



A new species of the genus *Anumanniola* Narendran (Chalcidoidea: Eulophidae) from India

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ABSTRACT: *Anumanniola narendrani* sp. nov. is described as new species from India. A diagnosis for the genus *Anumanniola* Narendran, with some additional characters is also discussed.

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KEYWORDS: Eulophidae, *Anumanniola narendrani* sp. nov., India

The genus *Anumanniola* was erected by Narendran (in Narendran and Sinu, 2003) for species *Anumanniola lasallei* Narendran, based on the single specimen collected from Karnataka. After a gap of thirteen years, we describe here another new species *A. narendrani* sp. nov., based on specimens collected from Indian States of Andhra Pradesh and Karnataka. A diagnosis of the genus is provided with some other important additional characters.

The present study is based on specimens collected mainly by sweep net from Indian States of Andhra Pradesh and Karnataka. Body colour was noted from card mounted specimens before clearing and mounting the specimens on slides in Canada balsam. The body length for the new species is given in millimetres. All other measurements are relative taken from the divisions of a linear scale of an ocular-micrometer. These measurements were taken at 100× magnification of the microscope (one ocular micrometer division = 0.01 mm).

The photomicrographs of card mounted specimens were taken with digital camera (Nikon DS-Fi2) attached to a stereo zoom microscope (Nikon

SMZ25) and the photomicrographs of slide mounted parts were taken with a digital camera (Nikon DS-Fi1c) attached to a compound microscope (Nikon Eclipse Ci).

The following abbreviations are used in the text:

C1, C2, etc. = Clava segments 1, 2, .. etc.

F1, F2, .. etc. = Funicle segments 1, 2, .. etc.

T1, T2, .. etc. = Gastral tergites 1, 2, .. etc.

The following acronyms are used for the depositories:

NBAIR = National Bureau of Agricultural Insect Resources, Bengaluru, India.

ZDAMU = Insect collections, Department of Zoology, Aligarh Muslim University, Aligarh, India.

Genus *Anumanniola* Narendran

Anumanniola Narendran, 2003: 1031. Type species *Anumanniola lasallei* Narendran, by monotypy and original designation.

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Diagnosis: Female. Head broader than high; occipital carina, frontal suture and antennal scrobe indistinct; toruli slightly above to lower eye margin; antenna with scape flattened, dilated apically; annuli ?1- or 2-segmented, funicle 4-segmented and clava 2-segmented; pronotum somewhat bell-shaped; mesoscutum sculptured with 2 pairs of thick setae; scutellum medially smooth, with or without a shallow groove, with two pairs of setae, sides longitudinally reticulate (Figs 2 & 4); propodeum with a pair of submedian carinae diverging posteriorly; dorsellum with bulging sculptures on anterior margin; fore wing with apex infuscate; postmarginal vein longer than stigmal vein; coastal cell shorter than marginal vein; apex of metasoma may be tilted upwards (Fig. 1). Legs with mid femur with a characteristic spine (Fig. 10).

Species: World, 2; India, 2.

Anumanniola narendrani sp. nov. (Figures 3–11)

LSID urn:lsid:zoobank.org:act:955C0215-73FF-4483-8764-1E70FE3175E2

Female: Length 0.8–0.9 mm (Holotype, 0.8). Head dark brown. Antenna brown to dark brown except last claval segment white to almost translucent. Mesosoma dark brown. Fore wing (Fig. 8) subhyaline, apically infuscate; fore legs, including coxa, pale white except tarsi pale brown; mid and hind legs pale brown with coxae pale white. Gaster pale brown to brown, with a black line in the middle running from T2–T6, distinct in carded specimen.

Head (Fig. 5) narrower than mesosoma, in frontal view, 1.55× as broad as long, 1.6 × frontovertex width; 4 setae in a row near lateral margins of eyes. Eye height 2.86× as long as malar space, a deep groove arising posteriorly from inner eye margin. Antennal (Fig. 6, 7) toruli slightly above to lower eye margin; scape flattened, dilated apically, 2.5× as long as broad; pedicel 1.25× as long as broad, 0.25× scape length; flagellum with 2 annuli, transverse; distal annulus broader than proximal annulus, and with long setae; funicle 4-segmented, F1 invariably longer than F2–F4 individually; clava 2-segmented, 3.42× as long as broad; second claval segment conical with apical spicula.

Mesosoma (Fig. 4) 1.94 × as long as broad; pronotum 0.56× length of mesoscutum, transversely

reticulate, more prominent in anterior third and with a pair of thick setae posteriorly; notauli distinct reaching less than half length of mesoscutum; mesoscutum with raised polygonal reticulate sculpture; mid lobe of mesoscutum with 2 pairs of setae; each side lobe with one thick seta at posterior margin; scutellum subquadrate, medially smooth, laterally with longitudinal reticulation and with 2 pairs of setae; dorsellum smooth with bulging sculpture on anterior margin; propodeum smooth, and with two submedian carinae, slightly diverging posteriorly but not reaching to margin. Fore wing (Fig. 8) 3.28× as long as broad; submarginal vein + parastigma 1.06× length of marginal vein and 8.83× as long as stigmal vein; post marginal vein 2.5× as long as stigmal vein; longest marginal seta 0.33× maximum wing width. Hind wing (Fig. 9) 8.28× as long as broad; longest marginal seta 1.07× maximum wing width. Mid femur with a characteristic spine (Fig. 10).

Metasoma (Fig. 11) - Petiole 2.2× as broad as long with, one pair of lateral spines; gaster longer than mesosoma; ovipositor occupying more than two-third length of gaster, slightly exerted beyond apex of gaster and 1.24× as long as hind tibia.

Relative measurements (holotype): Head length: width, 18:28; frontovertex width, 17; eye height, 13; malar space, 4.5; Antennal segments length: width – scape, 15:6; pedicel: 3.75: 3; F1, 10: 5.75; F2, 7.5: 6.75; F3, 7: 6.75; F4, 5.5: 5.75, C1, 5.75: 3.5, C2, 5.75: 2.25; spicula, 1.5. Fore wing length: width, 69: 21; longest marginal seta, 7; submarginal vein length, 23; parastigma length, 3.5; marginal vein length, 25; stigmal vein length, 3; postmarginal vein length, 7.5. Hind wing length: width, 58: 7; longest marginal seta, 7.5; Mesosoma length: width, 37: 19; hind tibia, 29. Metasoma. Petiole length: width, 2.25: 5; gaster length, 39 ovipositor length, 36.

Male: Unknown.

Material examined: Holotype, female (on slide under four cover slips) labelled:

INDIA: ANDHRA PRADESH, East Godawri, Kakinada, Thimmapuram, 07.ii.2014, Coll. M.T. Khan". (ZDAMU, Reg. No. HYM. CH.774).

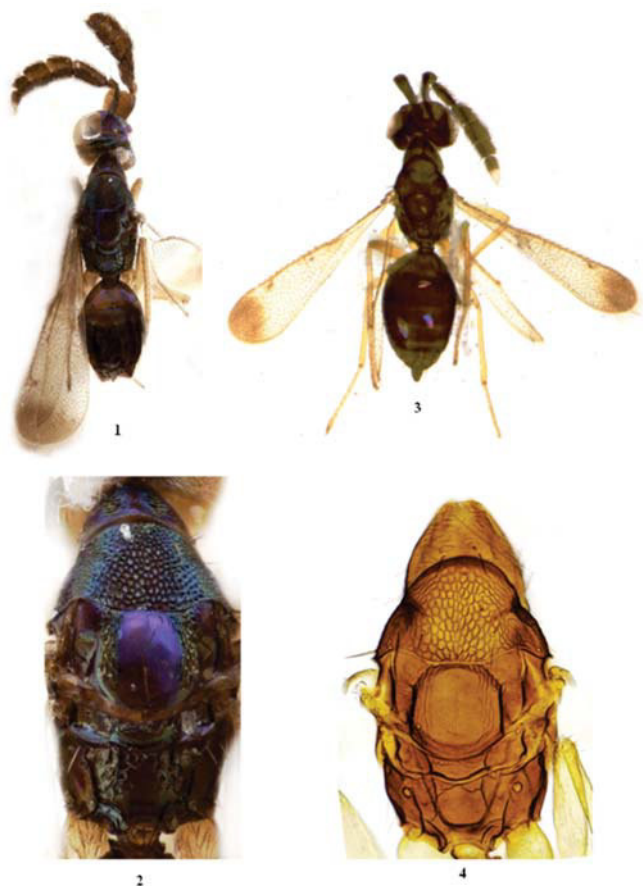


Fig. 1 & 2: *Anumanniola lasallei* Narendran, holotype ♀. 1, habitus; 2, mesosoma showing sculptures.
 Fig. 3 & 4: *Anumanniola narendrani* sp. nov., holotype ♀. 3, habitus; 4, mesosoma

Paratype. 1female (slide No. EUL.165) INDIA: KARNATAKA, Tumkur, Kunigal, 9.ix.2014, Coll. K. Veenakumari. (ICAR/NBAIR/EULP.102).

Distribution: India - Andhra Pradesh (**new record**), Karnataka, Odisha; Sri Lanka.

Etymology: The species is named after late Prof. T.C. Narendran, who erected the genus *Anumanniola*.

Comments: The new species *Anumanniola narendrani* sp. nov. comes close to *A. lasallei* Narendran, but it differs from the latter by the following characters: antenna with 2-annuli, last claval segments with a spicula; pronotum transversely reticulate, more prominent anteriorly; mesocutum with raised polygonal reticulate sculpture; scutellum almost subquadrate, without shallow median groove, laterally with longitudinal

reticulation; propodeum smooth and with two submedian carinae slightly diverging posteriorly, not reaching to posterior margin; submarginal vein with 5 dorsal setae; hind wing 8.2× as long as maximum wing width; metasoma longer than mesosoma; ovipositor sheath straight. In *A. lasallei*: mandible bidentate (Narendran, 2003), ? without denticles; antenna with ? 1-annulus, last claval segments without spicula; pronotum with transversely reticulate completely; mesocutum with deep setigerous punctures; scutellum not subquadrate, with a median shallow groove, laterally with longitudinal setigerous punctures; propodeum with two submedian carinae slightly diverging posteriorly, reaching up to posterior margin, basal part and area around submedian carinae with thick reticulation; submarginal vein with 6 dorsal setae; hind wing 7.1× as long as its maximum width; metasoma shorter than mesosoma; ovipositor sheath tilted upwards.

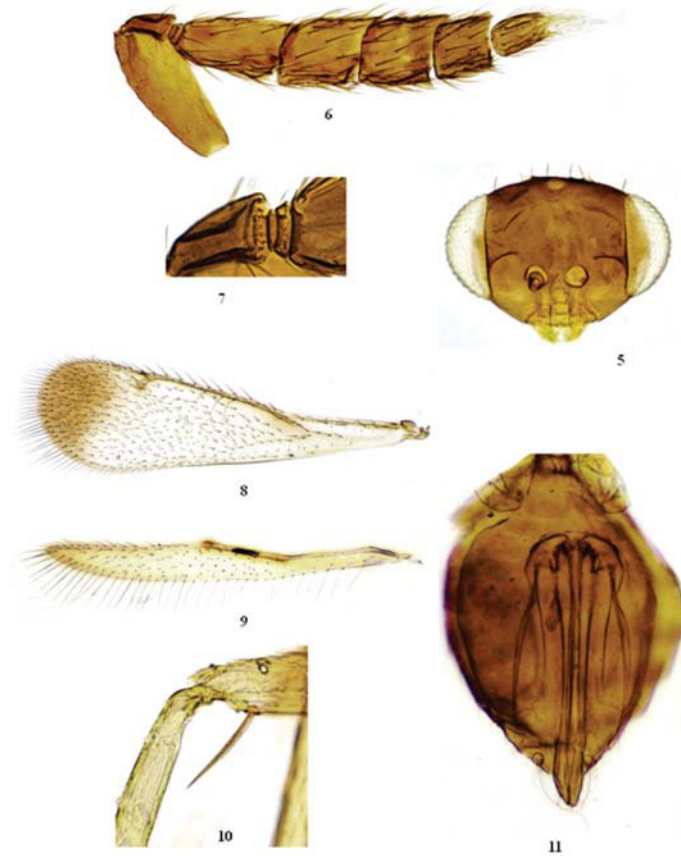


Fig. 5–11: *Anumanniola narendrani* sp. nov., holotype ♀. 5, head; 6, antenna; 7, antennal annuli; 8, fore wing; 9, hind wing; 10, mid femur with a charactersic seta; 11, metasoma

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- Narendran, T.C. and Sinu, P.A. (2003) A new genus and a new species of Eulophidae (Hymenoptera: Chalcidoidea) from India. *Zoos' Print Journal* 18 (3): 1031–1033.