

## THE *POMPILINA* COMPLEX OF THE GENUS *TENTHREDO* LINNAEUS (HYMENOPTERA: SYMPHYTA: TENTHREDINIDAE)

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Main article in *Zoos' Print Journal* 19(10): 1631-1647; Manuscript 958; © Zoo Outreach Organisation; www.zoosprint.org

### *Tenthredo frontatus* Malaise, 1945

(Images 1-5)

*Tenthredo frontatus* Malaise, 1945: 222; Singh & Saini, 1986: 76-77, Singh & Saini, 1987: 306.

#### Material depository

**Holotype:** Female, Naturhistoriska Riksmuseet, Stockholm, Sweden.

#### Material examined

**Paratype:** Two females, two males, 20.vi.1983, Uttaranchal, Mandal, 2400m, coll. M.S. Saini; two females, three males, Gobind Dham, 2800m, coll. D. Singh; one female, one male, 20.vi.1991, Mukteshwar, 2700m, coll. V. Vasu; four females, four males, 22.vi.1991, Kilbury, 2400m, coll. V. Vasu; four females, two males, 28.vi.1991, coll. M.S. Saini; three females, one male, 15.vi.1995, coll. V. Vasu; four females, 22.vi.1991, Binayak, 2500m, coll. D. Singh; one female, four males, 22.vi.1991, Pangot, 2400m, coll. M.S. Saini; one female, one male, 15.vi.1994, Chopta, 2600m, coll. V. Vasu; one female, 26.vi.1994, Kufri, Himachal Pradesh, 2600m, coll. A. Singh.

**Individual variation:** Whitish on legs more prominent, punctures on mesoscutellum deep and distinctly isolated.

#### Distribution

India: Himachal Pradesh, Uttaranchal.

#### Diagnostic features

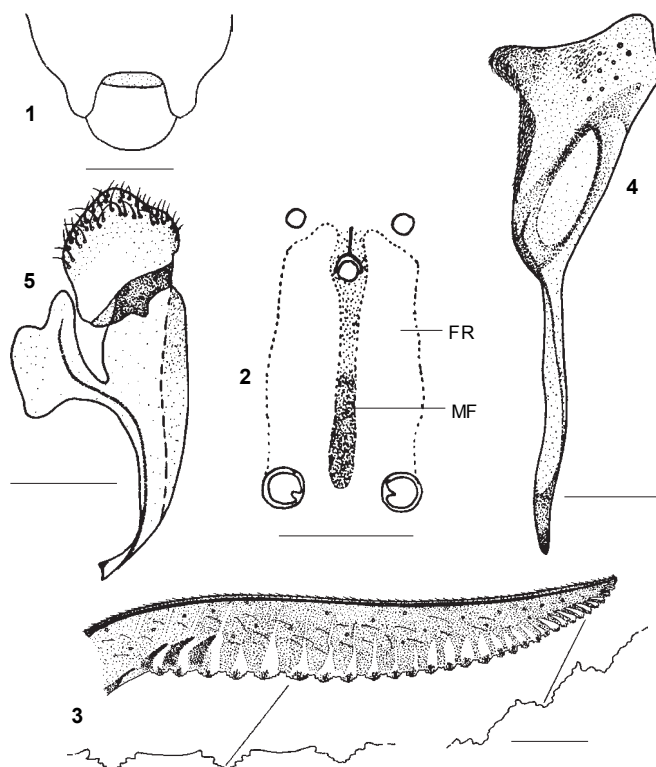
*Tenthredo frontatus* Malaise with an infuscated band over stigma is one of the two species of this group in which the abdomen is with bluish tinge above. The other species of this category is *Tenthredo pseudofrontatus* Singh & Saini. The two species can be compared and distinguished as follows: In *Tenthredo frontatus* Malaise the characters of taxonomic significance are: forewing hyaline beyond crossband; antenna long, 3.2x head width, segment three shorter than four; mesonotum densely punctate; mesoscutellum carinate and with large, deep, dense, distinct punctures; mesopleura rugose with confluent punctures; frontal ridges with dense, minute punctures whereas in *Tenthredo pseudofrontatus* Singh & Saini the distinguishing characters are: forewing infuscated beyond crossband; antenna short, 2.5x head width, segment three longer than four; mesonotum impunctate; mesoscutellum ecarinate and with large, shallow, few, scattered punctures; mesopleura rugose on lower half and with dense, distinct punctures on upper half of convexity of mesepisternum; frontal ridges almost impunctate. The key features such as presence of an infuscated band over stigma on forewings and abdomen with bluish tinge above keep these two species far apart not only from the other species of this complex but also from all other species described under

this genus even from the Oriental region.

#### Female

**Colour:** Body black, whitish are: clypeus except narrow margin, broad basal spot on labrum, mandible barring apex, spot on inner half of lower hind orbit; antero- and posterolateral spots on pronotum; tegula except medial spot, ridges lateral to meso- and metascutelli; deflexed lateral margins of propodeum, narrow streak along posterior margins of tergites two to five, tip of abdomen, posterior margins of sternites two to five; anterior aspect of procoxa except base, posterior aspect of proleg from apical 2/3 of femur to tarsi; apical posterior spot on femur and tibia of mesoleg; abdomen with bluish tinge. Wings hyaline, forewing with distinctly infuscated crossband over stigma; venation including costa, subcosta and stigma black.

**Structure:** Average length 11.0mm. Antenna filiform, 3.2x head width, flagellum except basal segment compressed, scape and pedicel as 4:3, segments three and four as 4:5; clypeus (Image 1) subsquarely incised up to 1/3 of its length with triangularly



**Images 1-5. *Tenthredo frontatus* Malaise**  
1 - Clypeus and labrum; 2 - Median fovea (front view);  
3 - Lancet; 4 - Penis valve; 5 - Gonoforceps. Scale = 1.0mm

pointed lateral teeth, labrum (Image 1) wider than long as 5:4 with rounded anterior margin; malar space 0.75x diameter of median ocellus; LID:IDMO:EL = 1.0:1.7:1.8, POL:OCL:OOL = 1.0:1.7:2.0; frontal area below level of eyes; median fovea (Image 2) narrow, shallowly reaching median ocellus and laterally limited by slightly raised supraantennal tubercles confluent with almost similar frontal ridges; postocellar furrow indistinct, inter- and circumocellar furrows distinct; lateral furrows deep, bulging medially; postocellar area subconvex, wider than long as 5:3; head narrowing behind eyes; ICD:ITD = 1.0:3.0; mesoscutellum subconvexly roundly raised, appendage carinate; mesepisternum obtusely round, mesosternum lacking thorns; metafemur slightly shorter than metatibia, metabasitarsus shorter than following three joints combined as 4:5; tarsal claw with subapical tooth longer than apical one; IATS:MB:OATS = 1.0:1.7:0.8. Lancet (Image 3) having 31 serrulae.

**Sculpture:** Head shining with dense, large, distinct, shallow punctures on frontal area, more prominent, dense, minute and confluent on frontal ridges; postocellar area and temples with few, scattered, shallow punctures; mesonotum with dense, minute, distinct punctures, surface shining; mesoscutellum with dense, large, deep, distinct punctures, its appendage distinctly wrinkled; mesepisternum rugose more so along its convexity; mesosternum shining, punctulate; abdomen except impunctate propodeum with faint microstriations and with few, scattered punctures, surface subshining.

**Pubescence:** Silvery, 0.15x scape length.

#### Male

Average length 8.5mm. Similar to female except sternites dirty whitish and metafemur posteriorly striped with white. Genitalia: Penis valve (Image 4), gonoforceps (Image 5).

#### Remarks

This species is richly distributed throughout the northwestern Himalayan belt though it was described by Malaise on a single female specimen. Confined to high altitude areas (above 2500m) this species is available only in the premonsoon months and disappears immediately with the onset of monsoon season.

#### *Tenthredo pseudofrontatus* Singh & Saini, 1988 (Images 6-9)

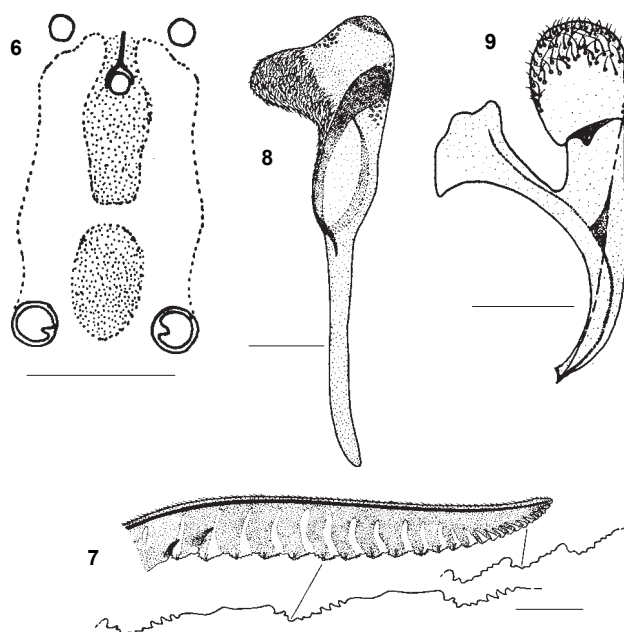
*Tenthredo pseudofrontatus* Singh & Saini, 1988a: 144.

#### Material examined

**Holotype:** Female, 15.vi.1985, Mandal, Uttar Pradesh, 2000m, coll. M.S. Saini, Indian Agricultural Research Institute, New Delhi, India.

**Paratypes:** Four females, three males, 15.vi.1985, Mandal, Uttar Pradesh, 2000m, coll. M.S. Saini, Indian Agricultural Research Institute, New Delhi, India.

**Specimens:** One female, one male, 15.vi.1994, Chopta, Uttaranchal, 2700m, coll. V. Vasu.



**Images 6-9. *Tenthredo pseudofrontatus* Singh and Saini**  
6 - Median fovea (front view); 7 - Lancet; 8 - Penis valve;  
9 - Gonoforceps. Scale = 1.0mm

**Individual variation:** All specimens alike.

#### Distribution

India: Uttaranchal, Uttar Pradesh.

#### Diagnostic features

*Tenthredo pseudofrontatus* Singh & Saini is allied to *Tenthredo frontatus* Malaise and can be distinguished from it on the basis of some key characters already discussed under the latter. *Tenthredo pseudofrontatus* Singh & Saini with its distinguishing characters such as: forewing with infuscated band over stigma and with infumation beyond crossband; antenna short, 2.5x head width, segment three longer than four; mesonotum impunctate; mesoscutellum ecarinate and with large, shallow, few, scattered punctures; mesopleura rugose on lower half and with dense, distinct punctures on upper half of convexity of mesepisternum; frontal ridges almost impunctate, and abdomen with bluish tinge above, keeps itself undoubtedly far apart not only from the other species of this complex but also from all other species described under this genus even from the Oriental region.

#### Female

**Colour:** Body black, whitish are: broad spot on clypeus, broad basal spot on labrum, mandible barring apex, triangular spot on lower hind orbit touching eye; dorsal angle and spot along posterior margin of pronotum; inner and outer margins of tegula, ridges lateral to meso- and metascutelli; anterolateral spot on mesoscutellar appendage, spot on metepisternum, lateral side and narrow hind margin of propodeum, anterolateral deflexed margin of tergite four, spots on deflexed lateral margins of tergites 7-8 and posterior margins of corresponding sternites;

anterior aspect of proleg except base of coxa, tip of meso- and metacoxae, anterior aspects of meso- and metatrochanters, anterior aspect of mesofemur more or less and tip of mesotibia; abdomen black with bluish tinge. Wings hyaline, forewing with subinfumated apex and infuscated crossband over stigma; venation including costa, subcosta and stigma fuscous to black.

**Structure:** Average length 10.5mm. Antenna filiform, 2.5x head width, flagellum entirely compressed, scape and pedicel as 2:1, segments three and four as 10:9; clypeus roundly incised up to 1/3 of its length with roundly pointed lateral teeth, labrum wider than long as 5:4 with rounded anterior margin; malar space 0.75x diameter of median ocellus; LID:IDMO:EL = 1.0:1.8:1.7, POL:OCL:OOL = 1.0:1.8:2.0; frontal area below level of eyes; median fovea (Image 6) shallow, divided into anterior and posterior parts and limited by just indicated supraantennal tubercles confluent with almost similar frontal ridges; postocellar furrow indistinct, inter- and circumocellar furrows distinct; lateral furrows deep, diverging posteriorly; postocellar area subconvex, wider than long as 5:4, with faint medial longitudinal carina; head narrowing behind eyes; ICD:ITD = 1.0:3.0; mesoscutellum subconvexly roundly raised, appendage faintly carinate; mesepisternum obtusely round, mesosternum lacking thorns; metafemur longer than metatibia, metabasitarsus shorter than following three joints combined as 6:7, tarsal claw with subapical tooth longer than apical one; IATS:MB:OATS = 1.0:1.8:0.8. Lancet (Image 7) having 26 serrulae.

**Sculpture:** Head shining almost impunctate with scattered, minute, shallow punctures on frontal area; mesonotum polished; mesoscutellum with few, scattered, distinct, punctures on posterior slope only, its appendage impunctate; mesepisternum minutely punctate with deep, large punctures along its convexity more prominent and subrugose on its lower half; mesosternum distinctly punctate; abdomen shining with few, minute, scattered punctures, surface subshining.

**Pubescence:** Silvery, 0.20x scape length.

#### Male

Average length 8.0mm. Similar to female except clypeus and labrum entirely whitish, mesoscutellar appendage without white spots; metafemur with dirty white ventral stripe on basal half, all sternites with whitish hind margins.

#### Genitalia

Penis valve (Image 8), gonoforceps (Image 9).

#### Remarks

This species is richly confined to the Garhwal hills of Uttaranchal. Mandal and Chopta (its collection localities) are almost connected with one another excepting a discontinuous stretch of mountain ranges that too are covered with thick green forests having varied types of flora. However, as far as altitude is concerned Chopta is situated at a very high altitude as compared to Mandal and gets covered with a thick coat of snow that melts only towards the start of May. From the collection data it is clear that this species prefers low altitude.

Whatever has been collected from Chopta that may be an unintentionally displaced lot. In nature it remains active for a month or so and disappears with the onset of monsoon showers.

#### *Tenthredo dalhousiensis* Singh *et al.*, 1985

(Images 10-13)

*Tenthredo dalhousiensis* Singh *et al.*, 1985a: 40-41.

#### Material depository

**Holotype:** Indian Agricultural Research Institute, New Delhi, India.

#### Material examined

**Holotype:** Female, 5.vii.1982, Kalatop (Dalhousie), Himachal Pradesh, 2485m, coll. B. Singh, Indian Agricultural Research Institute, New Delhi, India.

**Paratype:** One male, 11.vii.1991, Kalatop, Himachal Pradesh, 2485m, coll. V. Vasu; one female, 13.v.1993, Lachen, Sikkim, 1700m, coll. M.S. Saini.

**Individual variations:** Tarsi light brownish to black.

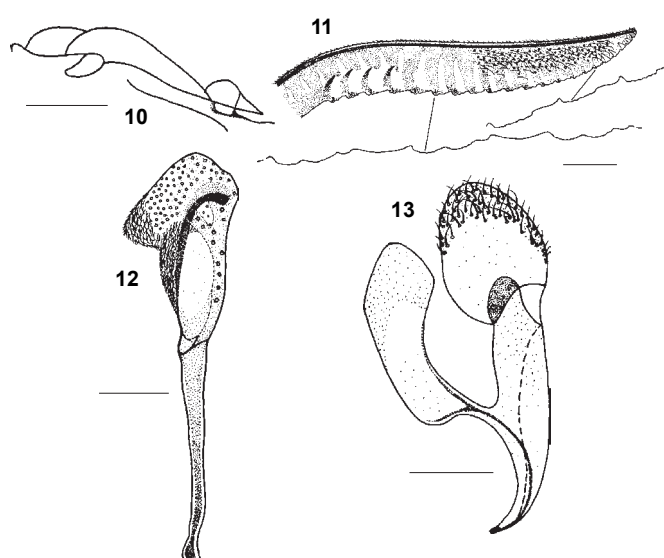
#### Distribution

India: Himachal Pradesh, Sikkim.

#### Diagnostic features

Singh *et al.* described this species based on single female specimen. The studied specimens agree well with holotype. The male of this species is associated with its opposite sex for the first time.

Having subapical tooth of tarsal claw distinctly shorter than apical one and antennal segment three distinctly longer than



Images 10-13. *Tenthredo dalhousiensis* Singh *et al.*  
10 - Lateral view of thorax (dorsal view); 11 - Lancet;  
12 - Penis valve; 13 - Gonoforceps. Scale = 1.0mm

four, *Tenthredo dalhousiensis* comes close to *Tenthredo santokhi* Singh & Saini and *Tenthredo serrafata* Singh *et al.* but antenna being short and clavate, and mesopleura rugose with pit-like confluent punctures, separate it from these two species in which antenna is long and filiform, and mesopleura is with dense and shallow punctures. Some of the other specific features of this species include: clypeus rectangularly incised, median fovea obsolete, postocellar area wider than long as 4:3, and mesoscutellum with dense, large, isolated punctures. These features collectively set this species distinctly far apart from all other Oriental species described under the genus *Tenthredo* Linnaeus.

#### Female

**Colour:** Body black, dirty whitish are: mandible, narrow posterior and broad lateral margins of propodeum, broad oval spot on posterolateral margin of tergites 3-4, anterior aspect of apical 1/3 of profemur, anterior stripe on tibiae and tarsi of front four legs more or less. Wings hyaline with infumated apices, forewings with band over stigma, venation including costa, subcosta and stigma fuscous to black.

**Structure:** Average length 9.0mm. Antenna clavate, short, 1.2x head width, flagellum not compressed, scape and pedicel as 4.0:3.0; segments 3 and 4 as 2:1; clypeus rectangularly incised up to 1/3 of its length with subtruncate lateral teeth, labrum broader than long as 4:3, and with roundly pointed anterior end; malar space 0.6x diameter of median ocellus; LID:IDMO:EL = 1.0:1.5:1.3, POL:OCL:OOL = 1.0:1.5:2.0; frontal area at level of eyes; median fovea obsolete, supraantennal tubercles and frontal ridges insignificant; post-, inter- and circumocellar furrows distinct; lateral furrows distinct, diverging posteriorly; postocellar area subconvex, wider than long as 4:3; head parallel behind eyes; ICD:ITD = 1:3; mesoscutellum (Image 10) convexly raised with median longitudinal carina on posterior slope, its appendage carinate; mesepisternum obtusely round, mesosternum with distinct flattened thorns; metafemur shorter than metatibia, metabasitarsus equal to following three joints combined; tarsal claw with subapical tooth shorter than apical one; IATS: MB:OATS = 1.0:2.0:0.7. Lancet (Image 11) having 21 serrulae.

**Sculpture:** Head with dense, minute, deep, distinct punctures except frontal area with confluent punctures; mesonotum with dense, fine, shallow punctures; mesoscutellum with dense, large, isolated punctures, its appendage with scattered, shallow punctures; mesepisternum rugose with large, deep, distinct pit-like punctures, interspaces with dense, minute, shallow, confluent punctures; mesosternum densely punctulate, opaque; abdomen with tergites four to nine with dense, minute, shallow, distinct punctures, rest with few, scattered punctures having fine microstriations, surface shining.

**Pubescence:** Silvery, 0.2x scape length.

#### Male

Length 7.5mm. Similar to female except linear malar space.

Genitalia: Penis valve (Image 12), gonoforceps (Image 13).

#### Remarks

This species is a widely distributed covering a long stretch of mountain ranges starting from Himachal Pradesh to Sikkim. In the eastern states it is available during premonsoon times (May) whereas in the western Himalaya it emerges during monsoon months only, a fact which is contrary to the emergence time of sawflies in general *i.e.* the month of June. Some of the humid mountain ranges of Uttaranchal and Eastern Nepal can also be surveyed from its collection point of view.

#### *Tenthredo santokhi* Singh & Saini, 1988

(Images 14-16)

*Tenthredo santokhi* Singh & Saini, 1988d: 390.

#### Material depository

**Holotype:** Male, Indian Agricultural Research Institute, New Delhi, India.

#### Material examined

**Holotype** bearing labels as: male, *Tenthredo santokhi* Singh & Saini, 23.ix.1985, Gangtok, Sikkim, 1650m, coll. D. Singh.

**Paratype:** Two females, eight males, 14.ix.1992, Bomdila, Arunachal Pradesh, 2550m, coll. V. Vasu; two females, 15 males, 16.ix.1992, Dirang, 1500m, coll. M.S. Saini; 10 females, 54 males, 24.ix.1992, Nine mile, 1500m, coll. M.S. Saini; eight females, 14 males, 24.9.1992, coll. V. Vasu; eight males, 24.ix.1992, coll. A. Singh; two females, three males, 23.ix.1992, Ukhrul, Manipur, 1700m, coll. V. Vasu

**Individual variations:** All specimens alike.

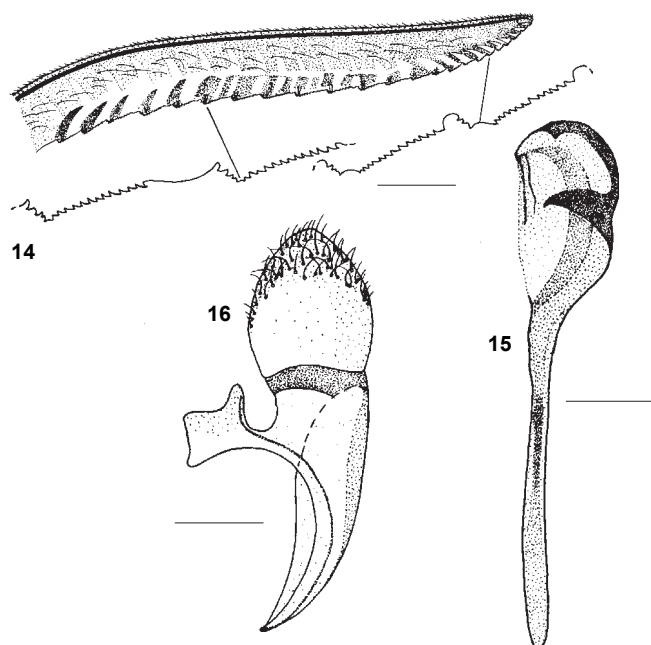
#### Distribution

India: Sikkim, Arunachal Pradesh, Manipur.

#### Diagnostic features

All the studied male specimens agree well with holotype, but the females are distinct in colour pattern which is nothing but a case of sexual dimorphism. The description is based on female which is associated with its male for the first time. The male is described in comparison to female, though the detailed description of male is available with Singh & Saini (1988d).

*Tenthredo santokhi* can be distinguished from *Tenthredo dalhousiensis* Singh *et al.* as discussed under the latter. However, from *Tenthredo serrafata* Singh *et al.* the following differences can be noted. Postocellar area wider than long as 3:2; clypeus circularly incised; mesoscutellum flat and rugose, and its appendage ecarinate; median fovea distinctly reaching median ocellus, and metabasitarsus equal to following three joints combined in *Tenthredo santokhi*, whereas in *Tenthredo serrafata* postocellar area wider than long as 2:1; clypeus rectangularly incised; mesoscutellum convex, impunctate and its appendage ecarinate; median fovea shallowly reaching median ocellus, and metabasitarsus shorter than following three



Images 14-16. *Tenthredo santokhi* Singh & Saini  
14 - Lancet; 15 - Penis valve; 16 - Gonoforceps. Scale = 1.0mm

joints combined are the characters of taxonomic significance.

#### Female

**Colour:** Body black, pale yellow are: basal half of clypeus, supraclypeal area, mandible barring apex, narrow lower half of hind orbit; posterodorsal angle and a medial spot on anteroventral region of pronotum, tegula more or less; deflexed lateral sides of tergite three; anterior aspects of femur, tibia and tarsi of proleg; anterior aspect of apical 2/3 of mesofemur, apical dot on anterior aspect of mesotibia. Wings hyaline, forewings with distinctly infuscated crossband over stigma, venation including costa, subcosta and stigma fuscous to black.

**Structure:** Average length 10.5mm. Antenna 2x head width, flagellum with apical 4 segments faintly compressed, scape and pedicel as 2.0:1.0, segments three and four as 5:4; clypeus roundly incised upto 1/3 of its length, labrum broader than long as 5:4 with rounded anterior margin, malar space 0.3x diameter of median ocellus; LID:IDMO:EL = 1.0:1.9:1.7, POL:OCL:OOL = 1.0:2.0:1.75; frontal area below level of eyes; median fovea deep, ditch-like, and laterally limited by moderately raised supraantennal tubercles confluent with low lying frontal ridges; post-, inter- and circumocellar furrows distinct, lateral furrows parallel; postocellar area convex, wider than long as 3:2; head narrowing behind eyes; ICD:ITD = 1:3, mesoscutellum subconvexly round, its appendage ecarinate; mesepisternum roundly raised, mesosternum lacking thorns; metafemur shorter than metatibia, metabasitarsus equal to following three joints combined; tarsal claw with subapical tooth shorter than apical one; IATS:MB:OATS = 1.0:2.5:0.8. Lancet (Image 14) with 23 serrulae.

**Sculpture:** Head subrugose with large, shallow, almost confluent punctures, surface still shining; mesonotum with dense, minute, distinct punctures; mesoscutellum punctate like mesonotum, its appendage with scattered punctures on lateral aspects only; mesepisternum with dense, fine punctures; mesosternum with dense, minute, distinct punctures; abdomen except microstriated propodeum and tergite two with dense, minute, shallow punctures, surface subshining.

**Pubescence:** Silvery, 0.15x scape length.

#### Male

Average length 9.0mm. Similar to female excepting pale yellow in addition are: spot on mesosternum and metapleuron; anterior aspects of front four legs entirely, inner lateral aspects of metacoxa and metatrochanter, dorsal stripe on metafemur; tergite two except infuscated broad rectangular spot above, tergite three except small rectangular lateral spot, sternites three to five entirely and 6-9 more or less. Genitalia: Penis valve (Image 15), gonoforceps (Image 16).

#### Remarks

Bomdila and its surrounding areas (Dirang, nine miles, etc.) seem to be the potential abode of this species. Contrary to other species of the genus *Tenthredo* Linnaeus, this species emerges during postmonsoon season only. Why it is not emerging along with other sawfly fauna (*i.e.* month of May) is yet to be ascertained.

#### *Tenthredo serraflata* Singh *et al.*, 1985

(Images 17-20)

*Tenthredo serraflata* Singh *et al.*, 1985a: 37-39.

*Tenthredo khajari* Singh & Saini, 1987a: 192.

#### Material depository

**Holotype** (*Tenthredo serraflata* Singh *et al.*): Female, Indian Agricultural Research Institute, New Delhi, India; (*T. khajari* Singh & Saini): Female, Indian Agricultural Research Institute, New Delhi, India.

**Paratypes** (*Tenthredo serraflata* Singh *et al.*): one female, one male, Indian Agricultural Research Institute, New Delhi, India; (*T. khajari* Singh & Saini): two females, one male, Indian Agricultural Research Institute, New Delhi, India.

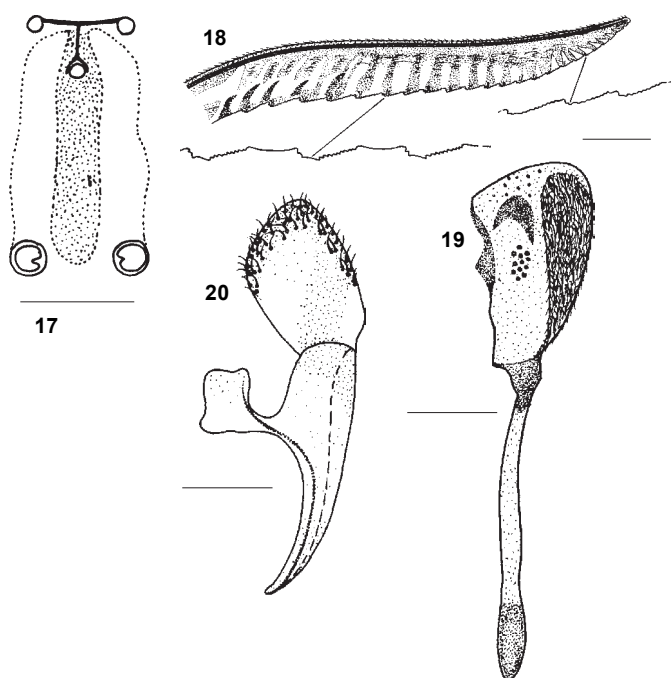
#### Material examined

**Holotype:** *Tenthredo serraflata* Singh *et al.*, Female, 19.v.1980, Kothi, Himachal Pradesh, 2485m, coll. B. Singh, Indian Agricultural Research Institute, New Delhi, India.

**Paratypes:** *Tenthredo serraflata* Singh *et al.*, one female, one male, 19.v.1980, Kothi, Himachal Pradesh, 2485m, coll. B. Singh, Indian Agricultural Research Institute, New Delhi, India.

**Holotype:** *Tenthredo khajari* Singh & Saini, Female, Khajiar, Himachal Pradesh, 1800m, 27.vii.1983, coll. D. Singh, Indian Agricultural Research Institute, New Delhi, India.

**Paratypes:** *Tenthredo khajari* Singh & Saini two females, one male, Khajiar, Himachal Pradesh, 1800m, 27.vii.1983, coll. D. Singh, Indian Agricultural Research Institute, New Delhi, India.



**Images 17-20. *Tenthredo serraflata* Singh et al.**  
**17 - Median fovea (front view); 18 - Lancet;**  
**19 - Penis valve; 20 - Gonoforceps**

**Determined specimens:** *Tenthredo serraflata* Singh et al. det Vasu & Saini, one male, 15.vi.1994, Chopta, Uttarakhand, 2700m, coll. V. Vasu; two males, 16.vi.1994, Mandal, 2300m, coll. M.S. Saini, two females, 26.vi.1994, Kufri, Himachal Pradesh, 2400m, coll. M.S. Saini; two males, 4.vii.1994, Kothi, 2700m, coll. V. Vasu; two males, 8.vii.1994, Seichu, 2000m, coll. M.S. Saini.

**Individual variations:** Clypeus entirely black; mesoscutellum almost impunctate, not shining.

#### Distribution

India: Uttarakhand, Himachal Pradesh.

#### Diagnostic features

The studied specimens agree well with type specimens of this species. On most of broad key characters this species is closely allied to *Tenthredo santokhi* but they can be easily set aside as discussed under the latter.

#### Female

**Colour:** Body black, pale whitish are: mandible barring apex, lateral spots on clypeus; base of tegula; deflexed lateral side of tergite four; extreme apical ends of trochanters, posterodorsal aspect of profemur, posterior aspects of tibiae and tarsi of front four legs, anterior aspects of apical 1/3 of femur and entire tibia of mesoleg. Wings hyaline, with distinctly infuscated crossband over stigma on forewing; venation including costa, subcosta and stigma fuscous to black.

**Structure:** Average length 9.25mm. Antenna filiform, 1.8x head

width, flagellum with apical 5 segments faintly compressed; scape and pedicel as 4.0:3.0, segments 3 and 4 as 4:3; clypeus subrectangularly incised upto 1/3 of its length, labrum broader than long as 5:4 with roundly pointed anterior margin, malar space 0.75x diameter of median ocellus; LID:IDMO:EL = 1.0:1.7:1.4, POL:OCL:OOL = 1:1.2:1.8; frontal area below level of eyes; median fovea (Image 17) broad, shallow, laterally limited by moderately raised supraantennal tubercles confluent with low lying frontal ridges; post-, inter- and circumocellar furrows distinct; lateral furrows distinct, almost parallel; postocellar area convex, wider than long as 2:1; head narrowing behind eyes; ICD:ITD=1.0:3.0, mesoscutellum subconvexly round, its appendage faintly carinate; mesepisternum obtusely round, mesosternum lacking thorns; metafemur equal to metatibia, metabasitarsus equal to following three joints combined, tarsal claw with subapical tooth shorter than apical one; IATS:MB:OATS = 1.0:1.8:0.7. Lancet (Image 18) with 21 serrulae.

**Sculpture:** Head shining with irregularly scattered, shallow punctures; mesonotum with dense, minute, shallow punctures; mesoscutellum with deep, large, distinct punctures on posterior slope, and with anterior slope punctate like mesonotum, its appendage distinctly punctate on lateral aspects only; mesepisternum with deep, distinct, minute punctures, intermingled with distinct wrinkles along its convexity; mesosternum regularly densely punctate, shining; abdomen subshining, faintly microstriated with apical five tergites densely and minutely punctate.

**Pubescence:** Silvery, 0.15x scape length.

#### Male

Average length 8.5 mm. Similar to female, except pale underside of apical half of antenna; face below antenna, anterolateral spot on pronotum, mesosternum, mesepisternum, deflexed lateral sides of propodeum and tergites two to six and sternites two to six whitish; tergite four entirely yellowish brown; whitish on legs more prominent; crossband of forewing comparatively faint. Genitalia: Penis valve (Image 19), gonoforceps (Image 20).

*Tenthredo serraflata* is a widely distributed species throughout the North-western Himalaya. Its flight period is comparatively longer than that of the remaining species of the *pompilina*-complex. Even starting from the beginning of premonsoon showers (*i.e.* start of June) it remains active up to the end of monsoon season (*i.e.* end of July). It is neither a bivoltine species and nor its adult life span can be of two months. The possible reason regarding its so long flight period is that it emerges in 2-3 batches. Contrary to the generalized behaviour of other sawflies, it remains active even when it is raining. It is very often attacked (*i.e.* predated upon) by *Peus* and *Metallopeus* species. During broad sunshine even Robber flies devour numerous individuals of this species. For further collection of this species, the areas of Patnitop and Vaishnu Devi (Jammu & Kashmir) can be surveyed during early monsoon season.

***Tenthredo pompilina* Malaise, 1945**

(Images 21-24)

*Tenthredo pompilina* Malaise, 1945: 222; Singh & Saini, 1986: 78.

**Material depository**

Holotype: Female, Naturhistoriska Riksmuseet, Stockholm, Sweden.

**Material examined**

Specimens: 16 females, eight males, 12.vii.1982, one female, one male, 24.vii.1982, Kalatop, Himachal Pradesh, 2400m, coll. B. Singh; 20 females, three males, 20.vii.1982, coll. M.S. Saini; one female, 11.vii.1991, coll. V. Vasu; one female, 27.v.1983, Mandal, Uttaranchal, 2400m, coll. D. Singh; one female, 16.vii.1994, coll. V. Vasu; one female, 2.vi.1983, Hanumanchatti, coll. D. Singh; one female, one male, 15.vi.1985, Chopta, 2700m, coll. D. Singh; one female, 15.vi.1994, coll. V. Vasu; four females, 20.vi.1985, Gobindghat, 2000m, coll. M.S. Saini; four females, 21.vi.1985, Flower Valley, 3200m, coll. M.S. Saini; two females, one male, 21.vi.1991, Kalamunitop, 2700m, coll. M.S. Saini; one female, 21.vi.1991, coll. V. Vasu; six females, one male, 28.vi.1991, Kunjharang, 2400m, coll. V. Vasu; one female, 28.vi.1991, Kilbury, 2200m, coll. M.S. Saini; two females, 25.vi.1992, Tungnath, 3000m, coll. V. Vasu; one female, 25.vii.1993, Dhanolti, 2200m, coll. M.S. Saini; one female, one male, 29.vi.1984, Jammu & Kashmir, Pahalgam, 3000m, coll. M.S. Saini; one female, three males, 30.iv.1986, Darjeeling, West Bengal, 2280m, coll. M.S. Saini; one female, one male, 19.v.1993, Pfutsero, Nagaland, 2100m, coll. V. Vasu.

Individual variations: Pronotum and mesoscutellar appendage entirely black; metatrochanters whitish more or less; mesoscutellum shallowly punctate and its appendage polished.

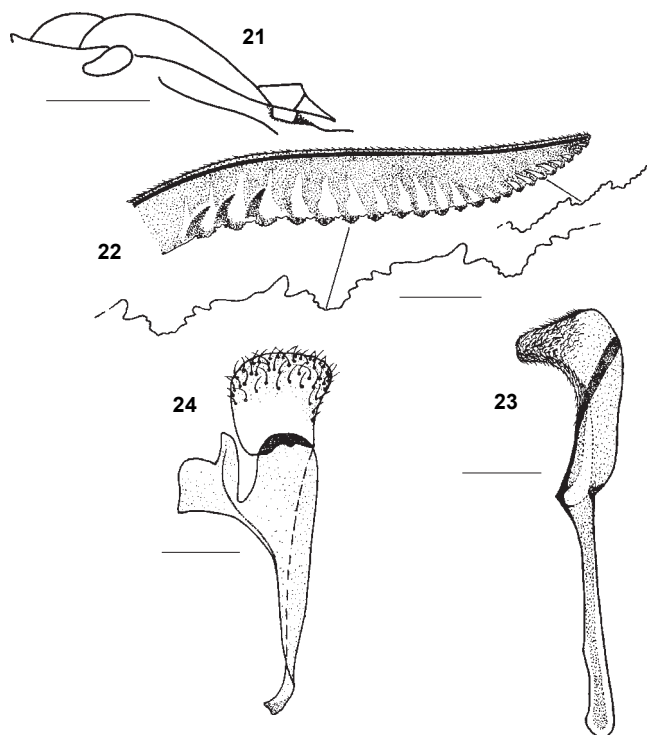
**Distribution**

Myanmar, India: Himachal Pradesh, Uttaranchal, Jammu & Kashmir, West Bengal, Nagaland.

**Diagnostic features**

*Tenthredo pompilina* Malaise is a widely distributed representative species of this group. Adapted to a wide range of ecological factors this species is occurring throughout the Himalayan ranges during premonsoon and monsoon periods.

*Tenthredo pompilina* Malaise is somewhat allied to *Tenthredo foveolata* sp. nov. and *Tenthredo fuscitibiae* sp. nov. on the basis of subapical tooth of tarsal claw equal to apical one but the ratio of antennal segment three and four makes them apart. This species is also very close to *Tenthredo pseudopompilina*, but the characters distinguishing them are discussed in the key and also under the latter. Some of the specific characters of *Tenthredo pompilina* include: clypeus subquadrately incised; scape and pedicel as 3:2; metabasitarsus shorter than following three joints combined and mesoscutellum ecarinate and punctate on its posterior half only.



**Images 21-24. *Tenthredo pompilina* Malaise**  
**21 - Lateral view of thorax (dorsal view); 22 - Lancet;**  
**23 - Penis valve; 24 - Gonoforceps. Scale = 1.0mm**

**Female**

Colour: Body black, creamy whitish are: large irregular spot on clypeus, labrum except margins, mandible barring apex, large deltoid spot on lower hind orbit; dorsal angle along with antero- and posterolateral spots on pronotum; margin of tegula; ridges lateral to scutelli, sides of mesoscutellar appendage; medial spot on metapostnotum; spot on lateral side and narrow medial stripe along posterior margin of propodeum; deflexed sides and narrow anterior margin of tergite four, large spot on tergite nine, sternite four; anterior aspect of proleg; anterior aspect and apical half of coxa, trochanter more or less, apical half of femur and apical spot on tibia of mesoleg; metatarsi brownish with apices infuscated. Wings hyaline with distinct infuscated crossband over stigma on forewing, venation including costa, subcosta and stigma fuscous.

Structure: Average length 8.5mm. Antenna filiform, 2.6x head width, flagellum with apical 4 segments slightly compressed; scape and pedicel as 3.0:2.0, segments three and four as 8:9; clypeus roundly incised upto 1/3 of its length with rounded lateral teeth, labrum broader than long as 4:3 with rounded anterior margin; malar space 0.6x diameter of median ocellus; LID:IDMO:EL = 1.0:1.7:1.7, POL:OCL:OOL = 1.0:1:1.5; frontal area at level of eyes; median fovea broad, shallow and laterally limited by slightly raised supraantennal tubercles confluent with similar frontal ridges; postocellar furrow absent, inter- and circumocellar furrows distinct; lateral furrows excurved (bulging); postocellar area subconvex, wider than long as 3:2;

head narrowing behind eyes; ICD:ITD = 1.0:3.0, mesoscutellum pulvinate (Image 21), its appendage carinate; mesepisternum obtusely round, mesosternum without thorns; metafemur longer than metatibia, metabasitarsus equal to following three joints combined, tarsal claw with subapical tooth shorter than apical one; IATS:MB:OATS = 1:1.5:0.8. Lancet (Image 22) with 22 serrulae.

**Sculpture:** Head subshining with dense, minute, shallow punctures; mesonotum more densely and distinctly punctate; mesoscutellum with large, distinct, scattered punctures on posterior slope only, its appendage minutely wrinkled; mesepisternum rugose, more so along convexity; mesosternum punctulate; abdomen subshining with faint microstriations.

**Pubescence:** Silvery, 0.2x scape length.

#### **Male**

Average length 7.5mm. Similar to female excepting large whitish spot on lateral aspects of pronotum, deflexed sides of tergites 2-5 and corresponding sternites pale whitish; white colour more prominent on legs, tip of metacoxa whitish. Genitalia: Penis valve (Image 23), gonoforceps (Image 24).

#### **Remarks**

It rests on wide variety of shrubs and herbs and is easily available during premonsoon and monsoon months. It generally prefers road side open places as compared to deep and dark undisturbed gorges. It can be better picked up with hand particularly when just after a heavy down pour. This species serves a very important link in the food chain as it is frequently attacked by other large sawflies, dragonflies, robberflies, wasps and even spiders. Malaise trap is more affective for its collection as compared to hand net from which it generally escapes during handling. Its host plant is *Plantago major* (Plantaginaceae).

