



New distributional record of *Delta conoideum* (Gmelin, 1790) (Hymenoptera: Vespidae: Eumeninae) from India

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Abstract: The potter wasp species *Delta conoideum* (Gmelin, 1790) newly recorded from Andhra Pradesh, Assam, Diu, Jharkhand, Karnataka, Madhya Pradesh, Meghalaya, Pondicherry and Telangana.

Introduction

Delta conoideum (Gmelin, 1790) is a widely distributed potter wasp species in India. They usually make their nests on the walls of buildings using mud. Even though it is a widely distributed species in India, only limited distributional records are published so far. This paper describes large number of specimens present at the Zoological Survey of India, Kolkata, collected from different localities of the country. The species is recorded for the first time from Andhra Pradesh, Assam, Diu, Jharkhand, Karnataka, Madhya Pradesh, Meghalaya, Pondicherry and Telangana.

Material and Methods

This study was based on large number of specimens present in the Hymenoptera Section of the Zoological Survey of India, Kolkata, collected from various localities of India. All the specimens were properly preserved, registered and added to the 'National Zoological Collections' of the Zoological Survey of India, Kolkata (NZC). The specimens were studied and photographed using a Leica Stereo microscope with LAS software version 3.6.0.

Abbreviations used for the terms: H = Head; M = Mesosoma; T1-T2 = Gastral tergites 1 and 2; S2 = Gastral sternum 2.

Results and Discussions

Delta conoideum (Gmelin, 1790)

Vespa conica Fabricius, 1787, 293, "China" [junior primary homonym of *Vespa conica* Fabricius, 1775].

Vespa conoidea Gmelin, 1790, 2753 [new name for *V. conica* Fabricius, 1787].

Sphex conica; Christ, 1791, 299 (translation of original description; "Amerika").

Eumenes conica; Fabricius, 1804, 285.

Eumenes maxillosus var. *conicus*; von Schulthess, 1914, 262 (Ceylon).

Eumenes conoideus; van der Vecht, 1960, 5 (notes).

Eumenes emarginatus conoideus; Iwata, 1965, 105, pl. 10 fig. 12 (egg).

Delta conoideum; Gusenleitner, 1987, 269 (Nepal).

Diagnosis: *Female* (Fig. 1): Head (Fig. 2) above the antennal toruli and mesosoma

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Figs. 1-6. *Delta conoideum* (Gmelin). 1-2 Female. 1. Body profile; 2. Head frontal view. 3-6 Male. 3. Head frontal view; 4. Mandible; 5. Abdomen; 6. Genitalia.

closely and lightly punctured; clypeus smooth, pyriform, apex truncate and slightly emarginate; metasoma smooth and shining

with surface minutely aciculate; S2 with deep wide median longitudinal groove.

Colour: Head yellow except mandible reddish brown; antenna pale brown except ventral

side of scape yellow; a broad transverse band across the apex between top of eyes black; black mark usually extends behind vertex to occiput; mesosoma dark red with black patches on mesoscutum, metapleuron and median area of propodeum; propleuron usually entirely black; transverse carina of propodeum usually yellow; legs pale reddish; metasoma dark red with base of T1, and base of T2 and with a short transverse medially interrupted band on its middle above black; forewing basally flavo-hyaline and apically fusco-hyaline.

Male: Last antennal article (Fig. 3-6) hooked apically, hook long, curved, pointed and reaches the base of tenth antennal article in elevated position; S7 with a deep median longitudinal groove; apical antennal articles black on ventral side; genitalia as in fig. 6; male comparatively smaller than female. Other characters almost same as that of female.

Size (H+M+T1+T2): Female 23-26 mm; Male 16-18 mm.

Specimens examined (other than the specimens studied in Srinivasan & Girish Kumar, 2010 & 2013; Girish Kumar *et al.*, 2012; Girish Kumar & Gaurav Sharma, 2014): INDIA: **Andhra Pradesh**, Chittoor district, Bakrapet, 1♂, 23.viii.1964, Coll. K. Reddiah, NZC Regd. No. 15793/H3; Kadapa district, Chennur, 1♀, 31.xii.1999, Coll. G.C. Sen & Party, NZC Regd. No. 15794/H3. Assam, Cachar district, Ramnagar, 1♀, 27.v.1979, Coll. S.B. Roy & Party, NZC Regd. No. 15795/H3; Guwahati district, Gauhati University Campus, 1♀, 10.xii.2011, Coll. Neli, NZC Regd. No. 15796/H3. Chhattisgarh, Raipur district, Lalbandha pondside, 1♀, 2.viii.2011, Coll. S.K. Gupta & Party, NZC Regd. No. 14529/H3; Gariaband district, Kodhmali, 1♀, 18.x.2011, Coll. S.K. Gupta & Party, NZC Regd. No. 14530/H3; Jashpur district, Bardand, 1♀, 25.v.2012, Coll. A. Raha & Party, NZC Regd. No. 14531/H3; Raipur

district, Barnawapara WLS, Domarpani, 1♀, 26.iv.2012, Coll. S.K. Gupta & Party, NZC Regd. No. 15115/H3; Bastar district, Jagadapur, 1♀, 11.v.2012, Coll. R.P. Gupta & Party, NZC Regd. No. 15116/H3; Kabirdham district, Boramdeo WLS, Rengakhar forest, 1♀, 7.vi.2012, Coll. Kailash Chandra & Party, NZC Regd. No. 15117/H3; Korba district, Kudmura, 1♀, 30.v.2012, Coll. A. Raha & Party, NZC Regd. No. 15118/H3; Korba district, Kudmura, 2♂, 27.iii.2014, Coll. E.E. Jehamalar & Party, NZC Regd. Nos. 15119/H3 & 15120/H3. Diu, Nagoa beachside, 3♂, 14.vii.2014, Coll. Gaurav Sharma & Party, NZC Regd. Nos. 15797/H3-15799/H3. **Gujarat**, Junagadh district, Somnath, 1♂, 28.xi.1912, Coll. S.P.A., NZC Regd. No. 15800/H3. Jharkhand, Ranchi, 2♀, date of collection unknown, Coll. Irvine, NZC Regd. Nos. 15801/H3 & 15802/H3; Giridih, 1♀, 25.vii.1909, Coll. J.T. Jenkins, NZC Regd. No. 15803/H3; Hazaribag district, Barhi, 2♂, 5.xii.1968, Coll. R. Tilak & Party, NZC Regd. Nos. 15804/H3 & 15805/H3; West Singbhum district, Dumbisai, 1♀, 10.xii.1968, Coll. R. Tilak & Party, NZC Regd. No. 15806/H3; West Singbhum district, South Koel Riverside, 1♀, 14.xii.1968, Coll. R. Tilak & Party, NZC Regd. No. 15807/H3. **Karnataka**, Bengaluru, 3♀, date of collection and name of collector unknown, NZC Regd. Nos. 3230/H3, 3255/H3 & 3256/H3; Mysore, 1♀, date of collection and name of collector unknown, NZC Regd. No. 3249/H3; Bengaluru, 4♀&1♂, date of collection unknown, Coll. Cameron, NZC Regd. Nos. 3235/H3, 3240/H3, 3241/H3, 3245/H3 & 3252/H3; Belgavi district, Gokak, 1♀, xi.1928, Coll. B.P. & H.S.R., NZC Regd. No. 15808/H3; Shimoga, 1♀, 9.xii.1928, Coll. H.S.R., NZC Regd. No. 15809/H3; Bengaluru district, Hebbal, 1♀, 25.x.1976, Coll. Unknown, NZC Regd. No. 15810/H3; Bengaluru, 1♀, 10.vii.1979, Coll. Unknown, NZC Regd. No. 15811/H3; Chitradurga, 1♀, 23.xii.1980, Coll. S.K. Gupta, NZC Regd. No. 15812/H3; Dharwad district,



Hubli, 1♀, 6.iv.1984, Coll. M.S. Shishodia & Party, NZC Regd. No. 15813/H3. **Kerala**, Thiruvananthapuram, 2♀, iii.1888, Coll. Unknown, NZC Regd. Nos. 15814/H3 & 15815/H3. **Madhya Pradesh**, Jabalpur, 1♀, 3-8.iv.1905, Coll. Brunetti, NZC Regd. No. 15816/H3. **Maharashtra**, Satara district, Karad, 1♀, 2.v.1913, Coll. Agarkar, NZC Regd. No. 15817/H3; Ahmednagar district, Pravaranagar, 1♂, 5.iii.2009, Coll. S.I. Kazmi & Party, NZC Regd. No. 15818/H3; Satara district, Ambheri, 3♀ & 6♂, 9.iii.2009, Coll. S.I. Kazmi & Party, NZC Regd. Nos. 15819/H3-15827/H3; Satara district, Godoli, 1♀ & 4♂, 9.iii.2009, Coll. S.I. Kazmi & Party, NZC Regd. Nos. 15828/H3-15832/H3; Kolhapur district, Giroli, 1♀, 11.iii.2009, Coll. S.I. Kazmi & Party, NZC Regd. No. 15833/H3. **Meghalaya**, East Garo Hills district, Dainadubi, 3♂, 8-13.v.1979, Coll. S.B. Roy & Party, NZC Regd. Nos. 15834/H3-15836/H3. **Odisha**, Kendrapara district, Balighai, 1♀, 16-20.viii.1911, Coll. F.H. Gravely, NZC Regd. No. 15837/H3; Chilka lake, Barkuda Island, 1♀, 25.vii-4.viii.1917, Coll. Annandale, NZC Regd. No. 15838/H3; Ganjam, 1♀, date of collection and name of collector unknown, NZC Regd. No. 15839/H3; Bhubaneswar, 1♂, date of collection unknown, Coll. Jusharendu Ray, NZC Regd. No. 15840/H3. Pondicherry, Karaikal, 2♀, i.1957, Coll. P.S. Nathan, NZC Regd. Nos. 15892/H3 & 15893/H3; Karaikal, 1♀ & 1♂, xi.1962, Coll. P.S. Nathan, NZC Regd. Nos. 15894/H3 & 15895/H3; Karaikal, 1♂, ii.1963, Coll. P.S. Nathan, NZC Regd. No. 15896/H3; Karaikal, 1♀, iii.1964, Coll. P.S. Nathan, NZC Regd. No. 15897/H3. **Sikkim**, East Sikkim district, Rangpo, 1♀, 12.xi.1992, Coll. A.K. Hazra & Party, NZC Regd. No. 15898/H3; South Sikkim district, Jorethang, 3♀ & 1♂, 10.xi.1994, Coll. G.C. Sen & Party, NZC Regd. Nos. 15899/H3-15902/H3; South Sikkim district, Melli Bazar, 2♂, 14.x.1995, Coll. S.C. Mitra & Party, NZC Regd. Nos. 15903/H3 & 15904/H3. **Tamil Nadu**, Ramanathapuram, 1♀, date of collection and name of collector unknown, NZC Regd. No.

15905/H3; Coimbatore, 10♀ & 2♂, vii.1956-xi.1964, Coll. P.S. Nathan, NZC Regd. Nos. 15906/H3-15917/H3. **Telangana**, Mehabubnagar district, Sangambanda, 1♀, 10.x.1998, Coll. S.P. Chakraborty & Party, NZC Regd. No. 15928/H3. **Tripura**, West Tripura district, Joynagar, 1♀, 30.x.1974, Coll. M.S. Shishodia & Party, NZC Regd. No. 15929/H3; Dhalai district, Laxmipur, 1♀, 10.xii.1977, Coll. N. Muraleedharan & Party, NZC Regd. No. 15930/H3; South Tripura district, Garjee, 1♀, 12-15.v.1978, Coll. J.K. Jonathan & Party, NZC Regd. No. 15931/H3; South Tripura district, Ambassa, 1♀, 25.v.1978, Coll. A. Issar, NZC Regd. No. 15932/H3; South Tripura district, Ambassa, 1♂, 26.v.1978, Coll. J.K. Jonathan & Party, NZC Regd. No. 15933/H3; South Tripura district, Ambassa, 1♀, 5.xii.1988, Coll. R.C. Basu & Party, NZC Regd. No. 15934/H3. **West Bengal**, Kolkata district, Jabakusum House, 1♀, 22.vii.1978, Coll. T.K. Mukherjee & Party, NZC Regd. No. 16007/H3; Bankura district, Simlapal, 1♀, 31.x.1985, Coll. M. Dutta & Party, NZC Regd. No. 16008/H3; Bankura district, Jamuna Bandh, 1♀, 18.xii.1985, Coll. D.K. Mondal & Party, NZC Regd. No. 16009/H3; Bankura district, Dhabani, 1♀, 25.xi.2011, Coll. B. Mitra & Party, NZC Regd. No. 16010/H3; S-24 Parganas district, Sunderbans Biosphere Reserve, Pakhirala, 2♀, 2-3.viii.2013, Coll. Gaurav Sharma & Party, NZC Regd. Nos. 14634/H3 & 14635/H3; Birajnagar, 2♀ & 1♂, 5.viii.2013, Coll. Gaurav Sharma & Party, NZC Regd. Nos. 14636/H3 to 14638/H3; Nadia district, Taherpur, 1♂, 16.x.2014, Coll. P. Girish Kumar, NZC Regd. No. 16011/H3.

Distribution: INDIA: Andhra Pradesh (new record), Arunachal Pradesh, Assam (new record), Bihar, Chhattisgarh, Diu (new record), Gujarat, Jharkhand (new record), Karnataka (new record), Kerala, Madhya Pradesh (new record), Maharashtra, Meghalaya (new record), Odisha, Pondicherry (new record), Rajasthan, Sikkim, Tamil Nadu,



Telangana (new record), Tripura, Uttarakhand, Uttar Pradesh, West Bengal. Elsewhere: China, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand.

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