Description of new species of genus *Cerapachys*, Smith (Hymenoptera : Formicidae) from Kerala, India

K.A. Karmaly^{*}, T.P. Rabeesh and S. Sumesh

Department of Zoology, St. Xavier's College for Women, Aluva, Kerala - 683 101, India

ABSTRACT

A new species of *Cerapachys* Smith has been described from Palakkad district, Kerala and its affinities have been discussed with related species.

Key words : Cerapachys, taxonomy, new species.

Palakkad lies near the Palghat Gap, a pass or natural depression through the Western Ghats ranges that run parallel to the West Coast of India, and connects Kerala to the plains of the state of Tamil Nadu to the East. It lies 10° 47 North latitude, 76° 40 East longitudes, and altitude 84 m above Sea Level.

Genus *Cerapachys*, Smith coming under the subfamily Cerapachinae, and is classified in Super family Vespoidea, family Formicidae, tribe Formicoxenini, Order Hymenoptera. There are one hundred and fourty six species of *Cerapachys* Smith all over the world (Bolton, *et al.* 2007). Among these six species are from India (Himender Bharathi, 2011).

MATERIALS AND METHODS

Specimens were collected by using sweeping method. Collected specimens were kept in 70% alcohol for further studies. It were mounted on rectangular cards and pinned with Astha insect pins of size 38 mm × 0.53 of 3 (made by Newy Goodman Ltd, UK). The observations were made using Leica MZ6 stereo zoom microscope (Germany).

RESULTS AND DISCUSSION

Cerapachys keralensis, Karmaly sp.nov

Worker minor : TL = 4.8 mm; HL = 1 mm; HW = 0.7 mm; CI = 70; SL = 0.6 mm; SI = 85.7; ED = 0.2 mm; PW = 0.7 mm; AL = 1.2 mm.

Colour : Head, thorax, node, gaster blackish brown; shining; antennae, mandible, legs reddish yellow; hairs whitish.

Sculpture and hair pattern : Head, thorax, node, gaster punctured; mandibles, antennae, legs smooth; whole body pubescent, covered with white hairs.

Head : Ovalo-rectangular; mandibles triangular, masticatory margin broad, obsoletely dentate; clypeus very narrow, prominent, concave, transverse; eyes round, small, lateral; antennal hollow very widened; presence of antennal scrobe; antennae 12 segmented, scape cylindrical, not reaching to the vertex; funiculus short, stout, basal joints of funiculus very short, apical joint very long, thickened, massive, pointed at apex;. Relative measurements of length of antennal segments: Scape = 0.6 mm, F₁ = 0.09 mm, F₂ = 0.10 mm, F₃ = 0.12 mm, F₄ = 0.18 mm, F₅ = 0.20 mm, F₆ = 0.22 mm, F₇ = 0.24 mm, F₈ = 0.25, F₉ = 0.26, F₁₀ = 0.28, F₁₁ = 0.29, club (F₁₂) = 0.4 mm.

Thorax : Arched above, short; pronotum tapering at the anterior end forming a constriction between occiput and pronotum; promeso, mesometanotal suture indistinct; legs elongate; stout; femora, tibia cylindrical; tibia pectinate.

Gaster : Pedicel single jointed, nodiform, nearly square, broader than long, pedicel with a projection beneath; gaster five segmented, truncate, slightly concave in front, slightly convex above, elongate, basal segment much broader posteriorly than in front, second segment wide and long, convex above;

^{*}Corresponding author's E-mail: dr.karmaly@gmail.com



Lateral view

the constriction between basal two segments very deep, last 4 segment small hidden, 5th segment ends with a sting.

Holotype : Worker minor: 10° 47' N, 76° 40' E, 84 m, INDIA: Kerala, Palakkad, (Karmaly & party, 23.VI.2009 [DZSXCA]).

Paratype : 1W: With same data as that of holotype [DZSXCA].

All specimens are in the collections of Department of Zoology, St. Xavier's College for Women, Aluva, [DZSXCA]. But eventually will be transferred to Western Ghats Regional station of Zoological Survey of India, Calicut [ZSIC]

Distribution : India [Kerala : Palakkad].

Biology : Unknown.

Habitat : Collected from disturbed area.

Etymology : Named after the state from which the specimen was collected.

Cerapachys keralensis, Karmaly sp.nov. Closely resembles to *Cerapachys rissi*, Forel in following features: 1. Antennae 12 jointed., 2. The constriction between basal two segments of abdomen very deep, 3. Head, thorax, abdomen black, shiny; Mandibles, clypeus, antennae, legs reddish yellow.

However *Cerapachys keralensis*, Karmaly sp. nov differs from *Cerapachys rissi*, Forel in having: 1. Abdomen punctured (in *Cerapachys rissi*, Forel abdomen smooth)., 2. Pedicel with projection beneath (In Cerapachys rissi, Forel Pedicel without projection beneath)., 3. Whole body covered with whitish hairs (in *Cerapachys rissi*, Forel whole body covered with yellowish hairs).

Abbreviation : **TL**: Total length, **HL**: Head length, **HW**: Head width, **PW**: Pronotal width, **CI**: Cephalic index



Dorsal view

(HWx100)/HL, **SL**: Scape length, **SI**: Scape index (SLX100)/HW, **ED**: Eye diameter, **AL**: Alitrunk length, **F1-F12**: Funicular segments, **DZSXCA**: Department of Zoology St.xaviers College for women Aluva. **ZSIC**: Western Ghats Regional Station on Zoological Survey of India, Calicut.

ACKNOWLEDGEMENTS

The authors are grateful to DST (Department of Science and Technology Govt. of India) for financial assistance. We are grateful to Dr T.C. Narendran, Emeritus, Professor, Department of Zoology, University of Calicut, Kerala, India for critically examining this manuscript. We are also thankful to Sr. Pauly T.F., Principal, St. Xavier's Collage for Women, Aluva for providing necessary facilities to carry out our work.

REFERENCES

- Bingham, C.T. 1903. The fauna of British India including Ceylon and Burma. *Hymenoptera Vol II. Ants and Cuckoo Wasps*. Taylor and Francis, London. 506 pp.
- Bolton, B. 1994. Identification guide to the Ant Genera of the World, Harvard University Press, Cambridge, Massachusetts. 222 pp.
- Bolton, B. 1995. A new General Catalogue of the Ants of the world. Harvard University Press, Cambridge, Massachusetts. 504 pp.
- Bolton, B., Alpert, G., Ward, P.S. and Naskrecki, P. 2007. Bolton's Catalogue of Ants of the World, (1758-2005). Compact Disc Edition, Harvard University Press, Cambridge, Massachusetts.
- Bharti, Himender. 2011. List of Indian Ants (Hymenoptera : Formicidae). *Halteres. Vol.* 3.

Description of new species of genus Cerapachys, Smith (Hymenoptera : Formicidae) from Kerala, India

- Forel, A. 1900. Let formicides de l'Empire des Indes et da Ceylan. Part. 7 *Jour. Bomb. Nat. Hist. Society.* **13**: 303-32
- Holldobler, B. and Wilson, E.O. 1990. The Ants. Harvard University Press, Cambridge, Massachusetts. 746 pp.
- Smith, F. 1857. Catalogue of the hymenopterous insects collected at Sarawak, Borneo; Mount Ophir, Malacca; and at Singapore, by A.R. Walace. *Journal Proceedings of the Linnean Society if London, Zoology.* **2**: 42-48.
- Wheeler, W.M. 1913. Ants, their structure, Development and Behaviour. *Colombia University Biological Series*, **9**: 663 pp.

(Accepted : April 30, 2012)