

## Additions to the Polish *Nomadini* (Hymenoptera, Apoidea, Anthophoridae). I. *Nomada tridentirostris* DOURS, 1873

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Abstract. The first record of *Nomada tridentirostris* DOURS (Anthophoridae, *Nomadini*) from Poland is presented. Data on morphology (diagnosis and redescription), bionomics and distribution of the species are given.

Key words: Hymenoptera, Anthophoridae, *Nomada tridentirostris*, new record.

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The present paper gives redescription, bionomics and distribution of the new species for Polish fauna of the tribe *Nomadini*, which was found in south-eastern Poland and was not included in the monograph of this tribe (CELARY 1995). *Nomada tridentirostris* DOURS is a very rare species in southern part of Central Europe and belongs to the *stigma* species group (see description of the species group – CELARY 1995).

Information about the distribution of this species is given after SCHWARZ (1967) and ALEXANDER & SCHWARZ (1994). New data about the distribution and flower visited are marked by asterisk "\*". The abbreviations and measuring places are the same as those which are used in my previous paper concerning Polish *Nomadini* (CELARY 1995).

I would like to express my sincere thanks to Mr M. SCHWARZ for the comparative material as well as for checking the determinations.

### *Nomada tridentirostris* DOURS, 1873

*Nomada tridentirostris* DOURS, 1873. Rev. Mag. Zool., 3(1): 309-310, ♀, ♂ (Lectotype ♂: Algeria; Mus. Civico di Storia Nat., Genoa).

*Nomada amblystoma* PEREZ, 1884. Act. Soc. Linn. Bordeaux, 37: 376-377, ♀, T.I.: France: Villeneuve-sur-Lot.

*Nomada cyphognata* PEREZ, 1884. Act. Soc. Linn. Bordeaux, 37: 374-376, ♀, ♂, T.I.: Italy: Sicily.

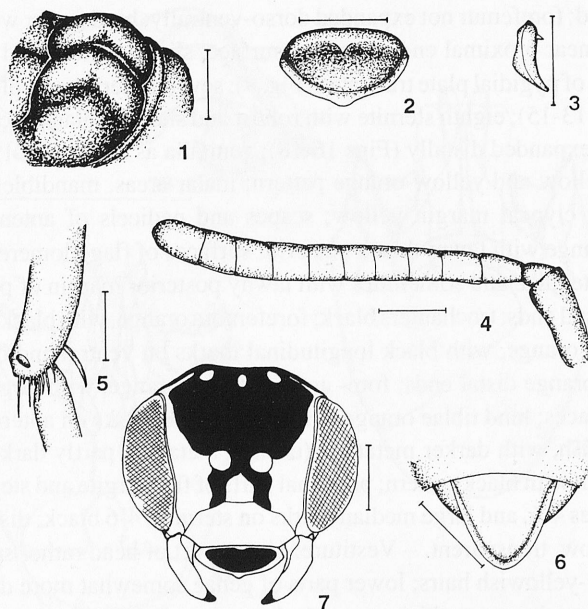
*Nomada integra* SCHWARZ, 1967 nec BRULLÉ, 1832.

**D i a g n o s i s.** Females of *tridentirostris* can be distinguished from those of other species in the *stigma* group by the labrum with a tooth at the base (Figs 2-3), and by the highly raised and strongly convex scutellum (Fig. 1). Males of the species can be separated from those of other

species in the group by the labrum with a fairly large tooth at the base (as in females), and by the characteristic tubercles on ventral surfaces of flagellomeres 2-6 (Fig. 10).

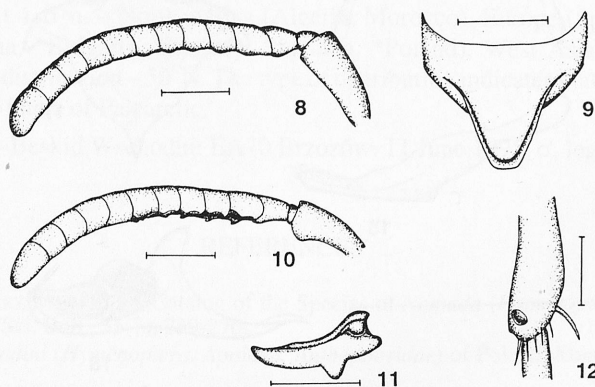
**Description.** Female. – Measurements and ratios: BL,  $7.2 \pm 0.3$  mm; LA,  $3.4 \pm 0.1$  mm; WA,  $2.2 \pm 0.1$  mm; HL,  $1.79 \pm 0.03$  mm; HW,  $2.19 \pm 0.01$  mm; FL,  $1.55 \pm 0.02$  mm; FW,  $1.39 \pm 0.01$  mm; AL<sub>1</sub>,  $0.27 \pm 0.01$  mm; AL<sub>2</sub>,  $0.28 \pm 0.01$  mm; AL<sub>3</sub>,  $0.23 \pm 0.01$  mm; AW<sub>1</sub>,  $0.20 \pm 0.01$  mm; number of hamuli, 8; HL : HW = 1 : 1.2, FL : FW = 1 : 0.9; AL<sub>1</sub> : AL<sub>2</sub> : AL<sub>3</sub> = 1 : 1.05 : 0.9, AL<sub>1</sub> : AW<sub>1</sub> = 1 : 0.7; LA : WA = 1 : 0.6. – Structure: Interantennal elevation carinated on top; malar area shorter than half distance between mandibular articulations inclusive, closed posteriorly; preoccipital ridge angulate; labrum densely punctured ( $E < 0.5$ ), S-shaped in profile, with strongly erected tooth at the base, and with short apical part (Fig. 2-3); mandible unidentate, acutely rounded to subacute at apex, distal parts of mandibles overlapping; first segment of flagellum slightly shorter than second flagellomere, middle flagellar segments (3-10) slightly longer than broad (Fig. 4); anterior rim of pronotum evenly rounded, lateral ridge of pronotum rounded and weakly developed; median part of pronotal collar angulate, not emarginated on anterior margin; lateral angle of pronotal collar angulate along dorsal crest; scutum densely punctured ( $E < 0.5$ ); scutellum densely punctured ( $E < 0.5$ ), highly raised and strongly convex with flattened anterior inclination (Fig. 1); ridge above propodeal spiracle absent; propodeal triangle with distinct, fine wrinkles in upper half, and shining (very gently microsculptured) in lower, its lateral margins not marked by ridges or carinae; posterior surface of propodeum adjacent to lower half of propodeal triangle densely punctured ( $E < 0.5$ ); forecoxa without distal process and outer carina; hind tibia with a row of 5-6 long, and 3-4 short, slender, acute, dark spinules on distal end of dorsal surface (Fig. 5); pygidial plate tapering from base to a narrowly rounded apex (Fig. 6). – Colouration: Head black, with yellow-orange to orange pattern; labral margins, mandibles except dark tawny apices, malar areas, clypeus, supraclypeal area, large paraocular marks, narrow band around each eye extending near dorsal region of eye towards middle of vertex (Fig. 7), and anterodorsal surfaces of antennae (posteroventral surfaces of antennae dark tawny) yellow orange to orange. Thorax black, with yellow-orange and reddish pattern; pronotal collar and lobes, tegulae, small mark in upper part and large longitudinal mark in middle of each mesopleura yellow-orange; longitudinal stripe (usually limited to posterior part) in middle of each lateral half of scutum, axillae, mark on each side of scutellum, and postscutellum reddish; coxae black, with orange distal ends; trochanters black to tawny-black, with longitudinal orange marks on dorsal surfaces; forefemora orange, with black longitudinal marks on ventral surfaces; midfemora orange, with black marks on ventral and dorsal surfaces; hind femora blackish, with orangish anterior surfaces; foretibiae orangish, with longitudinal blackish marks in middle of dorsal surfaces; mid- and hind tibiae orangish, with tawny marks on distal parts; tarsi except tawny hind metatarsi orangish. Abdomen orange-red, with black to tawny-black proximal parts of first tergite and sternite, mark on each side of second and third tergite, cross-band on proximal part of tergites 4-5, large median mark on sternites 4-5 and sometimes small lateral mark on second sternite; distal tergal and sternal margins orange-yellow, transparent. – Vestiture: Upper part of head (frons, vertex, occiput and genae) rather sparsely covered with short rusty hairs; clypeus, labrum and mandibles with sparse and relatively long rusty hairs. Dorsum of thorax with sparse and short, rusty pubescence; mesopleurae with patches of silvery-white, long hairs; lateral parts of posterior surface of propodeum rather sparsely covered with very short whitish hairs. Legs except fairly dense and silvery-white pubescence on dorsal surfaces of hind coxae, sparsely covered with rather short yellowish and rusty hairs. Abdomen with sparse and short, yellowish and rusty pubescence; tergites 2-4 with patches of silvery-white hairs on each side.

Male. – Measurements and ratios: BL,  $6.3 \pm 0.2$  mm; LA,  $3.3 \pm 0.1$  mm; WA,  $1.7 \pm 0.1$  mm; HL,  $1.60 \pm 0.01$  mm; HW,  $1.82 \pm 0.01$  mm; FL,  $1.47 \pm 0.02$  mm; FW,  $1.17 \pm 0.01$  mm; AL<sub>1</sub>,  $0.18 \pm 0.01$  mm; AL<sub>2</sub>,  $0.23 \pm 0.01$  mm; AL<sub>3</sub>,  $0.18 \pm 0.01$  mm; AW<sub>1</sub>, 0.19 mm; number of hamuli, 7;



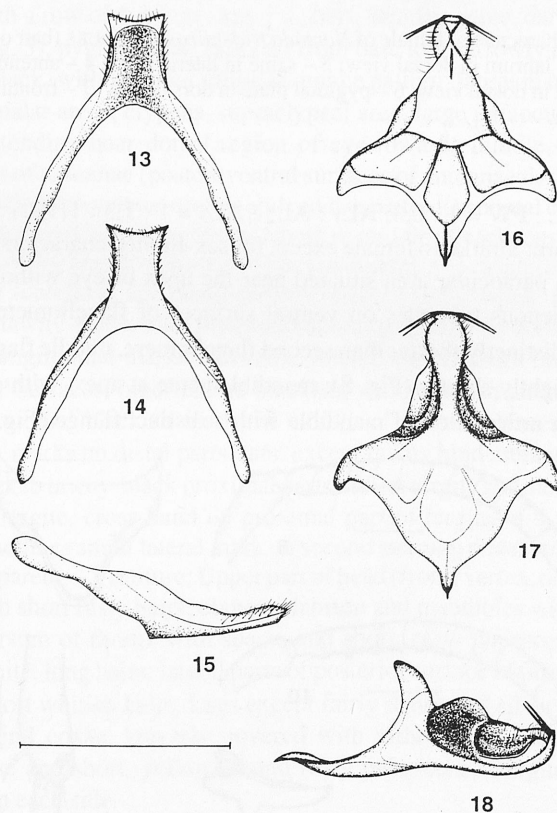
Figs 1-7. Some specific characters of female of *Nomada tridentirostris* DOURS (hair omitted): 1 – dorsolateral view of scutellum; 2 – labrum in dorsal view; 3 – same in lateral view; 4 – antenna in anterior aspect; 5 – distal part of hind tibia in dorsal view; 6 – pygidial plate in dorsal view; 7 – frontal view of head. All scale lines represent 0.5 mm.

HL : HW = 1 : 1.1, FL : FW = 1 : 0.8; AL<sub>1</sub> : AL<sub>2</sub> : AL<sub>3</sub> = 1 : 1.3 : 1, AL<sub>1</sub> : AW<sub>1</sub> = 1 : 1.1; LA : WA = 1 : 0.5. – Structure: Similar to female except for sex-limited characters and as follows: malar area open posteriorly; paraocular area situated near the apex of eye without well-defined field; flagellum with conspicuous tubercles on ventral surfaces of flagellomeres 2-6 (Fig. 10), first segment of flagellum distinctly shorter than second flagellomere, middle flagellar segments (3-10) as long as broad or slightly shorter (Fig. 8); mandible acute at apex, with distinct process on its lower margin, anterior articulation of mandible with a distinct flange (Fig. 11); foretarsal brush



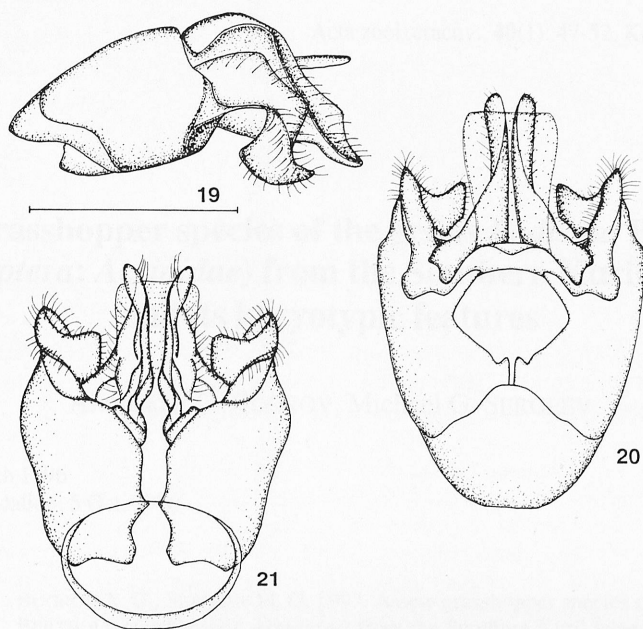
Figs 8-12. Some specific characters of male of *Nomada tridentirostris* DOURS (hair omitted): 8 – antenna in anterior aspect; 9 – pygidial plate in dorsal view; 10 – antenna from beneath; 11 – outer view of mandible; 12 – distal part of hind tibia in dorsal view. All scale lines represent 0.5 mm.

rather well developed; forefemur not expanded dorso-ventrally; hind femur without a special hairy shallow depression near proximal end of ventral surface, slightly excavated ventrally; hind tibia as in Figure 12; apex of pygidial plate truncated (Fig. 9); seventh sternite deeply emarginated, distal part elongated (Figs 13-15); eighth sternite with robust and short median process, which is weakly curved upward and expanded distally (Figs 16-18); genitalia as in Figures 19-21. – Colouration: Head black, with yellow and yellow-orange pattern; malar areas, mandibles except dark tawny apices, and anterior clypeal margin yellow; scapes and pedicels of antennae black; flagellar segments yellow-orange with tawny-black posterior surfaces of flagellomeres 1-5. Thorax black, with yellow-orange tegulae and sometimes with tawny posterior margin of pronotal lobes; coxae black, with tawny distal ends; trochanters black; forefemora orange, with black stripes along ventral surfaces; midfemora orange, with black longitudinal marks on ventral and dorsal surfaces; hind femora black, with orange distal ends; fore- and midtibiae orange, with large longitudinal black marks on dorsal surfaces; hind tibiae orange, with large black marks on antero- and posterodorsal surfaces; tarsi orangish, with darker metatarsi (usually metatarsi partly dark tawny to blackish). Abdomen orange-red, with black pattern; proximal parts of first tergite and sternite, marks on sides of tergites 2-3, tergites 4-6, and large median marks on sternites 4-6 black; distal tergal and sternal margins orange-yellow, transparent. – Vestiture: Upper part of head rather sparsely clothed with relatively short rusty-yellowish hairs; lower parts of genae somewhat more densely covered with longer yellowish hairs; clypeus and labrum with short, dense, silvery-white pubescence. Dorsum



Figs 13-18. Structure of male sternites 7-8 of *Nomada tridentirostris* DOURS: 13 – seventh sternite in dorsal view; 14 – same ventral view; 15 – same in lateral view; 16 – eighth sternite in dorsal view; 17 – same in ventral view; 18 – same in lateral view. Scale line represents 0.5 mm.





Figs 19-21. Structure of male genitalia of *Nomada tridentirostris* DOURS: 19 – genital capsule in lateral view; 20 – same in dorsal view; 21 – same in ventral view. Scale line represents 0.5 mm.

of thorax rather sparsely covered with short rusty-yellow hairs; mesopleurae somewhat more densely clothed with conspicuously longer whitish hairs; lateral parts of posterior surface of propodeum with rather sparse and short whitish pubescence. Coxae with fairly dense and long whitish pubescence; remaining parts of legs much more sparsely covered with shorter pale yellow hairs. Abdomen sparsely clothed with short yellowish and rusty hairs; lateral parts of tergites and sternites 2-4 with patches of silvery-white, short hairs.

**B i o n o m i c s.** – Flight season: from May to July (in South-West Palaearctic the species has two generations, first from second half of March to May and second from June to end of July – SCHWARZ, 1967). – Host: unknown. Flower visited: \**Senecio vernalis* W. K.

**D i s t r i b u t i o n.** – North Africa (Algeria, Morocco), Europe (Spain, France, Italy, Sicily, Greece, Bosnia, \*Bulgaria, Hungary, Slovakia, \*Poland), West Asia (Turkey, Cyprus, Israel); northern limit distribution – 50°N. The type of distribution indicates that it is a Submediterranean element in the fauna of Palearctic.

Polish localities. – Beskid Wschodni: EA70 Brzozów, 11 June 1995, ♂, leg W. CELARY.

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