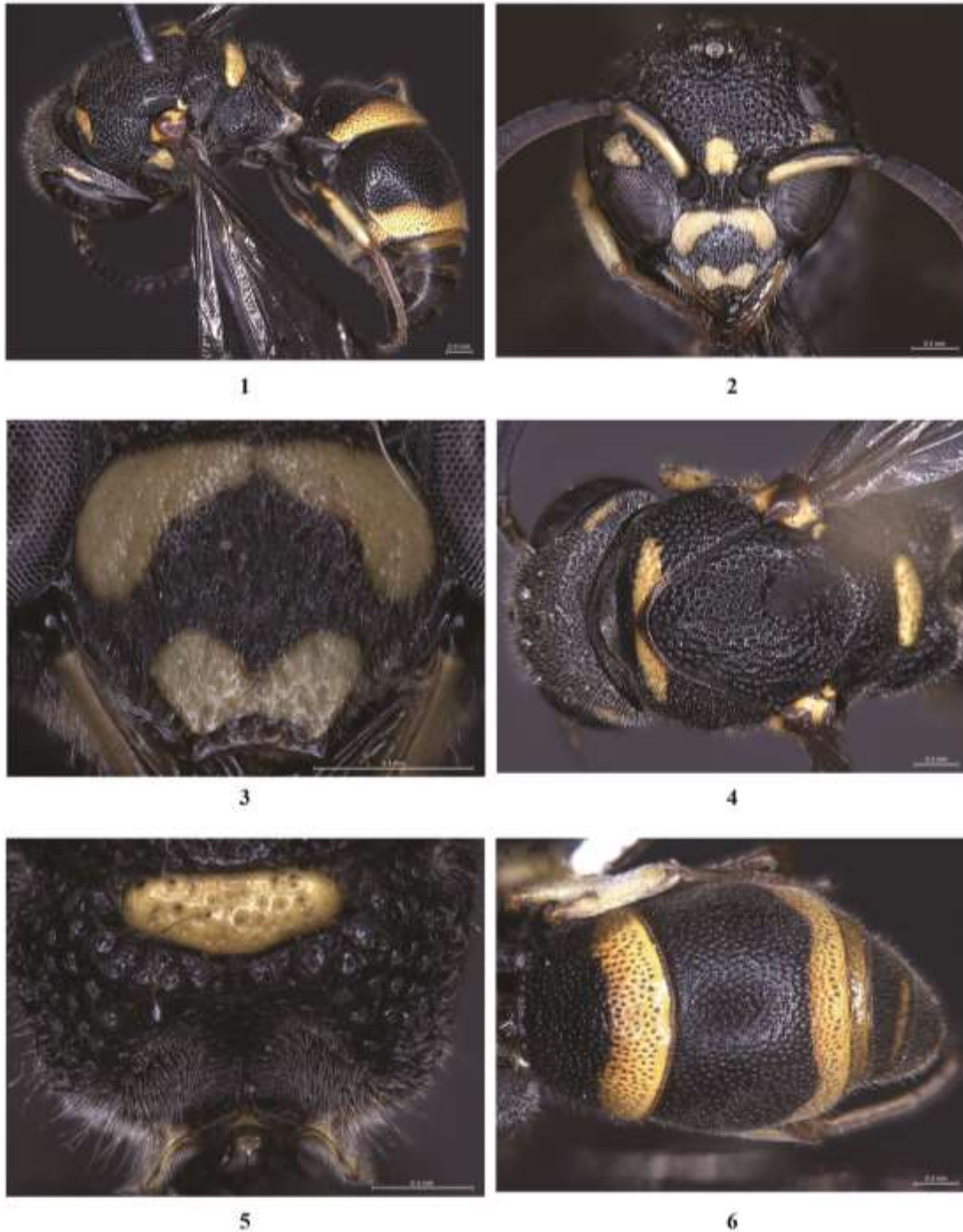
(Figs. 1-6)

- Odynerus androcles* Meade-Waldo, 1910: 103, female (in subgenus *Ancistrocerus*), "Shillong, Assam [= Shillong, Meghalaya]" (BMNH).
- Ancistrocerus horni* Sonan, 1938: 262, figs. 4-6, male, "Kandy, Ceylon" (ZMB); Giordani Soika, 1941: 236 (syn. of *A. androcles* (Meade-Waldo)).
- Ancistrocerus androcles*; Giordani Soika, 1941: 236 (in subgenus *Ancistrocerus*; syn.: *Ancistrocerus horni* Sonan, 1938; Burma).
- Parancistrocerus androcles androcles*; Gusenleitner, 1988: 178 (Thailand); Giordani Soika, 1994: 159 (key), 195 (Sri Lanka; Burma; Vietnam; Malaya; Singapore; Sumatra; Java; Borneo; Sulawesi; Philippines); Gusenleitner, 2001: 659 (Thailand); Gusenleitner, 2006: 689 (India: Kerala).

Diagnosis: Female (Fig. 1): Occipital carina complete (Fig. 4); cephalic fovea a single deep pit; clypeus (Fig. 3) slightly wider than long, weakly convex, punctures superficial, with median area nearly flat, weakly emarginate apex and apical teeth short and triangular, distance between teeth 1/3 of maximum width of clypeus; dorsal face of propodeum (Fig. 5) forming horizontal area behind the midline of metanotum, with punctures large, shallow, flat bottomed, with interspaces carinate; posterior face of propodeum widely and regularly concave; vertical anterior face of T1 distinctly shorter than dorsal horizontal face; dorsal horizontal face of T1 about 1.5x as wide as its median length; T2 (Fig. 6) much wider than long, not reflexed at apex, with apical margin normal, not prolonged in middle; T1 and T2 with punctures much smaller than those of pronotum and mesoscutum, with interspaces on average equal to diameter of punctures; S2 convex at base, very weakly depressed after, with punctures larger and much more spaced.

Colour description: Body black with yellow and ferruginous markings. Yellow markings: spot at base of mandible; band at base and two specks (sometimes fused) apically on clypeus; lower side of scape; spot above space interantennal space; at ocular sinus; linear mark on tempora; band on pronotum; tegulae (except median ferruginous area); parategula;

Plate I



Figs. 1-6 *Parancistrocerus androcles androcles* (Meade-Waldo) female. 1, Body profile; 2, Head frontal view; 3, Clypeus; 4, Head & mesosoma dorsal view; 5, Metanotum & propodeum; 6, Metasoma dorsal view.

metanotum; at top of mesepisternum (sometimes absent); apex of fore and mid femora; outer face of all tibiae (sometimes reduced or absent); apical bands on T1, T2 and S2 (sometimes narrow bands on T3 & S3, rarely on S4 also). Ferruginous markings: lower side of antennal funicles; tarsi of all legs; tegulae (except yellow markings). Wings

almost hyaline, fore wing with subapical fuscous cloud. Head and mesosoma with short tawny pubescence and erect whitish hairs of varying length with fine golden pubescence and sparse white hairs inclined.

Length (H+M+T1+T2): 6-7 mm.

Male: Clypeus wider than long, almost

regularly convex, with sparse minute punctures, apex slightly emarginate, distance between teeth 1/3 of maximum width of clypeus; apical antennal article finger-shaped, gradually narrowed to apex that reaches base of 11th article; pilosity more abundant than that of female; clypeus with long, thick hairs. Colour similar to that of female except mandible and clypeus entirely yellow. Other characters almost as those of female.

Material examined: INDIA: Kerala, Kozhikode Dist., Muthappanpuzha, 1♀, 27.ix.2012, Coll. K.P. Mohammed Shareef, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6948; Kozhikode Dist., Malabar Wildlife Sanctuary, Kakkayam, 1♀, 8.xii.2015, Coll. P. Girish Kumar, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6949; Ernakulam Dist., Thattekkad Bird Sanctuary, Koottaampara, 1♀, 19.vi.2016, Coll. P. Girish Kumar, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6950. Tripura, Unakoti Dist., Kailashahar, 1♀, 30.v.1978, Coll. A. Issar, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6951.

Distribution: India: Kerala, Meghalaya, Tripura (new record); Sri Lanka; Myanmar; Thailand; Vietnam; Malaysia (including Sabah); Singapore; Indonesia: Sumatra, Java, Sulawesi; Philippines.

Remarks: A male specimen of this species was not available for our studies, hence the description was taken from Giordani Soika (1994).

2. *Parancistrocerus assamensis* (Meade-Waldo, 1910)

Odynerus assamensis Meade-Waldo, 1910: 103, male, female (in subgenus *Ancistrocerus*), "Shillong, Assam [= Shillong, Meghalaya]" (BMNH).

Ancistrocerus assamensis; Giordani Soika, 1941: 235 (in subgenus *Ancistrocerus*; Burma, Carin Cheba).

Parancistrocerus assamensis; Giordani Soika, 1994: 155 (key), 171 (Nepal; Vietnam); Gusenleitner, 2000: 940, fig. 1 (Laos); Gusenleitner, 2007: 99 (compared to *P. acclivus* Gusenleitner); Gusenleitner, 2011: 1358, fig. 7 (Laos); Gusenleitner, 2012: 1045 (compared to *P. insolitus* Gusenleitner).

Diagnosis: Female: T2 reflexed at apex, which is preceded by narrow preapical groove; S2 strongly and sharply lowered at base, then nearly flat or even slightly depressed; clypeus about as long as wide, emarginate at apex, with apical teeth shortly carinate.

Colour description: Body black with yellow and red markings. Yellow markings: spot at base and two small spots at apex of clypeus; small spot on lower frons above interantennal space. Red markings: ventral side of scape; anterior margin of pronotum; tegulae; large ovate spot on mesopleuron; metanotum; apical band on T1, T2 and S2; fore and mid tibiae. Wings clear hyaline, fuscous along costa.

Male: Clypeus about as long as wide, more closely emarginate at apex than in female, almost regularly convex; apical antennal article of male weakly arched, gradually narrowed from base to apex, and reaches to base of 11th article.

Length (H+M+T1+T2): Female & Male, 6-6.5 mm.

Distribution: India: Meghalaya; Nepal; Myanmar; Laos; Vietnam.

Remarks: No specimens were available for our studies, hence the description was taken from Meade-Waldo (1910) and Giordani Soika (1941, 1994).

3. *Parancistrocerus capocacciai* Giordani Soika, 1994

Parancistrocerus capocacciai Giordani Soika, 1994: 154 (key), 164, fig. 41, female, "Burma: Carin Cheba, 900-1100 m" (MSNG); Gusenleitner, 2011: 1358 (Laos).

Diagnosis: Female: T2 with apical margin prolonged in middle; superior carina of propodeum well developed and very clear, especially dorsally, where it clearly separates horizontal dorsal face of propodeum from posterior face; much bigger punctures on T2 preapically.

Colour description: Body black with brown ferruginous, red ferruginous and yellow markings. Brown ferruginous markings: antennae and legs. Red ferruginous markings: spot above interantennal space; ocular sinus; line on tempora; spot on upper mesepisternum; wide band on dorsal surface of pronotum, and

very narrow line on posterior margin of pronotum; tegulae; parategulae; metanotum almost entirely; narrow and regular apical band on T1; wider and equally regular apical band, on T2; narrow apical band on S2. Yellow markings: clypeus except large central brown mark; ventral side of scape; line on outer surface of fore tibia. Wing infumate, with large brown stain on marginal cell.

Male: Unknown.

Length (H+M+T1+T2): 9 mm.

Distribution: Myanmar; Laos.

Remarks: No specimens were available for our studies; hence the description was taken from Giordani Soika (1994).

4. *Parancistrocerus feai* Giordani Soika, 1994

Parancistrocerus feai Giordani Soika, 1994: 157 (key), 190, female, "Burma: Carin Chebà, 900-1100 m" (MSNG); also from Malaysia; India.

Diagnosis: Female: Base of S2 without longitudinal groove; vertical anterior face of T1 about as long as dorsal horizontal face; S2 convex at base, very weakly depressed after; T2 not reflexed at apex; T2 with apical margin normal, not prolonged at posterior margin medially; clypeus widely emarginate at apex, with width between apical teeth as long as width between antennal sockets; superior carina of propodeum much less developed, sides heavily depressed near propodeal valvula.

Colour description: Body black with yellow and ferruginous markings. Yellow markings: spot at base of mandibles; clypeus except large black cross band; ventral side of scape; apical spot on femur and line on outer face of fore tibia. Ferruginous markings: wide band along dorsal surface of pronotum anteriorly; spot, sometimes absent, on top of mesepisternum; metanotum; propodeal valvula; tegulae; parategulae; wide and regular apical bands on T1 and T2; narrow band on S2. Wings moderately infumate.

Length (H+M+T1+T2): 7-8 mm.

Male: Unknown.

Distribution: India: Sikkim; Myanmar; Malaysia.

Remarks: No specimens were available for our studies; hence the description was taken from Giordani Soika (1994).

5. *Parancistrocerus holzschuhi* Gusenleitner, 1987

(Figs. 7-12)

Parancistrocerus holzschuhi Gusenleitner, 1987: 258, figs. 3-5, male, female, "Nepal: Fußweg: Hedangna - Lamobagar, 1100-1200 m" (holotype male OLM); Giordani Soika, 1994: 156 (key), 171, fig. 45; Gusenleitner, 2013: 121 (compared to *P. simoni* n. sp.).

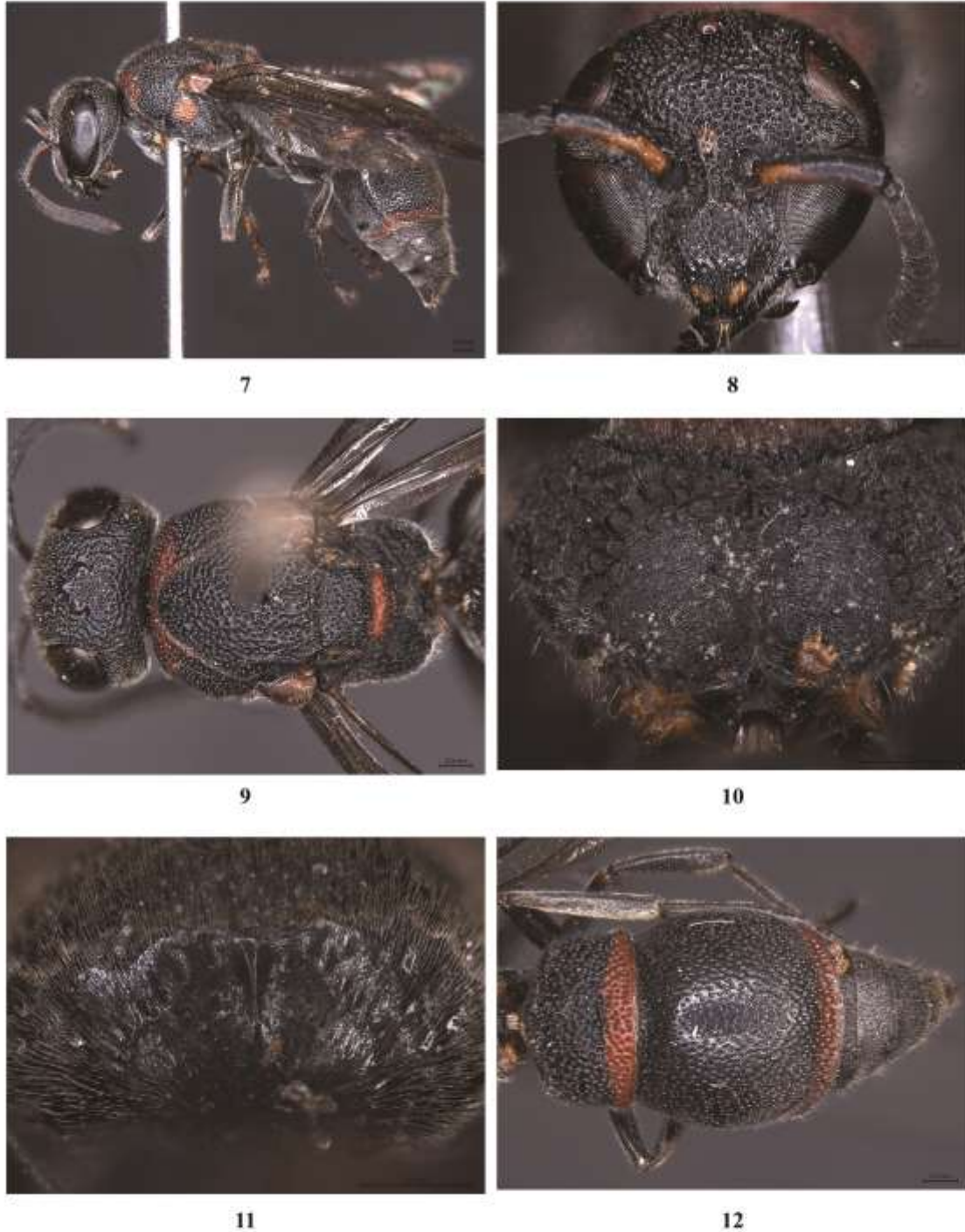
Diagnosis: Female (Fig. 7): Clypeus weakly emarginate at apex (Fig. 8); anterior face of T1 (Fig. 11) with well-developed vertical carina in upper half; horizontal carina of T1 distinct, and deformed by large punctures of dorsal face of T1, punctation of dorsal face abruptly stops at meeting with front face; front face of T1 without punctures; S2 strongly and sharply lowered at base after it wide and almost entirely depressed; T2 not reflexed at apex (Fig. 12); punctures on frons and vertex very coarse and dense, interspaces smaller than diameter of punctures; clypeus 1.2x broader than long.

Colour description: Body black with orange-yellow and red markings. Orange-yellow markings: two small spots at clypeus subapically (absent in Cherrapunji specimen); ventral side of antennal scape; small round spot on lower frons; outer side of fore tibiae. Red markings: small spots on tempora (very faint in Dirang specimen); wide uninterrupted band on pronotum; tegulae and parategulae; stain on upper portion of mesopleuron; transverse band on metanotum; apical band on T1 which narrows on both sides; uniform band on T2 and very narrow band on S2 which slightly enlarged at sides.

Length (H+M+T1+T2): 7-7.5 mm.

Variation: Colour pattern slightly varying as follows: In Gusenleitner's description (1987: 261) of the Nepal paratype specimen, there is an orange-yellow short transverse spot at base of mandibles (but in our specimens from India, it is absent); orange-yellow mark present at outer side of fore and mid tibiae in Nepal specimen (no orange-yellow mark present at

Plate II



Figs. 7-12 *Parancistrocerus holzschuhi* Gusenleitner female. 7, Body profile; 8, Head frontal view; 9, Head & mesosoma frontal view; 10, Propodeum; 11, Anterior face of T1; 12, Metasoma dorsal view.

outer side of mid tibiae in Indian specimens).

Material examined: INDIA: Arunachal Pradesh, West Kameng Dist., Dirang, Alt. 1400 m, 1♀, 13.x.2001, Coll. B. Mitra & Party, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6952. Meghalaya, East Khasi Hills Dist.,

Cherrapunji, Alt. 4400 ft., 1♀, 2-8.x.1914, Coll. S.W. Kemp, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6953.

Distribution: India (new record): Arunachal Pradesh, Meghalaya; Nepal.

6. *Parancistrocerus incorruptus* Giordani Soika, 1972

Diagnosis: Female: Superior carina of propodeum little developed and irregular, hence no true dorsal surface of propodeum clearly separated from posterior; T2 swollen on sides, about as wide as long, having strong preapical groove, strongly punctured, followed by long translucent area, strongly reflexed and prolonged in middle; head, in frontal view, subcircular, about as wide as high; clypeus about as wide as long, weakly emarginate at apex, apical teeth short but sharp; eyes much closer to each other at clypeus than that on vertex; posterior ocelli closer to each other than to eyes; metanotum with very short horizontal dorsal face and much longer posterior face; tegulae wide, slightly longer than wide, with short, pointed posterior lobe; dorsal face of T1 about as long as wide at base; clypeus shiny, with more or less superficial punctures, of different thickness and average density, interspaces on average much more than diameter of punctures; T1 and T2 with punctures deep, round and little oblique, larger and more spaced than in mesoscutum; S2 with punctures even bigger, but much thinner than corresponding tergite.

There are three subspecies, namely, *P. incorruptus demens* Giordani Soika, *P. incorruptus incorruptus* Giordani Soika and *P. incorruptus kalimpongensis* Giordani Soika, all present in the Indian subcontinent.

6a. *Parancistrocerus incorruptus demens* Giordani Soika, 1972

Parancistrocerus incorruptus demens Giordani Soika, 1972: 102, fig. 2, male, "Sikkim" (ZMB); Giordani Soika, 1994: 155 (key), 165.

Diagnosis: Male: Clypeus slightly wider than long, its apex slightly emarginate, width of clypeal apex equal to about 1/3 of maximum width of clypeus; antennae (see Fig. 2 of Giordani Soika, 1972: 102) elongate, article III-X longer than wide, article XI 1.5x as long as wide; apical article very long and slender, about 5x as long as wide at base, slightly arched and very little narrower towards apex, which reaches base of 11th article; first tarsal segment of mid leg normal, cylindrical with uniform thickness.

Colour description: Body black with yellow markings. Yellow markings: mandible;

clypeus; most part of scape; spot on interantennal space; ocular sinus; band on metanotum; front face of fore and mid coxa; apex of femurs and outer face of fore and mid tibiae; narrow and regular apical band on T1; narrow and wider apical band on T2. Wings very darkened, especially along costa and at apex.

Length (H+M+T1+T2): 8.5-9 mm.

Distribution: India: Sikkim.

Remarks: No specimens were available for our studies, hence the description was taken from Giordani Soika (1972).

6b. *Parancistrocerus incorruptus incorruptus* Giordani Soika, 1972

Parancistrocerus incorruptus Giordani Soika, 1972: 101, fig. 1, female, "Assam" (MSNV).

Parancistrocerus incorruptus incorruptus Giordani Soika, 1994: 155 (key).

Colour description: Female: Body black with yellow and ferruginous markings. Yellow markings: base of mandible; apex and sides of clypeus; spot above inter antennal space; ocular sinus; ventral side of scape; linear mark on tempora; parategula; most of metanotum; stain on propodeal valvula, which extends little on sides of posterior face of propodeum; a line along outer face of fore and mid tibiae; narrow and regular apical band on T1, which extends alongside margins. Ferruginous: ventral side of antennal funicles; wide band on dorsal surface of pronotum; posterior face of propodeum, extends to dorsal and lateral sides; T1, except large triangular black spot preapical and apical transverse yellow band; S1. Fore wing infumate at apex and along costa, with stigma yellow-ferruginous.

Length (H+M+T1+T2): 9.5 mm.

Distribution: India: Assam.

Remarks: No specimens were available for our studies, hence the description was taken from Giordani Soika (1972).

6c. *Parancistrocerus incorruptus kalimpongensis* Giordani Soika, 1994

Parancistrocerus incorruptus kalimpongensis Giordani Soika, 1994: 154 (key), 165, male, "India: Dajeeling, Kalimpong"

[recte: Darjeeling] (RMNH).

Male: This subspecies differs from other two subspecies by the absence of red spots on propodeum and on T1 and for the presence of a yellow apical band on T1.

Distribution: India: West Bengal.

Female: Unknown.

**7. *Parancistrocerus irritatus* Giordani
Soika, 1972**

Parancistrocerus irritatus Giordani Soika, 1972: 103, fig. 3, male, "Sikkim" (ZMB); Giordani Soika, 1994: 154 (key), 164.

Diagnosis: Male: Distance between clypeal teeth much shorter than basal width of clypeus, area between clypeal teeth more closely emarginate at apex; antennae with 11th article short, not longer than wide; apical antennal article very long, and its apex reaches far beyond base of 11th article (see Fig. 3 of Giordani Soika, 1972: 102); superior carina of propodeum little developed and irregular, hence no true dorsal surface of propodeum clearly separated from posterior; T2 with apical margin prolonged in middle; mesosoma 1.5x longer than wide; T2 about 1.25x longer than wide, slightly round at sides.

Colour description: Body black with yellow and ferruginous to yellow-ferruginous markings. Yellow portions: mandible; clypeus; inter antennal space; ocular sinus; ventral side of scape; linear mark on tempora; wide band along anterior margin of pronotum; front and rear ends of tegulae; parategulae; metanotum; large mark on mid and hind coxae; apex of femur and outer face of fore and mid tibiae; regular band at apex of T1, extended to side margins; wide band at apex of T2 and narrow band at apex of S2; apical margins of S3 and S4. Ferruginous to yellow-ferruginous: antennae; posterior margin of pronotum; tegulae except yellow markings; legs except yellow markings. Fore wing infumate along costa, with large dark spot at apex.

Length (H+M+T1+T2): 9-9.5 mm.

Distribution: India: Sikkim.

Remarks: No specimens were available for our studies, hence the description was taken from Giordani Soika (1972).

**8. *Parancistrocerus jaferpaloti* Girish
Kumar & Carpenter sp. n.**

(Figs. 13-21)

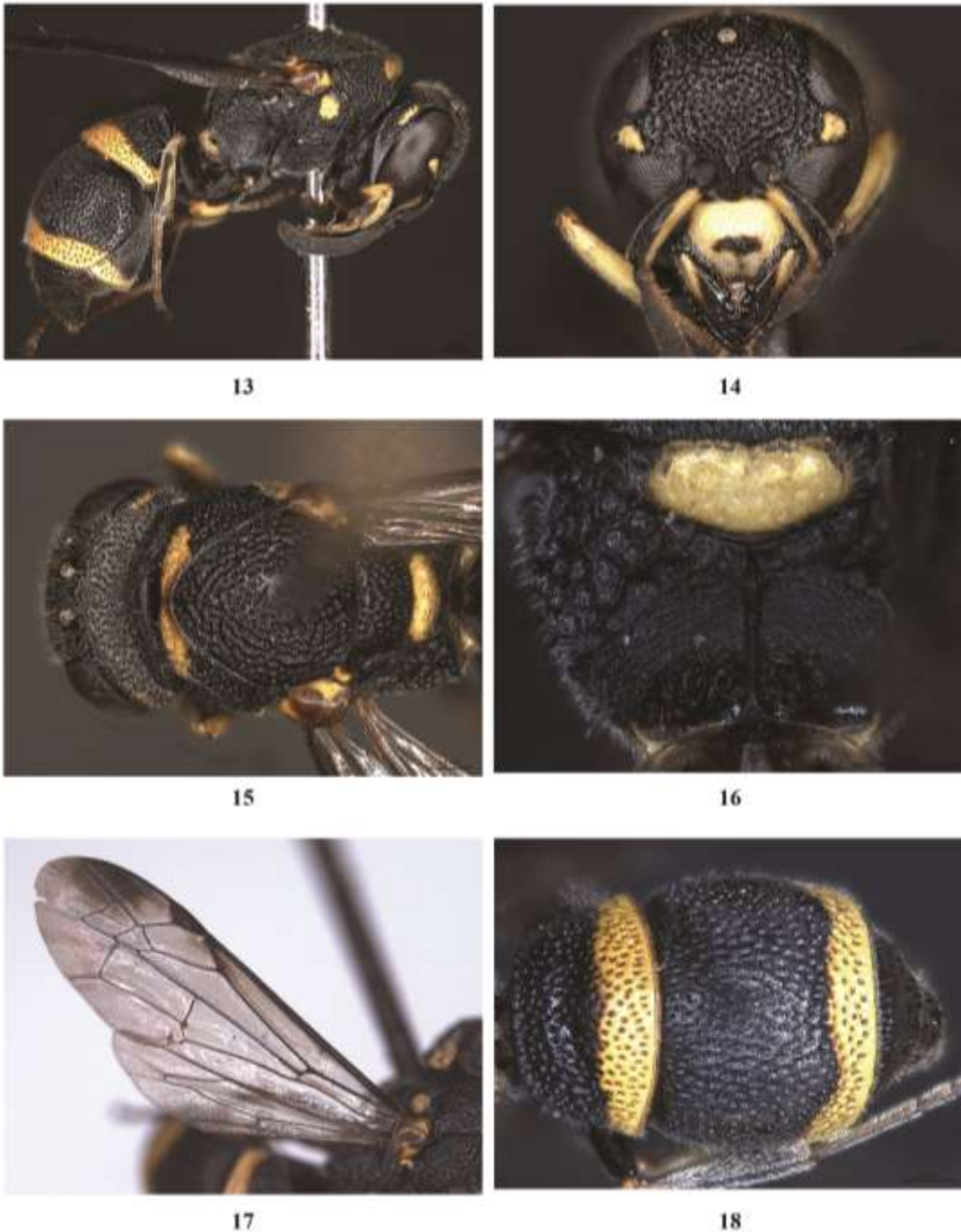
[urn:lsid:zoobank.org:act:CBFA052E-99A6-43E5-88B7-C6370952FAFE](https://zoobank.org/act:CBFA052E-99A6-43E5-88B7-C6370952FAFE)

Description: Holotype female (Fig. 13):

Head: 0.91x as wide as long in frontal view (Fig. 14); clypeus strongly convex, apex with two teeth, not sharp, area in between them moderately incised, distance between teeth 1.22x distance between antennal toruli, maximum width of clypeus 1.19x its length medially, with small punctures; both mandibles with 5 teeth; frons, vertex and tempora with punctures small, deep and almost uniformly arranged; POL 0.93x OOL; distance between anterior ocellus and posterior ocelli 1.15x as long as diameter of anterior ocellus; distance between two posterior ocelli 1.91x as long as diameter of posterior ocellus; ocellar triangle not protruding; cephalic foveae present as two closely arranged pits, diameter of each pit slightly larger than that of surrounding punctures; tempora 0.57x as wide as eye in profile (measured through ocular sinus); interocular distance 1.65x greater on vertex than at clypeus; occipital carina not complete, evanescent at vertex. Antennal sockets 3.50x farther from each other than from eyes; scape 4.11x as long as F1; F1 1.06x as long as F2, 1.13x as long as wide; flagellomeres widening towards apex; clava 1.09x as long as wide.

Mesosoma: Median area of anterior face of pronotum with two deeply impressed, well separated foveae mesally; lateral sides of anterior face of pronotum with few scattered punctures; pronotal carina absent dorsally, present laterally; posterior face and lateral sides of pronotum, mesoscutum and scutellum strongly and closely punctate, diameter of punctures, on average, as large as or greater than distance between punctures (Fig. 15); scutellum with deep transverse groove at anterior margin; median length of mesoscutum

Plate III



Figs. 13-18 *Parancistrocerus jaferpaloti* Girish Kumar & Carpenter sp. n. Holotype female. 13, Body profile; 14, Head frontal view; 15, Head & mesosoma dorsal view; 16, Metanotum & propodeum; 17, Wings; 18, Metasoma dorsal view.

as long as its maximum width; metanotum with strong punctures, interspaces carinate; mesopleuron closely punctured except large area of epicnemium and posterior margin smooth; epicnemial carina present; upper metapleuron with few strong transverse striations and large, deep pits; lower

metapleuron with a vertical row of deep pits, interspaces carinate. Dorsal face of propodeum not forming horizontal area behind midline of metanotum (Fig. 16); posterior face of propodeum concave, with strong median carina; area separating dorso-lateral face of propodeum from posterior face carinate and

becoming lamellate on either side behind metanotum; posterior face of propodeum finely striate; dorso-lateral sides of propodeum with large punctures, interspaces strongly carinate; lateral sides of propodeum smooth except upper portion with moderately strong punctures, interspaces mostly carinate; submarginal carina strongly projecting as lobe above propodeal valvula. Tegula smooth with minute punctures, not evenly rounded posteriorly, emarginate adjoining parategula and shorter than apex of latter posteriorly; forewing (Fig. 17) with pterostigma 3.6x length of prestigma, first and second recurrent veins received in second submarginal cell.

Metasoma (Fig. 18): T1 with regular, strong transverse carina separating vertical face from dorsal face; vertical anterior face of T1 distinctly shorter than dorsal horizontal face; vertical face of T1 almost smooth with few weak scattered punctures; dorsal face of T1 with broad apical yellow band, narrowed at sides, about 4-6 irregular rows of punctures at median area of yellow band; dorsal face of T1 1.66x as wide as its median length; T2 with wavy apical yellow band, about 4-5 irregular rows of punctures at median area of yellow band; T2 1.26x as wide as its median length; maximum width of T2 1.10x than that of T1; T2 not reflexed at apex, with apical margin normal, not prolonged in middle; S2 convex at base, very weakly depressed after.

Colour description: Body black with yellow and brown ferruginous markings. Yellow markings: spot at base of mandibles; clypeus except a brownish black spot at middle and brownish black outer border; ocular sinus; small mark on tempora; lower side of scape; wide band on dorsal surface of pronotum; speck on top of mesepisternum; tegula (except median brown area); parategula; metanotum; apical mark on fore and mid femora; mark on all tibiae; basitarsal segment of fore leg; wide apical band on T1, narrowed at sides; wavy apical bands on T2 & S2. Brown ferruginous markings: lower face of basal funicles; tegulae (excluding yellow portions); all tarsi except basitarsal segment of fore leg. Wings almost hyaline, fore wing with subapical fuscous cloud. Body with small silvery white pubescence.

Length (H+M+T1+T2): 6.5 mm.

Male (Fig. 19): Clypeus more emarginate at apex than that of female (Fig. 20); apical antennal article pointed at apex and not reaching to base of 11th article in curved position (Fig. 21). Colour similar to that of female except clypeus entirely yellow; yellow stain present on front, above interantennal space, extended to base of clypeus; yellow spot present on mid and hind coxa.

Length (H+M+T1+T2): 6 mm.

Material examined: Holotype female, INDIA: Kerala, Kozhikode Dist., Malabar Wildlife Sanctuary, Kakkayam, 8.xii.2015, Coll. Md. Jafer Palot, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6954. Paratypes: INDIA: Kerala, Kannur Dist., Aralam Wildlife Sanctuary, 1♀, 10.v.2009, Coll. K. Rajmohana & Party, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6955; Kozhikode Dist., Muthappanpuzha, 1♂, 27.ix.2012, Coll. K.P. Mohammed Shareef, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6956; Malappuram Dist., Nilambur, 1♂, 1.vi.2012, Coll. K.P. Mohammed Shareef, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6957.

Distribution: India: Kerala.

Etymology: The species is named after Dr. Md. Jafer Palot, Assistant Zoologist, Western Ghat Regional Centre, Zoological Survey of India, Kozhikode, who collected the holotype.

Discussion: This new species comes close to *P. vicinus* Giordani Soika, 1994, in having: dorsal face of propodeum absent at midline, not forming horizontal area behind midline of metanotum; vertical anterior face of T1 distinctly shorter than dorsal horizontal face; S2 convex at base, very weakly depressed after; T2 not reflexed at apex, with apical margin normal, not prolonged in middle. However, this new species differs from *P. vicinus* in having: (1) T2 with wavy apical yellow band, about 4-5 irregular rows of punctures at median area of yellow band (in *P. vicinus*, T2 with almost regular apical yellow band, about 2 irregular rows of punctures at median area of yellow band); (2) Punctures on T2 smaller than that of *P. vicinus*; (3) T1 with broad apical yellow band, about 4-6 irregular rows of punctures at yellow band (in *P. vicinus*, T1 with narrow apical yellow band,

Plate IV



Figs. 19-21 *Parancistrocerus jaferpaloti* Girish Kumar & Carpenter sp. n. Paratype male. 19, Body profile; 20, Head frontal view; 21, Apical antennal articles. Figs. 22-24 *P. loharbandensis* Girish Kumar & Carpenter sp. n. Holotype female. 22, Body profile; 23, Head frontal view; 24, Clypeus.

about 2-3 irregular rows of punctures at yellow band); (4) Clypeus of female yellow except brownish black spot at middle (in *P. vicinus*, clypeus of female black with broad yellow band at base and apex).

9. *Parancistrocerus loharbandensis* Girish Kumar & Carpenter sp. n.
(Figs. 22-27)

[urn:lsid:zoobank.org:act:332BA746-D058-487D-A570-24FBA3F09127](https://zoobank.org/act:332BA746-D058-487D-A570-24FBA3F09127)

Description: Holotype female (Fig. 22):

Head: 1.04x as wide as long in frontal view (Fig. 23); clypeus (Fig. 24) strongly convex, apex with two teeth, not sharp, area in between them moderately incised, distance between teeth more than (1.17x) distance between antennal toruli, maximum width of clypeus 1.06x its length medially, with small punctures; frons, vertex and tempora with punctures small, deep and almost uniformly arranged; POL 1.15x OOL; distance between anterior ocellus and posterior ocelli 1.14x as long as diameter of anterior ocellus; distance between two posterior ocelli 2.37x as long as diameter of posterior ocellus; ocellar triangle not strongly protruded; cephalic foveae present as two closely arranged pits, diameter of each pit slightly larger than that of surrounding punctures; tempora 0.63x as wide as eye in profile (measured through ocular sinus); interocular distance 1.71x greater on vertex than at clypeus; occipital carina not complete, evanescing at vertex (Fig. 25). Antennal sockets 3.75x farther from each other than from eyes; scape 4.67x as long as F1; F1 1.04x as long as F2, 1.17x as long as wide; flagellomeres widening towards apex except clava.

Mesosoma: Median area of anterior face of pronotum with two deeply impressed foveae mesally; lateral sides of anterior face of pronotum with few scattered punctures; pronotal carina absent dorsally, present laterally; posterior face and lateral sides of pronotum, mesoscutum and scutellum strongly and closely punctate, diameter of punctures, on average, larger than distance between punctures; scutellum with deep transverse groove at anterior margin; median length of mesoscutum 1.05x as long as its maximum width; metanotum with strong, large punctures, interspaces carinate; mesopleuron closely punctured except large area of epicnemium and posterior margin smooth; epicnemial carina present; upper metapleuron with few strong transverse striations and large, deep pits; lower metapleuron with single vertical row of deep pits, interspaces carinate. Dorsal face of propodeum forming horizontal area behind midline of metanotum (Fig. 26); posterior face of propodeum weakly concave, with strong median carina; area separating dorso-lateral face of propodeum from posterior

face carinate and becoming lamellate on either side behind metanotum; posterior face of propodeum finely striate; dorso-lateral sides of propodeum with large punctures, interspaces strongly carinate; lateral sides of propodeum smooth except upper portion with moderately strong punctures, interspaces mostly carinate; submarginal carina strongly projecting as a lobe above propodeal valvula. Tegula smooth with minute punctures, not evenly rounded posteriorly, emarginate adjoining parategula and shorter than apex of latter posteriorly; forewing with pterostigma 4.14x length of prestigma, first and second recurrent veins received in second submarginal cell.

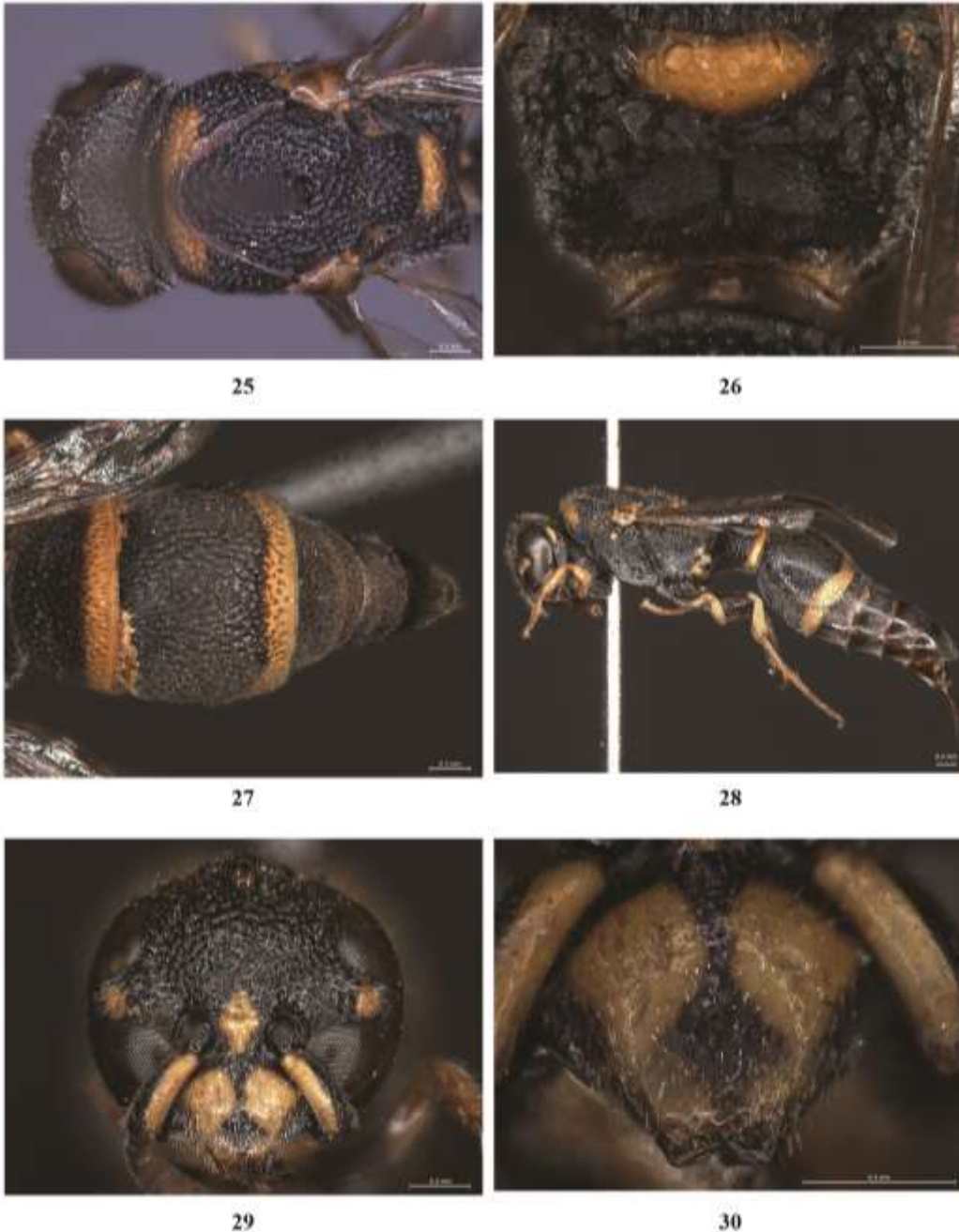
Metasoma (Fig. 27): T1 with regular, strong transverse carina separating vertical face from dorsal face; vertical anterior face of T1 distinctly shorter than dorsal horizontal face; vertical face of T1 almost smooth with few weak scattered punctures; dorsal face of T1 with almost regular apical yellow band, about 3 irregular rows of punctures at yellow band; dorsal face of T1 1.57x as wide as its median length; T2 with weak wavy apical yellow band, about 3-4 irregular rows of punctures at median area of yellow band; T2 1.23x as wide as its median length; maximum width of T2 slightly larger (1.11x) than that of T1; T2 not reflexed at apex, with apical margin normal, not prolonged in middle; S2 convex at base, very weakly depressed after.

Colour description: Body black with yellow and brown ferruginous markings. Yellow markings: spot at base of mandibles; clypeus except a black spot at middle and brown outer border; ocular sinus; small mark on tempora; lower side of scape; wide band on dorsal surface of pronotum; speck on top of mesepisternum; tegula (except median brown area); parategula; metanotum; apical mark on fore and mid femora; mark on all tibiae; almost regular apical band on T1, T2 & S2; band on S2 narrower than T2. Brown ferruginous markings: lower face of basal funicles; tegulae (excluding yellow portions); all tarsi. Wings almost hyaline, fore wing with subapical fuscous cloud. Body with short silvery white pubescence.

Length (H+M+T1+T2): 6.5 mm.

Male: Unknown.

Plate V



Figs. 25-27 *Parancistrocerus loharbandensis* Girish Kumar & Carpenter *sp. n.* Holotype female. 25, Head & mesosoma dorsal view; 26, Metanotum & propodeum; 27, Metasoma dorsal view. Figs. 28-30 *P. turensis* Girish Kumar & Carpenter *sp. n.* Holotype female. 28, Body profile; 29, Head frontal view; 30, Clypeus.

Material examined: Holotype female, INDIA: Assam, Cachar Dist., Loharband, 3.x.1975, Coll. N. Muraleedharan & Party, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6958.

Distribution: India: Assam.

Etymology: The species name is after its collection locality.

Discussion: This new species comes close to *P. androcles androcles* (Meade Waldo, 1910) in having: dorsal face of propodeum forming a horizontal area behind midline of metanotum; vertical anterior face of T1 distinctly shorter than dorsal horizontal face; S2 convex at base, very weakly depressed after; T2 not reflexed at apex, with apical margin normal, not prolonged in middle. However, this new species differs from *P. androcles androcles* in

having: (1) Occipital carina not complete, evanescent at vertex (in *P. androcles androcles*, occipital carina complete); (2) Interspaces between punctures on mesopleuron and posterior portion of mesoscutum carinate (in *P. androcles androcles*, interspaces between punctures on mesopleuron and posterior portion of mesoscutum not carinate); (3) Body punctures stronger than that of alternative species; (4) In female, cephalic foveae as two close set pits (in *P. androcles androcles* females, cephalic foveae as single large deep pit).

10. *Parancistrocerus rhipheus* (Cameron, 1904)

Odynerus rhipheus Cameron, 1904: 308, female, "Darjeeling" (BMNH); Meade-Waldo, 1910: 103 (in subgenus *Ancistrocerus*; notes on type; related to *A. assamensis*).

Ancistrocerus rhipheus; Giordani Soika, 1941: 235.

Parancistrocerus rhipheus; Giordani Soika, 1994: 136 (key), 156 (key), 172; Gusenleitner, 2011: 1359 (Laos).

Diagnosis: Female: T1 slightly wider than long, subquadrate and strongly carinate at base; front face of T1 without median vertical carina on its upper half; S2 strongly and sharply lowered at base, then wide and almost entirely depressed; T2 approximately as wide as long, slightly wider at base than at apex, apical margin very slightly reflexed; clypeus as wide as long; tempora well developed, in dorsal view appearing about as long as upper lobes of eyes; pronotal carina present only laterally up to humeri; mesepisternum with epicnemial carina well developed; posterior face of propodeum oblique, entirely concave; clypeus with dense punctures, medium thickness, interspaces on average less than diameter of punctures; punctures on frons and vertex slightly smaller, bigger and thicker; punctures of dorsal face of propodeum big, irregular, shallow and flat bottomed, interspaces slightly carinate; posterior face of propodeum smooth, finely wrinkled; T1 thickly punctured, with punctures much bigger than those of mesosoma, interspaces mostly carinate; punctures of T2 equally large, but much more widely spaced, only at apex with slightly thicker punctures; punctures of S2 similar to those of T2, but considerably more

spaced.

Colour description: Body black with red markings. Red portions: spot on frons above interantennal space; mark on tempora; band on pronotum; small spot on mesepisternum; parategulae; apical band on T1 which narrowed at sides; relatively wide regular bands on T2 and S2. Legs and tegulae completely black. Wings infumate, especially along coast.

Distribution: India: West Bengal; Laos.

Remarks: No specimens were available for our studies, hence the description was taken from Giordani Soika (1994).

11. *Parancistrocerus turensis* Girish Kumar & Carpenter sp. n.
(Figs. 28-33)

[urn:lsid:zoobank.org:act:5A4656BE-F228-4342-B818-8ED615B5DA8E](https://zoobank.org/urn:lsid:zoobank.org:act:5A4656BE-F228-4342-B818-8ED615B5DA8E)

Description: Holotype female (Fig. 28): **Head:** 0.96x as wide as long in frontal view (Fig. 29); clypeus (Fig. 30) slightly convex, median area almost flat, extreme apex with two teeth, not sharp, area in between them moderately incised, distance between teeth 0.82x distance between antennal toruli, maximum width of clypeus 1.14x its length medially, with small punctures; frons, vertex and tempora with punctures small and uniformly arranged, diameter of punctures in average less than distance between punctures; POL 1.20x OOL; distance between anterior ocellus and posterior ocelli 1.37x as long as diameter of anterior ocellus; distance between two posterior ocelli 2.38x as long as diameter of posterior ocellus; ocellar triangle protruding; cephalic foveae absent; tempora 0.49x as wide as eye in profile (measured through ocular sinus); interocular distance 1.54x greater on vertex than at clypeus; occipital carina complete and narrowed ventrally; distinct groove present along vertex near occipital carina. Antennal sockets 4.67x farther from each other than from eyes, with granulate punctures; scape 3.29x as long as F1; F1 1.30x as long as F2, as long as wide; flagellomeres widening towards apex.

Mesosoma (Figs. 31 & 32): Anterior face of pronotum uniformly sculptured in front and distinctly slanting, median area with a deeply

A taxonomic review of the genus *Parancistrocerus* Bequaert from the India subcontinent

impressed fovea; pronotal carina absent dorsally, present laterally; posterior face and lateral sides of pronotum, mesoscutum and scutellum strongly and closely punctate, diameter of punctures, on average, as large as or greater than distance between punctures; scutellum with a row of rugose punctures at anterior margin, interspaces carinate; median length of mesoscutum 1.02x its maximum width; metanotum with few scattered punctures; mesopleuron closely punctured except large area of epicnemium and posterior margin smooth; epicnemial carina present; upper metapleuron with few strong transverse striations, lower metapleuron with a vertical row of transverse striations and punctures. Dorsal face of propodeum forming a horizontal area behind midline of metanotum, this horizontal area strongly depressed medially (Fig. 32); posterior face of propodeum almost rounded, concave; area separating dorsal face of propodeum from posterior face not lamellate; median concave area of posterior face of propodeum almost smooth; submarginal carina strongly projecting as lobe above propodeal valvula. Tegula smooth with minute punctures, not evenly rounded posteriorly, emarginate adjoining parategula and shorter than apex of latter posteriorly; forewing with pterostigma 4.4x prestigma, first recurrent vein received in second submarginal cell and second recurrent vein completely interstitial to submarginal cell II and III.

Metasoma (Fig. 33): T1 with irregular transverse carina separating vertical face from dorsal face; vertical anterior face of T1 about as long as dorsal horizontal face; vertical face of T1 almost smooth with few strong scattered punctures; dorsal face of T1 with few large irregular pits just after transverse carina, then small scattered punctures except at apical area smooth; dorsal face of T1 1.93x as wide as its median length; punctures on T2 fine and superficial except at apex and sides more stronger, which distinctly less deeper and superficial than that of mesoscutum; T2 1.06x as wide as its median length; T1 and T2 with narrow apical lamella present, not prolonged in middle; maximum width of T2 1.26x than that of T1; T2 not reflexed at apex; S2 convex at base, very weakly depressed after.

Colour description: Body black with yellow and brown markings. Yellow markings: basal half of mandible; two markings on either side

of clypeus, which invaginated at inner sides; ventral side of scape; spot on inter antennal space; ocular sinus; linear mark on tempora towards vertex; broad band on dorsal face of pronotum anteriorly; small spot on mesopleuron; tegula except brown rounded spot medially; parategula; a band on metanotum; propodeal valvula; apical bands on T1, T2 & S2, of which band on T2 & S2 more broader; very narrow band on T3 & T4, which disappears laterally; outer apex of fore and mid femur; tibia and tarsi of all legs. Brown markings: apical half of mandibles; ventral sides of flagellar segments. Wings almost hyaline, fore wing with subapical fuscous cloud. Body with silvery white hairs.

Length (H+M+T1+T2): 6.5 mm.

Male: Unknown.

Material examined: Holotype female, INDIA: Meghalaya, West Garo Hills Dist., Tura, 3.v.1979, Coll. J.K. Jonathan & Party, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6959.

Distribution: India: Meghalaya: Tura.

Etymology: The species name is after its collection locality.

Discussion: As per the key of Giordani Soika (1994: 153) this new species comes close to *P. feai* Giordani Soika, 1994, in having: base of S2 without longitudinal groove; vertical anterior face of T1 about as long as dorsal horizontal face; S2 convex at base, very weakly depressed after; T2 not reflexed at apex; T2 with apical margin normal, not prolonged at posterior margin medially. However, this new species differs from *P. feai* in having: (1) Width between apical teeth of clypeus less than width between antennal sockets (8: 10) (in *P. feai*, width between apical teeth of clypeus equal to the width between antennal sockets); (2) Upper carina of propodeum not lamellate (in *P. feai*, upper carina of propodeum lamellate); (3) Punctures on T1 and T2 fine and superficial (in *P. feai*, punctures on T1 and T2 denser); (4) Markings on pronotum, mesopleuron, parategula, metanotum, propodeal valvula, T1, T2 and S2 yellow (in *P. feai*, markings on pronotum, mesopleuron, parategula, metanotum, propodeal valvula, T1, T2 and S2 ferruginous);

Plate VI



31



32



33



34



35



36

Figs. 31-33 *Parancistrocerus turensis* Girish Kumar & Carpenter *sp. n.* Holotype female. 31, Head & mesosoma dorsal view; 32, Metanotum & propodeum; 33, Metasoma dorsal view. Figs. 34-36 *P. vicinus* Giordani Soika female. 34, Body profile; 35, Head frontal view; 36, Clypeus.

white hairs (in *P. feai*, head and mesosoma with reddish golden hairs).

12. *Parancistrocerus vicinus* Giordani Soika, 1994

(Figs. 34-42)

Parancistrocerus vicinus Giordani Soika, 1994: 159 (key), 194, Holotype female, "India: Maharashtra, Matheran" (BMNH).

Plate VII



Figs. 37-42 *Parancistrocerus vicinus* Giordani Soika; 37-39 female. 37, Head & mesosoma dorsal view; 38, Metanotum & propodeum; 39, Metasoma. 40-42 male. 40, Body profile; 41, Head frontal view; 42, Antenna.

Diagnosis: Female (Fig. 34): Dorsal face of propodeum fused at midline of metanotum, not forming horizontal area behind midline of metanotum (Fig. 38); T2 with almost regular apical yellow band, about 2 irregular rows of punctures at median area of yellow band (Fig. 39); punctures on T2 larger; T1 with narrow apical yellow band, about 2-3 irregular rows of

punctures at yellow band; clypeus (Fig. 36) longer, strongly emarginate at apex, with less acute apical teeth; clypeus with punctures of average thickness, interspaces about equal to punctures; vertical anterior face of T1 distinctly shorter than dorsal horizontal face; S2 convex at base, very weakly depressed after; T2 not reflexed at apex, with apical

margin normal, not prolonged in middle.

Colour description: Body black with yellow and brown ferruginous markings. Yellow markings: spot at base of mandibles; broad band at base and apex of clypeus; stain on frons above interantennal space; ocular sinus; mark on tempora; lower side of scape; wide band on dorsal surface of pronotum, interrupted medially; speck on top of mesepisternum; tegula (except median brown area); parategula; metanotum; apical mark on fore and mid femora; mark on all tibiae (sometimes absent in hind tibiae); almost regular apical bands on T1, T2 & S2. Brown ferruginous markings: lower face of funicles; mandibles and tegulae (excluding yellow portions); all tarsi. Wings almost hyaline, fore wing with subapical fuscous cloud.

Length (H+M+T1+T2): 6-7 mm.

Male (*hitherto unknown*) (Fig. 40): Clypeus more emarginate at apex than that of female (Fig. 41); apical antennal article pointed at apex and almost reaching to base of 11th article in curved position (Fig. 42). Colour similar to that of female except yellow marks on clypeus more extensive; yellow stain on front, above interantennal space, extended to base of clypeus. **Length** (H+M+T1+T2): 6 mm.

Material examined: INDIA: Kerala, Kozhikode Dist., Kottooli wetland, 2♀, 15.v.2008, Coll. P.M. Sureshan & Party, ZSIK Regd. Nos. ZSI/WGRS/I.R-INV.6960 & 6961; Calicut town, 2♀, 23.ii.2012, Coll. K.P. Mohammed Shareef, ZSIK Regd. Nos. ZSI/WGRS/I.R-INV.6962 & 6963; Vayalada, 1♀ & 1♂, 21.ix.2012, Coll. K.P. Mohammed Shareef, ZSIK Regd. Nos. ZSI/WGRS/I.R-INV.6964 & 6965; Malabar Wildlife Sanctuary, Poozhithodu, Thalipara, 1♀, 18.iv.2013, Coll. P. Girish Kumar, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6966; Nanminda, 1♀, 4.vi.2014, Coll. P. Girish Kumar, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6967; Malabar Wildlife Sanctuary, Kakkayam, 1♀, 23.ii.2016, Coll. P. Girish Kumar, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6968; Wayanad Dist., Sulthan Batheri, 1♀, 22.v.2012, Coll. Lambert Kishore, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6969; Thirunelli, Brahmagiri shola forest, 1♀, 16.ii.2016, Coll. P. Girish Kumar, ZSIK Regd. No. ZSI/WGRS/I.R-INV.6970.

Distribution: India: Kerala (new record), Maharashtra.

**Checklist of Oriental species of
Parancistrocerus Bequaert**

- (1) *P. acarophilus* Giordani Soika, 1994 — Philippines.
- (2) *P. acclivus* Gusenleitner, 2007 — Laos.
- (3a) *P. androcles androcles* (Meade-Waldo, 1910) — India: Kerala, Meghalaya, Tripura (new record); Sri Lanka; Myanmar; Thailand; Vietnam; Malaysia (including Sabah); Singapore; Indonesia: Sumatra, Java, Sulawesi; Philippines.
- (3b) *P. androcles marginalis* Giordani Soika, 1994 — Philippines.
- (3c) *P. androcles scutellaris* Giordani Soika, 1994 — Philippines.
- (3d) *P. androcles sulawensis* Giordani Soika, 1993 — Indonesia: Sulawesi.
- (3e) *P. androcles sumbanus* Giordani Soika, 1994 — Indonesia: Sumba.
- (4) *P. assamensis* (Meade-Waldo, 1910) — India: Meghalaya; Nepal; Myanmar; Laos; Vietnam.
- (5) *P. capocacciai* Giordani Soika, 1994 — Myanmar; Laos.
- (6) *P. citropictus* Giordani Soika, 1994 — Indonesia: Sulawesi.
- (7) *P. cylindricus* (de Saussure, 1862) — Indonesia: Sulawesi.
- (8) *P. cylindroides* Giordani Soika, 1994 — Indonesia: Sulawesi.
- (9a) *P. difformis difformis* Giordani Soika, 1994 — Malaysia: Sabah.
- (9b) *P. difformis nigerrimus* Giordani Soika, 1994 — Malaysia: Sabah.
- (10) *P. feai* Giordani Soika, 1994 — India: Sikkim; Myanmar; Malaysia.
- (11) *P. fulvipes fulvipes* (de Saussure, 1855) — U.S.A.; Mexico; Costa Rica; adventive in Midway Island.
- (12) *P. gracilior* Giordani Soika, 1995 — Indonesia: Sulawesi.
- (13) *P. holzschuhi* Gusenleitner, 1987 — India (new record): Arunachal Pradesh, Meghalaya; Nepal.
- (14) *P. hongkongensis* Gusenleitner, 2002 — China: Hong Kong.
- (15a) *P. incorruptus demens* Giordani Soika, 1972 — India: Sikkim.
- (15b) *P. incorruptus incorruptus* Giordani Soika, 1972 — India: Assam.
- (15c) *P. incorruptus kalimpongensis* Giordani

A taxonomic review of the genus *Parancistrocerus* Bequaert from the India subcontinent

- Soika, 1994 — India: West Bengal.
- (16) *P. inflaticeps* Giordani Soika, 1994 — Indonesia: Java.
- (17) *P. insolitus* Gusenleitner, 2012 — Vietnam.
- (18) *P. intermediatus* (Sonan, 1939), NEW COMBINATION — Taiwan.
- (19) *P. irritatus* Giordani Soika, 1972 — India: Sikkim.
- (20) *P. jaferpaloti* Girish Kumar & Carpenter **sp. n.** — India: Kerala.
- (21) *P. kennethianus* Giordani Soika, 1994 — Malaysia: Sabah.
- (22) *P. kolambuganensis* (von Schulthess, 1934) — Philippines.
- (23) *P. kuraruensis* (Sonan, 1939), NEW COMBINATION — Taiwan.
- (24) *P. loharbandensis* Girish Kumar & Carpenter **sp. n.** — India: Assam.
- (25) *P. luzoncola* van der Vecht, 1981 — Philippines.
- (26) *P. makilingi* Giordani Soika, 1994 — Philippines.
- (27) *P. malayanus* Giordani Soika, 1994 — Malaysia.
- (28) *P. nigriventris* Giordani Soika, 1994 — Malaysia: Sabah.
- (29) *P. nitobei* (Sonan, 1939), NEW COMBINATION — Taiwan.
- (30) *P. pseudodynerus* (Dalla Torre, 1889) — Indonesia: Java.
- (31) *P. pseudallodynerus* Giordani Soika, 1994 — Malaysia: Sabah.
- (32) *P. reflexus* Gusenleitner, 2011 — Laos.
- (33) *P. rhipheus* (Cameron, 1904) — India: West Bengal; Laos.
- (34a) *P. robertianus javanus* Giordani Soika, 1994 — Indonesia: Java.
- (34b) *P. robertianus palawanensis* Giordani Soika, 1993 — Philippines.
- (34c) *P. robertianus robertianus* (Cameron, 1903) — Malaysia: Sarawak; Indonesia: Sumatra.
- (35) *P. samarensis* (von Schulthess, 1934) — Laos; Philippines.
- (36) *P. siamensis* Gusenleitner, 2003 — Thailand.
- (37) *P. simoni* Gusenleitner, 2013 — Laos.
- (38) *P. sulcatus* Giordani Soika, 1994 — Thailand; Laos.
- (39) *P. taihorinensis* (von Schulthess, 1934) — Taiwan.
- (40) *P. taihorinshoensis* (von Schulthess, 1934) — Taiwan.
- (41) *P. taikonus* (Sonan, 1939), NEW COMBINATION — Taiwan.
- (42a) *P. triconcavus rufipes* Giordani Soika, 1994 — Indonesia: Sumba.
- (42b) *P. triconcavus triconcavus* Giordani Soika, 1994 — Indonesia: Sulawesi.
- (43) *P. turensis* Girish Kumar & Carpenter **sp. n.** — India: Meghalaya.
- (44) *P. vicinus* Giordani Soika, 1994 — India: Kerala (new record), Maharashtra.
- (45a) *P. yachowensis konkunesis* Giordani Soika, 1994 — Taiwan.
- (45b) *P. yachowensis yachowensis* Giordani Soika, 1986 — China; Laos.
- (46) *P. yamanei* Gusenleitner, 2000 — Taiwan.

Acknowledgements

The authors are grateful to Dr. Kailash Chandra, Director, Zoological Survey of India, Kolkata, for providing facilities and encouragements.

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