

DESCRIPTION OF A NEW SPECIES OF *CERCERIS* LATREILLE
(HYMENOPTERA: SPHECIDAE: PHILANTHINAE: CERCERINI)
ALONG WITH A NEW RECORD FROM INDIA¹

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¹Accepted September 24, 2007

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A new species of *Cerceris* Latreille from India, namely *Cerceris delhiensis* is described and illustrated. Another species, *C. lunata* is recorded for the first time from India. *C. lunata* is also redescribed with emphasis on certain additional characters.

Key words: *Cerceris*, Hymenoptera, Sphecidae, Philanthinae, Cercerini, India

INTRODUCTION

Family Sphecidae constitutes one of the most important groups of predacious solitary wasps within the aculeate Hymenoptera. The first modern classification of Sphecidae was provided by Kohl (1896). At present, it has 11 subfamilies of which Philanthinae is the largest, with around 1,100 described species under 11 genera and 6 tribes.

Tribe Cercerini of subfamily Philanthinae includes small to large wasps, which are relatively common and widespread, characterized by colourful markings and coarsely sculptured integument, and are commonly found on or about flowers. All species are ground nesting and provisions are made with different kind of preys. It is interesting that the Cercerini mainly feed on adult Coleoptera, although Hymenoptera are used by a few species.

Genus *Cerceris* Latreille the largest of the genera of Philanthinae, with about 850 species recorded so far, is well represented in all major zoogeographical regions. The genus *Cerceris* was erected by Linnaeus (1758) as *Sphex*, by Fabricius (1775) as *Crabro*, and by Fabricius (1793) as *Philanthus*. Finally, it was Latreille (1802) who designated the genus as *Cerceris* based on the type species *Philanthus ornatus* Fabricius, 1790.

This genus can be identified by the following characters: clypeus of the female often with distal teeth or other projections, ocellocular distance not reduced, subantennal sclerite nearly always defined by lines from antennal sockets through tentorial pits to clypeus, pronotum raised, but often appressed to scutum, outer vein of the submarginal cell III joining marginal cell at or before its outer third, submarginal cell II nearly always petiolate in front, first gastral segment usually forming a peduncle or sometimes a narrow petiole, terga without median or submedian transverse grooves, female sternum VI usually deeply cleft at apex and male pygidial plate not denticulate laterally.

Cerceris delhiensis sp. nov. (Figs 1-7)

Description

Male: Length: 8.75-9.75 mm.

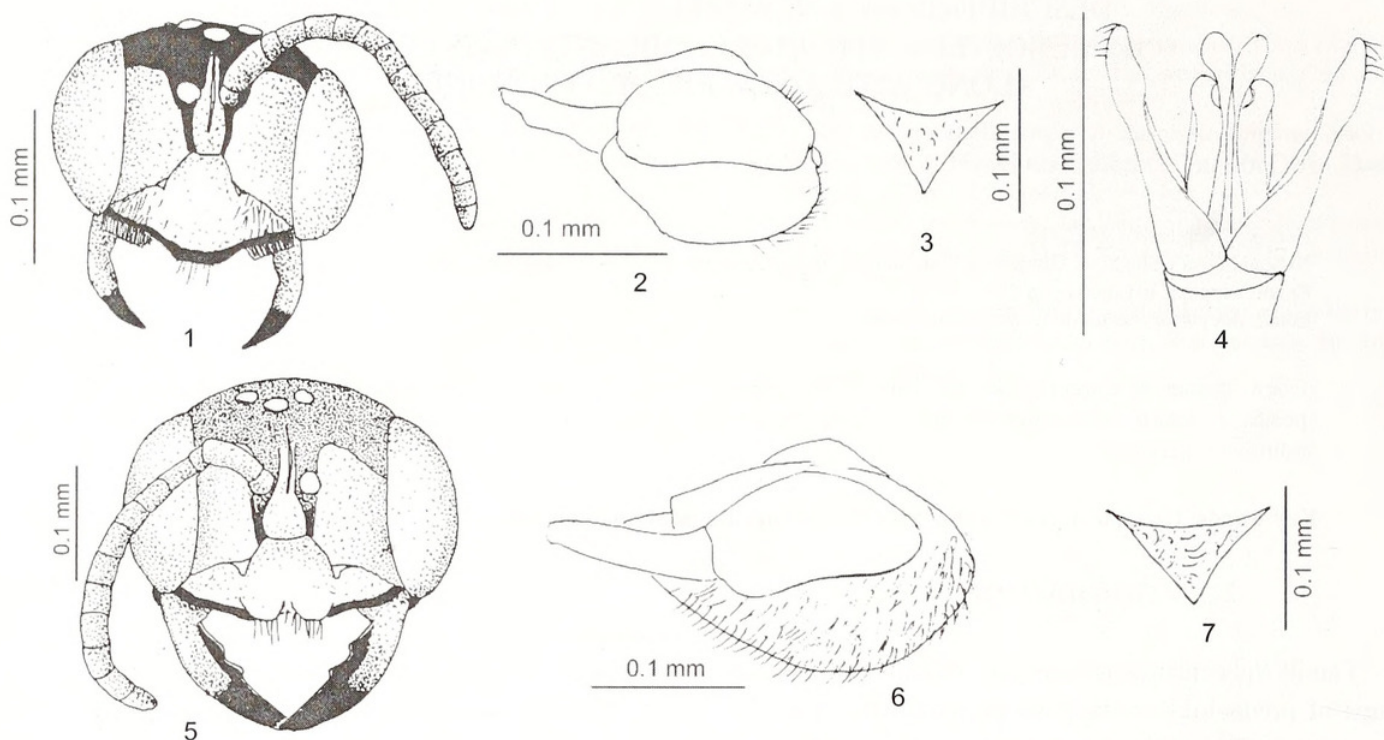
General coloration: Black; the following yellow: basal three-fourth of mandibles, clypeus except at median apical region, scape beneath, no stripe to anterior ocellus, supraclypeal area, side of front to above antennal fossa, streak on interantennal prominence, faint markings behind ocelli, medially interrupted band on pronotal disk, band on scutellum, post scutellum, all legs with a few faint brown markings, except for dorsal apex of hind tibia, base of mid tibia, third, sixth abdominal terga, faint band on apex of fifth sternum; the following parts / areas yellowish brown: second abdominal platform, basal part of third, fourth and fifth sterna; the following reddish brown: propodeum, all abdominal terga except apical carina and basal portions of all segments.

Head broader than thorax; median apical region of clypeus transverse, clypeus, supraclypeal area and median lobe reduced; sub-antennal suture well developed, long and narrow; smooth and shiny head region with coarse shallow punctures, pubescence scarce except at lateral region of clypeus.

Thorax smooth and shiny with a few coarse shallow punctures; scrobal sulcus not deep, carination above the same missing; propodeal enclosure glossy, smooth, punctation like that of thorax, a few long hairs at lateral region; median groove shallow, lateral groove well developed. Inner margin of hind coxa with well developed carina.

Pubescence and punctures on abdomen like that of thorax; basal plate of second, third and fourth abdominal sterna smooth and shiny with fine punctures, declivous laterally, apical plate of entire abdominal sternum with coarse shallow punctures and long silvery pubescence.

Genitalia: 2.31 mm long; elongated; gonostyli 2x broader at base than at apex, its sides narrow at middle but

Figs 1-7: *Cerceris delhiensis* sp. nov.

Holotype male head: 1. dorsal view, 2. lateral view, 3. propodeum, 4. genitalia; Female head: 5. dorsal view, 6. lateral view, 7. propodeum

widening towards apex, inner margin emarginated slightly at apex, apex of gonostyli with a few sensory setae; aedeagus only 0.92x as long as gonostyli, aedeagal lobes touching each other at middle, but diverging at apex and ending in a club shaped aedeagal head; volsella 0.76x as long as gonostyli, outer margin depressed at middle and inner margin emarginated at apex.

Female: Length 11.15-12.1mm.

General coloration: Brown; the following yellow: scape beneath, basal two-third of mandibles, clypeus except at apical margin, supraclypeal area, streak on interantennal lamella, scape beneath, side of face to well above antennal fossae, entire mesopleuron, third abdominal terga, basal plate of sterna; black oblique strip running from above antennal fossa to anterior inner margin of eyes. All abdominal terga and sterna brown. Apex of forewing with infumation beyond marginal cell.

Mandibles with two prominent teeth; median apical region of clypeus sinuate with blunt lateral tooth, with stiff long hairs on inner margin, supraclypeal and side of front slightly protuberant. Long silvery pubescence all over head, thorax, abdominal terga and sterna.

Scrobal sulcus shallow in thorax without carina in lower margin of upper part of mesopleural plate. Propodeal enclosure smooth and shiny. Basal platform of abdomen well developed in second abdominal sternum.

Distribution: INDIA: Delhi, Bihar

Materials Examined: **Holotype:** India: Delhi, ♂, 17.viii.1960, Coll., Menon, on wing. **Paratypes:** Delhi: IARI, 4♂♂, 17.viii.1960, 19.viii.1960, 4.ix.1960, 4.ix.1960, Coll., Menon, on wing; Delhi, ♂, 2.vii.1956, Coll., D.S. Bisht on Lucerne. Bihar, Benhar, 2♀♀, 3.vii.1919, 25.x.1919, Coll., H. Inglis; Delhi: IARI, 3♀♀, 10.ix.1956, 10.ix.1956, 17.viii.1960, Coll., Menon, on wing.

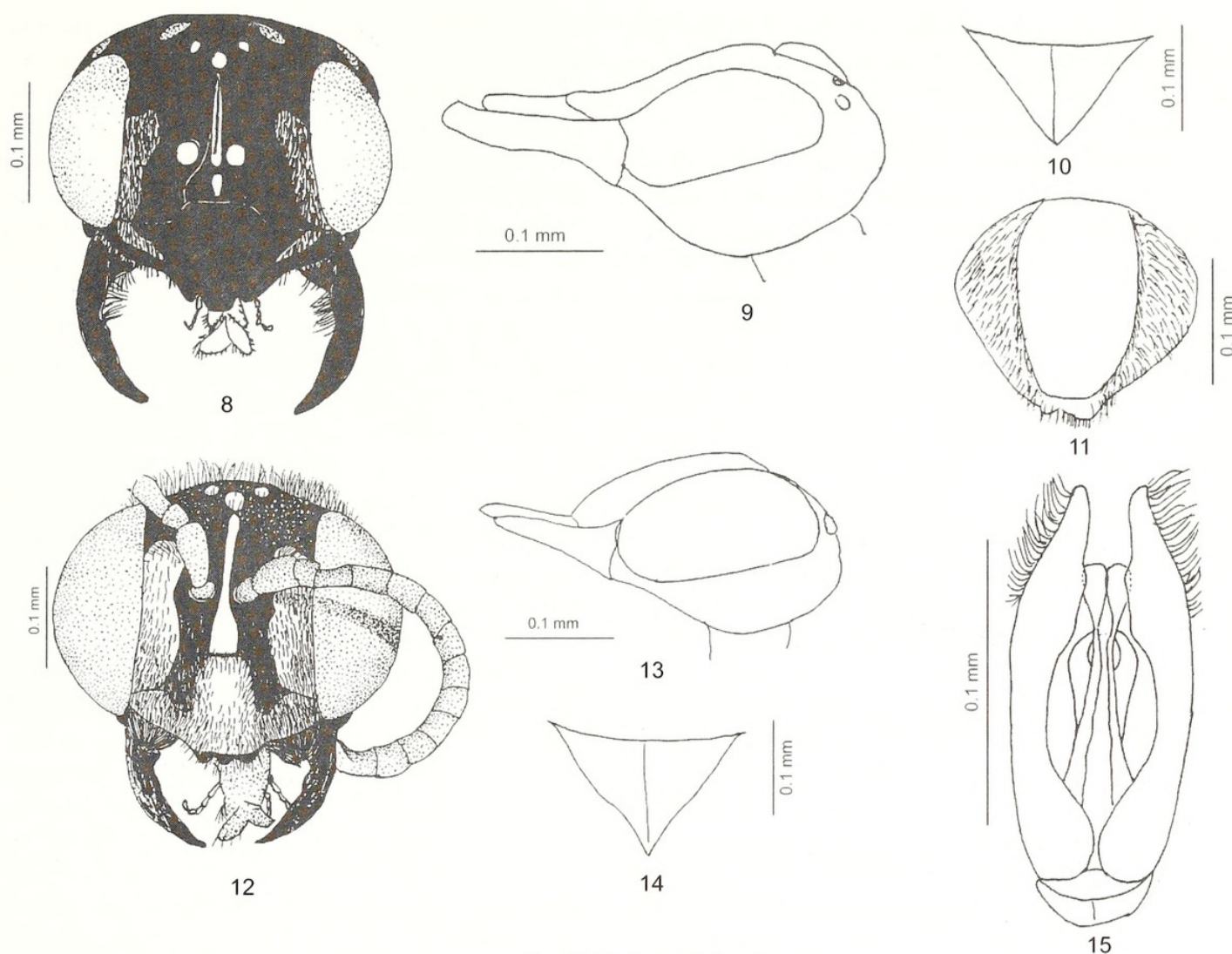
Remarks: Males of this species resemble those of *C. instabilis* except in the general body coloration which is brownish, presence of concave band behind ocelli and temple, band on scutellum, sharp scrobal sulcus and also variations in male genitalia.

Etymology: This species has been named *delhiensis* based on the type locality.

The type specimens of *Cerceris delhiensis* have been deposited at the National Pusa Collection, Division of Entomology, Indian Agricultural Research Institute, New Delhi, India 110 012.

Cerceris lunata Costa (Figs 8-17)

C. lunata hitherto known only from Europe and USSR is being recorded for the first time from India. Further this species is being redescribed with emphasis on certain additional morphological characteristics like distribution pattern of punctation on head, thorax and abdomen, pubescence on the facial area, nature of sculpture on propodeum and propodeal enclosures, extent of development

Figs 8-15: *Cerceris lunata*

Female head: 8. dorsal view, 9. lateral view, 10. propodeum, 11. pygidial plate; Male head: 12. dorsal view, 13. lateral view, 14. propodeum, 15. genitalia

of mesopleuron, nature of scrobal sulcus, nature and extent of development of carina on mesopleural plate, extent of development of carina on inner margin of hind coxae, and shape of pygidial plate. The description has been adequately supported with illustrations.

Female: Length 15.45 to 16.5mm

General coloration: Black; the following yellow: spot on outer proximal part of mandibles, long strip at lateral region of front to above antennal fossa, apical lateral region of clypeus, narrow strip from anterior frontal lobe to just beyond inter antennal prominence, pair of elongated spots behind ocelli, pair of transverse band on anterior region of temple, pair of small spots on pronotal disk, small spot on tegula, anterior surface of fore tibia, midtibia, posterior margin of all tibiae, middle region of basitarsus, medially separated broad spot at apex; the following black: head, antennae, thorax, all legs, propodeum, base of first abdominal segment; the following brown: apex of wing with well diffused infumation

in both pair of wings, apical carina of each segment from second to fifth and pygidial plate. Abdomen entirely reddish brown.

Mandibles slender, inner margin of mandible without teeth; median apical region of clypeus extended forward and subtruncate, emarginated tridentate with small blunt lateral tooth; clypeus and supra clypeus flat, shiny with small dense silvery appressed pubescence all over except on median lobe of clypeus and frontal lobe; punctures shallow and sparse on vertex.

Scrobal sulcus on thorax shallow, very dense strong punctures on entire tergum of thorax, pleuron and sternum; sternum with silvery pubescence. Apophyseal pit at middle of metasternum, very long silvery pubescence on coxa, trochanter and hind leg.

Propodeal enclosures raised, smooth with sparse pubescence on lateral region; transverse rugulae not reaching middle at anterior region; median and lateral grooves well developed.

Coarse deep punctures and long silvery hairs on first abdominal segment; second segment shiny with shallow punctures and small yellowish pubescence all over.

Male: 13.25- 14.45mm

General coloration: The following reddish yellow: basal half of mandible, clypeus, supra clypeus, streak on inter antennal carina, side of front to well above antennal fossa extending to median ocellus from inter antennal carina, antennae, big spot on temple, medially interrupted on pronotal disc, tegula, scutum and scutellum, all legs except at bases of coxae, spot above and below scrobal sulcus, lateral area of propodeum, propodeal enclosure, entire second and third abdominal segments and basal platform of abdominal sternum; the following black: vertex, scutellum, first abdominal segment, fourth and fifth abdominal terga except basally and medially. Pygidial plate brown.

Median apical region of clypeus slightly arched, shallow longitudinal depression at middle from base to apex; clypeal brush well developed laterally. Antennae slender with sharply pointed last flagellar segment.

Punctures on thorax as in female, scrobal sulcus well developed, wings transparent unlike in female, apophyseal

pit at middle of metasternum, carina at inner margin of hind coxa. Propodeal enclosure well raised with fine punctures.

Genitalia: Gonostyli 1.52 mm long; outer four-fifth of the gonostyli from base to apex slightly curved, basal one fifth of gonostyli broad and rounded, middle portion relatively slender but widening before finally tapering towards apex, outer distal one third of the gonostyli provided with long and curved sensory hairs; aedeagus 0.71x as long as gonostyli, aedeagal arms highly divergent at base, but converging later and ends in a pair of inflated structures; volsella 0.55x as long as gonostyli, its outer margin depressed near middle and inner margin emarginated near apex.

Distribution: INDIA: Bihar: Benhar, Chapra.

Materials Examined: Bihar; Chapra, ♀, Coll. Mackenzie; Chapra, 8 ♂♂, H/4710, H/4769, H/4836, Coll. Mackenzie; Bihar; Benhar, ♂, 27.vii.1919, Coll. H. Inglis.

ACKNOWLEDGEMENT

The senior author acknowledges the Junior Research Fellowship received from ICAR during the course of his studies.

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Coumar, A and Dey, Debjani. 2007. "Description of a new Species of *Cerceris* Latreille (Hymenoptera: Sphecidae: Philanthinae: Cercerini) Along with a new Record from India." *The journal of the Bombay Natural History Society* 104, 339–342.

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