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A NEW SPECIES OF *LISSODYNERUS* GIORDANI SOIKA (HYMENOPTERA: VESPIDAE: EUMENINAE) FROM RUTLAND ISLAND, SOUTHERN ANDAMAN, INDIA

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Abstract: *Lissodynerus rutlandicus* sp. nov. is described from Rutland Island, southern Andaman, India. A checklist of the world species of *Lissodynerus* is also provided.

Keywords: Checklist, Eumeninae, *Lissodynerus*, new species, Vespidae.

Abbreviations: H - Head; M - Mesosoma; OOL - Ocellular distance; POL - Post ocellar distance; S2 - Metasomal sternum 2; T1-T5 - Metasomal terga 1-5.

Lissodynerus is an Oriental and Australian genus of potter wasps. Sixteen species with eight additional subspecies are recorded worldwide, of which one species with one additional subspecies, namely *L. septemfasciatus feanus* (Soika, 1941) and *L. septemfasciatus septemfasciatus* (Smith, 1858), are recorded from the Indian subcontinent. In this paper a new species, namely *Lissodynerus rutlandicus* is described from Rutland Island of southern Andaman, India, and compared with its most similar described species. A taxonomic account of the genus *Lissodynerus* and a world checklist of the species are also provided.

MATERIAL AND METHODS

The specimens were studied and photographed using a Leica Stereo microscope with LAS software version 3.6.0. The types of the new species described are deposited in the 'National Zoological Collections' of the Zoological Survey of India, Kolkata (NZC). All efforts to collect more specimens of this new species by field collection did not succeed.

Lissodynerus rutlandicus sp. nov. (Images 1–6)

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Material examined: Holotype: NZC 14878/H3, 23.xii.2013, male, Kumara Teri (13°09'35.9"N & 92°57'03.3"E), Mancharie Jetty, Rutland Island, southern Andaman, India, coll. G. Srinivasan & Party.

Diagnosis: Clypeus deeply emarginated at apex; T1 with regular and distinctly strong transverse carina and with a very narrow apical lamella; T2-T5 with broad, thick, opaque, brown apical lamella, with almost uniform width laterally and dorsally; upper carina of propodeum

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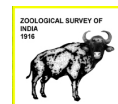
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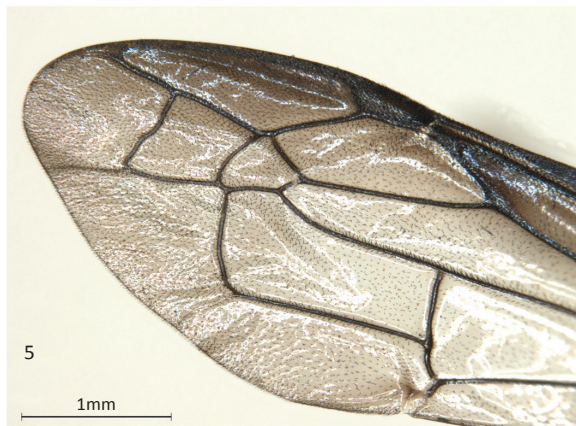
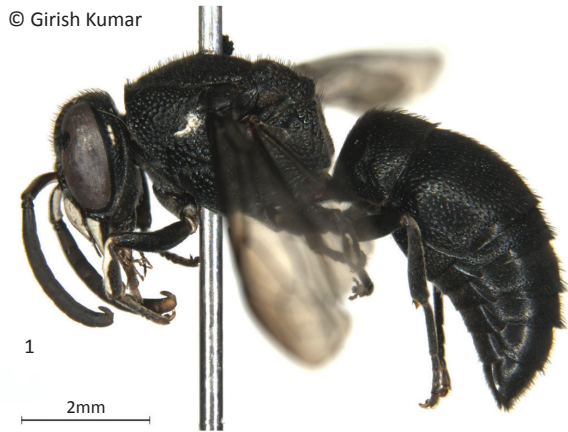
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Images 1–6. *Lissodynerus rutlandicus* sp. nov. (male) (Holotype NZC 14878/H3).

1 - Body profile; 2 - Head frontal view; 3 - Apical antennal articles; 4 - Head & mesosoma dorsal view; 5 - Apical half of forewing; 6 - Metasoma dorsal view

absent; frons and vertex closely, strongly and uniformly punctured, diameter of punctures greater than interspaces; metanotum strongly convex, not gibbous in the middle; base of S2 flat, not furrowed longitudinally; apical antennal article hook-like, somewhat slender and slightly curved; body with strong erect black setae.

Description: Holotype Male (Image 1): Body length

(H+M+T1+T2) 7mm; forewing length 7mm. Body black with white and yellowish-brown to blackish-brown markings. White markings: mandible except lateral and apical portions, a broadly rounded mark on labrum, clypeus except basal and lateral margins and a narrow vertical median line on lower half, interantennal spot, a narrow line on inner margin of eye from base of clypeus

to the ocular sinus, a linear mark on temple near to outer eye margin, ventral face of scape, outer side of fore tibia, outer side of mid tibia faintly, a long mark on outer side of fore basitarsus. Yellowish-brown to blackish-brown markings: maxillary and labial palpus, apex of mandible, ventral side of 11th and 12th antennal articles, apical tarsal segment and claws of all legs. Wings almost hyaline; forewing slightly infumated along anterior margins; stigma blackish-brown; veins dark brown. Apical lamellae of T2-T5 brown. Body with strong erect black setae, the length of setae in average equal to the distance between anterior and posterior ocellus.

Head: 1.09x as wide as long in front view (Image 2); clypeus convex, the extreme apex with two teeth, the area in between them deeply emarginated, the distance between teeth distinctly less than the distance between anterior tentorial pits, maximum width of clypeus 1.43x its length medially, with weak punctures; frons and vertex densely, strongly and uniformly punctured, diameter of punctures greater than interspaces; upper half of temple strongly punctured, lower half sparsely punctured, area towards occipital carina almost smooth; POL 1.18x OOL (Image 4); diameter of anterior ocellus about as long as the distance between anterior ocellus and posterior ocelli; temple 0.50x as wide as eye in profile (measured through its ocular sinus); interocular distance 1.22x greater on vertex than at clypeus; occipital carina complete and narrowed ventrally. Antennal scrobe 4x farther from each other than from eyes, granulately punctured; apical antennal article hook-like (Image 3), reaching to the basal margin of eleventh article, somewhat slender and slightly curved.

Mesosoma (Image 4): Anterior face of pronotum smooth without fovea; pronotal carina strong and complete; posterior face and lateral sides of pronotum, mesoscutum and scutellum strongly and densely punctate, diameter of punctures greater than interspaces; median length of mesoscutum 0.88x its maximum width; metanotum strongly convex, not gibbous in the middle, with its posterior face comes as a part of the posterior face of mesosoma, punctures strong except at posterior area smooth; mesopleuron densely punctured except large area of epicnemium and posterior margin smooth; epicnemial carina present, a line of strong punctures present just below the posterior half of epicnemial carina; upper metapleuron with few strong punctures and transverse striations at upper half, lower metapleuron almost smooth. Propodeum vertical, dorsal side of propodeum with largest rugose punctures, upper carina of propodeum absent, median area of propodeum concave, smooth except punctures

on outer sides, median carina complete, lateral side of propodeum with strong punctures and few strong transverse striations; submarginal carina not projecting as rounded lobe above propodeal valvula. Tegula smooth, not evenly rounded posteriorly, emarginate adjoining parategula; parategula surpassing apex of tegula; axillary fossa narrower than long. Forewing (Image 5) with second submarginal cell not petiolate, first and second recurrent veins both received in submarginal cell II.

Metasoma (Images 6): T1 with regular and strong transverse carina, anterior vertical surface with sparse minute punctures, dorsal surface with uniform punctures, diameter of punctures on median area less than interspaces, lateral sides with dense punctures, maximum width of T1 2.14x its length in dorsal view; T1 0.90x as wide as T2; T2 0.81x as long as wide in dorsal view; punctures on median area of T2 uniformly sculptured, diameter of punctures less than interspaces, but coarser than that of T1, lateral sides and posterior margin near apical lamella with dense punctures; S2 with distinct and strong punctures; T1 with a very narrow apical lamella; T2-T5 with broad, thick, opaque apical lamella, with almost uniform width at the sides and at the middle; base of S2 flat, not furrowed longitudinally.

Female

Unknown.

Etymology

The species is named after the locality (Rutland Island) where the holotype was collected.

DISCUSSION

This new species comes close to *Lissodynerus septemfasciatus* (Smith, 1858) and is particularly similar to the subspecies *Lissodynerus septemfasciatus feanus* (Soika, 1941), in having an apical lamella on T5; apical lamellae of tergites with uniform width laterally and dorsally; metanotum strongly convex; base of S2 flat, without longitudinal groove; apical antennal segment slender and slightly curved; and metasoma entirely black. It runs towards this species in the key of Soika (1994) (except the colour characters in couplet number 6), but it distinctly differs from *L. septemfasciatus* in having: (1) Punctuation on T2 coarser (in *L. septemfasciatus* punctuation on T2 much less coarse); (2) Male clypeus deeply emarginate at apex (in *L. septemfasciatus* male clypeus very shallowly emarginate); (3) T1 with strongly produced transverse carina (in *L. septemfasciatus* T1 with regular thin carina); and (4) Mesosoma and metasoma

entirely black (in *L. septemfasciatus* mesosoma and metasoma with strong yellow maculations except in *L. septemfasciatus feanus* with mesosoma almost entirely black).

It may be noted that in Giordani Soika's (1994: p. 4) key to genera, *Lissodynerus* is distinguished at couplet four by having well-developed apical lamellae on T1–T2, however the first couplet of his species key (p. 302) has as the first alternative that only T2–T3 are lamellate. In a female specimen of *L. septemfasciatus septemfasciatus* in the American Museum of Natural History a lamella is poorly developed, but it is well developed in a female and male of *L. solomon*. The distribution of metasomal lamellae is evidently not a generic character in *Lissodynerus* as the species are variable.

Taxonomic account of the genus *Lissodynerus* Soika, 1993

Soika (1973) used the name *Lissodynerus* as a generic name for *Odynerus septemfasciatus* var. *feanus* Soika, 1941. The author used this generic name, without giving any characters differentiating the taxon, in the description of the male of this subspecies, after having seen it as a manuscript name in a collection and without checking whether it had been published. So, this name was unavailable under Article 13.1.1 of the present International Code of Zoological Nomenclature (van der Vecht & Carpenter 1990). Soika & Kojima (1988) used the name *Trichodynerus* as a generic name in the combination *Trichodynerus agilis cursor* Soika & Kojima, 1988. The authors used this generic name, without giving any characters differentiating the taxon, in the description of a new subspecies, while stating that it had not been published. Therefore this name was also unavailable under Article 13.1.1 of the Code (van der Vecht & Carpenter 1990). Soika (1993) first validly published *Lissodynerus*, designating *Odynerus septemfasciatus* Smith, 1857, as the type species, and making reference to *Lissodynerus* Soika (1973). Subsequently, Soika 1994 (1993), redescribed *Lissodynerus* as a "new genus" based on the type species *Odynerus septemfasciatus* Smith, 1857.

Checklist of world species of *Lissodynerus* Soika, 1993

1. *L. agilis* (Smith, 1859)
 - 1a. *L. agilis agilis* (Smith, 1859) - Indonesia: Moluccas, Papua.
 - 1b. *L. agilis cursor* Soika & Kojima, 1988 - Papua New Guinea.
 - 1c. *L. agilis multifasciatus* Soika, 1994 - Papua New Guinea: Bismarck Islands.

- 1d. *L. agilis novaeguineae* (Soika, 1941) - Indonesia: Papua; Papua New Guinea.
- 1e. *L. agilis postremus* Soika, 1994 - Papua New Guinea: Bismarck Islands.
2. *L. ater* Soika, 1994
 - 2a. *L. ater ater* Soika, 1994 - Solomon Islands.
 - 2b. *L. ater emifasciatus* Soika, 1994 - Solomon Islands.
3. *L. desaussurei* Borsato, 2003 - Australia: Queensland.
4. *L. impulsus* (Smith, 1865) - Indonesia: Moluccas.
5. *L. kurandensis* Soika, 1994 - Australia: Queensland.
6. *L. laminiger* (Gribodo, 1892)
 - 6a. *L. laminiger laminiger* (Gribodo, 1892) - Malaysia (including Sarawak, Sabah); Singapore; Indonesia: Sumatra, Java, Kalimantan.
 - 6b. *L. laminiger ruficauda* Soika, 1994 - Malaysia: Sabah.
7. *L. nigripennis* Soika, 1993 - Indonesia: Papua.
8. *L. niveatus* Soika, 1994 - Philippines.
9. *L. pallidus* Soika, 1994 - Philippines.
10. *L. philippinensis* (von Schulthess, 1913) - Philippines.
11. *L. rutlandicus* Kumar, Srinivasan & Carpenter sp. nov. - India: South Andaman (Rutland Island).
12. *L. septemfasciatus* (Smith, 1858)
 - 12a. *L. septemfasciatus feanus* (Soika, 1941) - Myanmar; Vietnam; Malaysia.
 - 12b. *L. septemfasciatus flavithorax* Soika, 1994 - Indonesia: Sumatra.
 - 12c. *L. septemfasciatus septemfasciatus* (Smith, 1858) - India: Karnataka; Malaysia (including Sarawak); Indonesia: Sumatra; Java.
13. *L. simillimus* Soika, 1994 - Solomon Islands.
14. *L. solomon* Soika, 1993 - Papua New Guinea: Bismarck Islands; Solomon Islands.
15. *L. trilaminatus* Soika, 1994 - Indonesia: Moluccas.
16. *L. vespoides* (Williams, 1919) - Philippines.
17. *L. wilhelmi* Soika, 1996 - Papua New Guinea.

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