

**FIRST RECORD OF THE GENUS *AMAURONEMATUS* KONOW
(HYMENOPTERA: SYMPHYTA: TENTHREDINIDAE: NEMATINAE)
WITH THREE NEW SPECIES FROM THE ORIENTAL REGION**

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ABSTRACT

With three new species, the genus *Amauronematus* Konow is reported for the first time from India and thus it has extended its faunistic limits to the Oriental region. Described and illustrated in this paper as new are *A. dilatus*, *A. kulwantae* and *A. tesa*. A key for separation of the Oriental species is provided.

KEYWORDS

Amauronematus dilatus sp. nov., *A. kulwantae* sp. nov., *A. tesa* sp. nov., First record, Himachal Pradesh, Oriental region, Tenthredinidae, Uttaranchal, India

ABBREVIATIONS

AWMT - Apical width of metatibia; EL - Eye length; IATS - Inner apical tibial spur; IDMO - Interocular distance at level of median ocellus; LID - Lower interocular distance; MB - Metabasitarsus; OATS - Outer apical tibial spur; OCL - Oculooccipital line; POL - Postocellar line; UCL - Oculooccipital line; UOL - Oculoocellar line. After being erected by Konow (1890) the genus *Amauronematus* was so far recorded from the Holarctic region only. It is based on *Nematus fallax* Lepelletier as its type species designated by Rohwer (1911). However, with the discovery of three new species from India, this genus has extended its faunistic limits to the Oriental region. The new species are described and illustrated on a uniform pattern.

The genus *Amauronematus* Konow is characterized by: antenna shorter than costa+stigma of forewing, metatibial spurs almost equal and scarcely longer than apical width of metatibia, apex of vein C slightly swollen and that at the point of origin of Rs+M from R, cell c is at least one-half the width of vein C at that point, cell 2R1 of forewing without crossvein 2r, anal cell without an enclosed basal loop, clypeus usually deeply incised in front to a depth of at least one-third total length of clypeus, tarsal claw various, but usually with at least a strong inner tooth in addition to end tooth.

The type materials are housed at the Division of Entomology, Pusa National Collections, Indian Agricultural Research Institute, New Delhi, India.

***Amauronematus dilatus* sp. nov.**

(Figs. 1-5)

Material examined

Holotype: Female, 21.vi.1989, Mukteshwar, Uttaranchal, India, 2700m, coll. M.S. Saini.

Paratype: One female, same information as holotype.

Etymology

Species name pertains to dilated apex of ovipositor sheath.

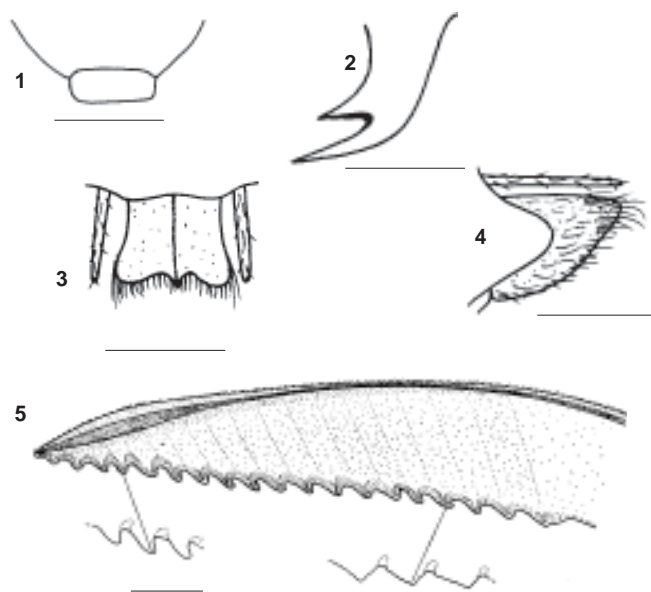
Diagnostic features

A. dalatus is unique in having some significant characters such as apical width of ovipositor sheath distinctly greater than its base, antennal segment three longer than four as 5:4, scape 2x its apical width, median fovea pit-like in its anterior half, and lateral furrows shallowly indicated. This species is closely related to *A. arctica* Enslin and *A. tunicatus* (Zaddach), from which it can be separated as: metafemur pale with apical 1/3 fuscous (entirely pail in *arctica* and *tunicatus*), mesopleura impunctate (scarcely punctate in *arctica* and *tunicatus*), abdomen black with posterior margins of all tergites whitish yellow (pale with only propodeum and tergite two black in *arctica* and *tunicatus*), apical width of ovipositor sheath in dorsal view greater than that of its base (almost equal in *arctica*), stigma and cost brownish (pale yellow in *arctica*), mesopleura marked with whitish yellow spot (entirely black in *tunicatus*), ovipositor sheath in dorsal view with tridentate apex (broadly rounded with medial protusion in *tunicatus*), and posterior angle of pronotum whitish (pronotum entirely whitish in *tunicatus*).

Female:

Colour: Body black, whitish yellow are: labrum, posterior angle of pronotum, tegula, posterodorsal halves of mes- and metepimera, extreme posterior margins of all tergites, deflexed lateral sides of tergites 2-7, all sternites entirely; all legs except apical 1/3 of metafemur, apical 1/4 of metatibia and apical four metatarsal joints which are fuscous. Wings hyaline, venation including costa, subcosta and stigma brownish.

Structure: Length 5.5mm. Antenna 2.7x head width, scape 2x its apical width, pedicel 0.3x its apical width, segment three longer than four as 5:4; clypeus (Fig. 1) subtruncate, labrum (Fig. 1) broader than long as 2:1 with truncate anterior margin; malar space 1x diameter of median ocellus, supraclipeal area subtriangularly roundly raised, supraantennal pit indistinct; frontal area above level of eyes, supraantennal tubercles and



Figures 1-5. *Amauronematus dilatus* sp. nov.
1 - Clypeus and labrum; 2 - Tarsal claw; 3 - Ovipositor sheath (dorsal view); 4 - Ovipositor sheath (lateral view); 5 - Lancet. Scale = 1.0mm

frontal ridges insignificant, median fovea in form of shallow and very small pit between antennal sockets; LID:IDMO:EL = 3.0:2.5:1.0, POL:OCL:UOL:UCL = 1.0:0.5:1.0:0.5; postocellar furrow distinct, inter- and circumocellar furrows shallow; lateral furrows shallowly indicated, parallel and ending well before hypothetical hind margin of head; postocellar area subconvex, wider than long as 3:1; head strongly narrowing behind eyes; mesoscutellum flat, appendage neither carinated nor grooved; tarsal claw (Fig. 4) with subapical tooth slightly shorter than apical one, and distance between their tips equal to length of subapical tooth, basal lobe absent; metabasitarsus equal to following three joints combined, IATS:MB:OATS:AWMT = 2.0:3.0:1.5:1.0. Lancet (Fig. 15) with 20 serrulae. Cerci reaching posterior apex of ovipositor sheath, its apical width greater than that its base (Fig. 10, lateral view; Fig. 7, dorsal view).

Sculpture: Head with dense, minute, distinct, irregular punctures, surface opaque; mesonotum punctured like head, rest of thorax impunctate, shining; abdomen impunctate, shining.

Pubescence: Body covered with mixed brownish and silvery pubescence.

Male:

Yet to be discovered.

***Amauronematus kulwantae* sp. nov.**

(Figs. 6-10)

Material examined

Holotype: Female, 27.vii.1991, Kalatop, Himachal Pradesh, India, 2400m, coll. V. Vasu.

Paratype: One female, same information as holotype.

Etymology

Species is named in honour of Dr. Kulwant Kaur, the wife of the co-author.

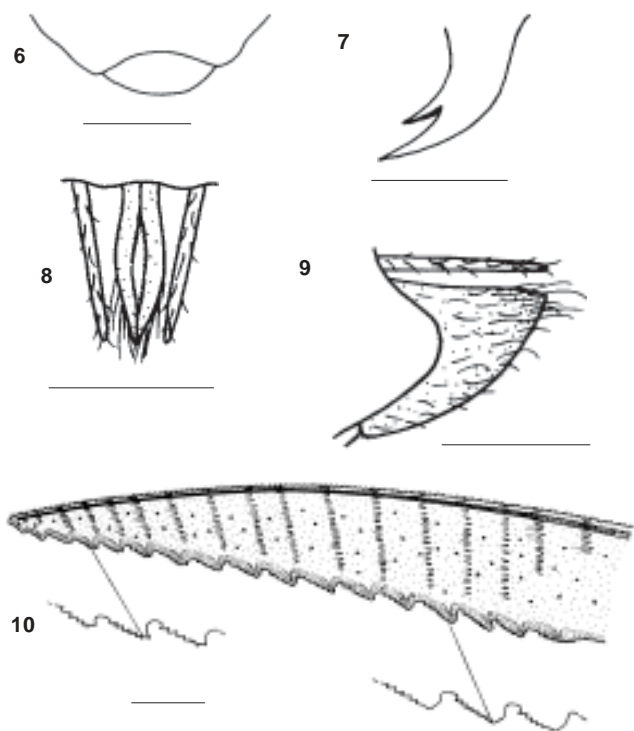
Diagnostic features

Though on the basis of a combination of characters such as ovipositor at most as long as hind tibia, ovipositor sheath in dorsal view narrow at apex than its base, at least some tergites with black medial spots, cerci at most reaching posterior apex of ovipositor sheath, and labrum pale yellow, *A. kulwantae* allies with *A. amplus* Konow and *A. viduatus* (Zetterstedt), yet a combination of some other characters keeps it far away from both species which are: cerci reaching posterior apex of ovipositor sheath (not reaching in *amplus* and *viduatus*), serrula of ovipositor with few, prominent posterior teeth (no posterior teeth in *amplus* and with inconspicuous teeth in *viduatus*), ovipositor sheath with acute apex (apex rounded in *amplus* and *viduatus*), tegula black (yellow in *viduatus*), basitarsi of front four legs yellow (black in *amplus*), legs piceous (pale in *viduatus*), and malar space 1.5x diameter of median ocellus (1x in *amplus* and *viduatus*).

Female:

Colour: Body black, yellowish are: extreme apical margin of clypeus, labrum, tergites 4-9, all sternites entirely; legs piceous except pale are: all trochanters and adjoining parts of coxae and femora, tibiae and following 2 tarsal joints of front four legs. Wings hyaline, venation including costa, subcosta and stigma piceous.

Structure: Length 6.0mm. Antenna 3.0x head width, scape and pecicel each 0.4x its apical width, segment three shorter than four as 3:4; clypeus (Fig. 2) roundly incised up to 1/3 of its medial length, labrum (Fig. 2) broader than long as 3:2 with rounded anterior margin; malar space 1.5x diameter of median ocellus, supraclypeal area subtriangularly roundly raised, supraantennal pit shallow; frontal area almost at level of eyes, supraantennal tubercles and frontal ridges just indicated, median fovea in form of broad, oval, deep pit in its anterior 1/3 and broadly depressed in pentagonal area having uneven bottom in its posterior 2/3; LID:IDMO:EL = 3.0:2.5:2.0, POL:OCL:UOL:UCL = 1.0:0.75:1.0:0.75; post-, inter- and circumocellar furrows distinct; lateral furrows merely indicated behind lateral ocelli; postocellar area subconvex, wider than long as 3:1; head parallel behind eyes; mesoscutellum flat, appendage neither carinated nor grooved; tarsal claw (Fig. 5) with subapical tooth slightly shorter than apical one, and distance between their tips less than length of subapical tooth, basal lobe absent; metabasitarsus equal to following three joints combined, IATS:MB:OATS:AWMT = 0.75:3.0:0.75:1.0. Lancet



Figs. 6-10. *Amauronematus kulwantae* sp. nov.
 6 - Clypeus and labrum; 7 - Tarsal claw; 8 - Ovipositor sheath (dorsal view); 9 - Ovipositor sheath (lateral view); 10 - Lancet. Scale = 1.0mm

(Fig. 15) with 18 serrulae. Cerci reaching posterior apex of ovipositor sheath, latter contracted and tapering apically (Fig. 11, lateral view; Fig. 8, dorsal view).

Sculpture: Head with dense, minute, shallow, irregular punctures, surface subshining; thorax almost impunctate, shining; abdomen cross-striated, dull.

Pubescence: Body covered with mixed golden and silvery pubescence.

Male:
 Yet to be discovered.

***Amauronematus tesa* sp. nov.**
 (Figs. 11-17)

Material examined

Holotype: Female, 28.vi.1991, Nauni Binayak (Nainital), Uttaranchal, 2300m, coll. V. Vasu.

Paratype: Male, 9.vi.1924, Chakrata, Uttaranchal, India, 2400m, coll. B.M. Bhatia.

Individual variation: Both specimens alike.

Etymology

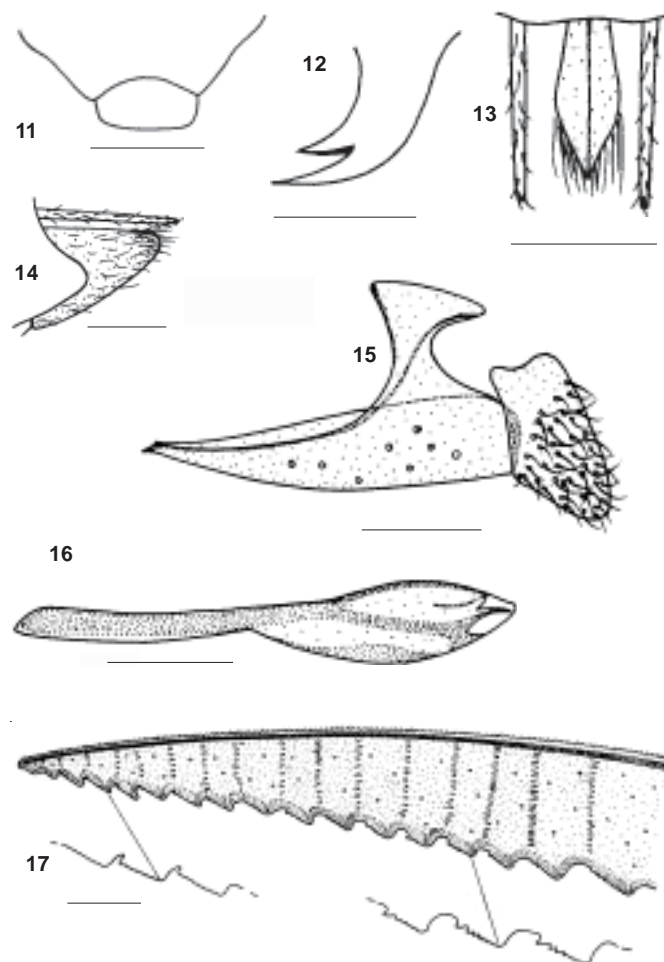
Species name pertains to arbitrary combination of letters derived from tectiformly elevated supraclypeal area.

Diagnostic features

A. tesa sp. nov. can be separated from its allied species *A. histrio* (Lep.) as: ovipositor sheath with acute apex (rounded in *histrio*), each serrula of ovipositor with prominent posterior teeth (teeth inconspicuous in *histrio*), tegula yellow (black in *histrio*), and tergites two and 6-8 black (mainly reddish-brown in *histrio*).

Female:

Colour: Body black, pale yellow are: clypeus except extreme base, labrum, mandible base, tegula, all trochanters and adjoining parts of coxae and femora, tibiae and following three tarsal joints of front four legs, basal 1/4 of metatibia. Ferruginous are: broad posterodorsal and posterolateral margins of pronotum, tergite three except broad medial spot, tergites 4-5 entirely, deflexed lateral sides of tergites 3-5, sternites 2-5 entirely. Wings hyaline except very faintly fumigated apical 1/3, venation including costa, subcosta and stigma black.



Figures 11-17. *Amauronematus tesa* sp. nov.
 11 - Clypeus and labrum; 12 - Tarsal claw; 13 - Ovipositor sheath (dorsal view); 14 - Ovipositor sheath (lateral view); 15 - Gonoforceps; 16 - Penis valve; 17 - Lancet. Scale = 1.0mm

Structure: Length 9.0mm. Antenna 3.2x head width, scape 0.5x its apical width, pedicel 0.3x its apical width, segment three shorter than four as 2:3; clypeus (Fig. 3) roundly incised up to 1/3 of its medial length with deflexed anterior margin, labrum (Fig. 3) broader than long as 2:1 with truncate anterior margin; malar space 1x diameter of median ocellus, supraclypeal area subtriangularly tectiformly elevated, supraantennal pit shallow, oval and small median protuberance, frontal area almost at level of eyes, supraantennal tubercles and frontal ridges just indicated, median fovea in form of broad, oval, deep pit in its anterior 1/3 and in form of broadly depressed pentagonal area having uneven bottom in its posterior 2/3; LID:IDMO:EL = 3.0:3.0:2.0, POL:OCL:UOL:UCL = 1.0:0.75:1.25:0.75; post-, inter- and circumocellar furrows distinct; lateral furrows just indicated behind lateral ocelli; postocellar area subconvex, wider than long as 3:1; head narrowing behind eyes; mesoscutellum flat, appendage neither carinated nor grooved; tarsal claw (Fig. 6) with subapical tooth stronger but shorter than apical one and distance between their tips less than length of subapical tooth, basal lobe absent; metabasitarsus equal to following three joints combined, IATS:MB:OATS:AWMT = 1.0:2.5:0.75:1.0. Lancet (Fig. 17) with 17 serrulae. Cerci extending well beyond posterior apex of ovipositor sheath, latter is contracted and tapering apically (Fig. 12, lateral view; Fig. 9, dorsal view).

Sculpture: Head with dense, minute, shallow, irregular punctures intermingled with network of irregular ridges and grooves, more conspicuous on frontal area, surface dull; thorax finely, minutely punctate, subshining; abdomen cross-striated except propodeum with minute, dense punctures, subshining.

Pubescence: Body covered with mixed golden and silvery pubescence.

Male:

Length 6.5mm. Similar to female. Genitalia: penis valve (Fig. 13), gonoforceps (Fig. 14).

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Key to the Oriental species of the genus *Amauronematus* Konow

- 1. Antennal segment three shorter than four, scape at most 0.5x its apical width; ovipositor sheath contracted and tapering apically 2
- 1A. Antennal segment three longer than four, scape 2x its apical width; apical width of ovipositor sheath distinctly greater than its base **dilatatus sp. nov.**
- 2. Antennal segments three and four as 3:4; malar space 1.5x diameter of median ocellus; supraantennal pit without any medial protuberance; cerci reaching apex of ovipositor sheath; head parallel behind eyes; head uneven; supraclypeal area roundly raised **kulwantae sp. nov.**
- 2A. Antennal segments three and four as 2:3; malar space 1x diameter of median ocellus; supraantennal pit with medial protuberance; cerci extending well beyond apex of ovipositor sheath; head narrowing behind eyes; head smooth, supraclypeal area tectiformly elevated **tesa sp. nov.**

