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NEW SUBGENUS OF THE GENUS *DINOTREMA* FOERSTER (HYMENOPTERA, BRACONIDAE, ALYSIINAE) FROM EAST PALAEARCTIC WITH DESCRIPTION OF A NEW SPECIES

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New subgenus *Synaldotrema* subgen. n. (type species – *Dinotrema speciosum* sp. n. from Russian Far East and Eastern Siberia) of the genus *Dinotrema* Foerster with original metasomal structure is described.

KEY WORDS: Braconidae, *Dinotrema*, East Palaearctic, taxonomy.

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Описан новый подрод *Synaldotrema* subgen. n. (типовой вид – *Dinotrema speciosum* sp. n. с Дальнего Востока и Восточной Сибири) из рода *Dinotrema* Foerster со своеобразной формой метасомы.

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INTRODUCTION

Subfamily Alysiiinae has extremely peculiar construction of the mandible and has not special varieties of the another morphological transformations. Besides numerous variants of the mandible structures, the most important diagnostic characters

for alysiine taxa are wing venation and metasomal structures. The richness of species in the subtribe Aspilotina shows an example of the different combinations of not so numerous states of morphological characters, which in many cases have appreciable variations (Fischer, 1967, 1969a, 1969b, 1969c, 1969d, 1971a, 1971b, 1972; Achterberg, 1988; Fischer, 1993a, 1993b; Chen & Wu, 1994; Papp, 1994, 1996; Belokobylskij, 2002). In these cases the discoveries in such group of any morphological characters leaving for frameworks of these combinations (for example: enlarged paraclypeal areas, reduced first radiomedial vein, etc.) are becoming basic for the describing new or supporting former superspecies taxa (Achterberg 1988; Fischer, 1993a, 1993b).

The example of the peculiar metasomal structure is showed in new species, described below. This species has intermediate position between genera *Dinotrema* Foerster, 1862 and *Synaldis* Foerster, 1862, because, together with small paraclypeal areas on the face, first radiomedial vein of fore wing usually present, but sometimes lacking entirely. Metasoma in subfamily Alysiinae has not distinct patterns of morphological variety. Only *Hylcalosia* Fischer, 1967 и *Trachionus* Haliday, 1833 (= *Symphya* Foerster, 1862) have the carapace with tergites 1-3, which is almost covered by apical metasomal segments and completely or almost completely sculptured. An additional usual element of transformation is compressed metasoma (many taxa of Aspilotina, *Coelinus* Nees, 1818 s.l., especially strongly metasoma compressed and elongate in *Eucoelinidea* Tobias, 1979). In other alysiine genera the significant metasomal transformations are unknown, except sometimes the appearing of sculpture on usually smooth tergite 2 or (rarely) (*Trachyusa* Ruthe, 1854, *Asyntactus* Marshall, 1898, *Parasymphya* Tobias, 1998) tergites 2-4 (the given character has also generic weight in the discussed group).

In this case a metasomal structure of *Dinotrema speciosum* sp. n. is interest concerning its position in the alysiine system. Metasoma of new species is compressed (it is rather usual) with distinctly elongated tergite 4 (feature which is unknown in other alysiine) and with strongly protruding and narrowed posteriorly apical tergites, while sternites (together with ovipositor) are considerably retracted under metasoma. Quite possible to suggest, that the metasomal structure in *Aspilota* Foerster, 1862 and *Dinotrema* Foerster, 1862 is related with specification of infection of the dipterous hosts (mainly Phoridae and Drosophilidae), which are developing in agaric fungi. Probably similar behavior has *D. speciosum* sp. n., and the peculiar shape of its metasoma allows to penetrate between more long lamellae of the similar agaric fungi.

The metasomal shape, as considerably elongated tergite 4 of a new species can testify to a more isolated systematic position of a new species in subtribe Aspilotina. The similar metasomal structure is known also in some Dacnusiini species: *Chorebus falcator* Tobias, 1998 and *Ch. terebrator* Tobias, 1998 (Russian Far East), and two undescribed European species of *Chorebus* Haliday, 1833. But the metasomal transformation in these species connects with elongation apical tergites only, metasoma almost not compressed, and tergite 4 short. These data indicate, that tendency for elongation of the metasomal apical part in *Chorebus* is going by different ways then in *D. speciosum* sp. n. The way marked at described below new

species is morphologically more peculiar and has arisen evolutionally by more complicated way, that indicated on his systematic isolate position within genus *Dinotrema*. As result, the new subgenus *Synaldotrema* subgen. n. is described below for this species.

The terminology for wing venation follows that of Belokobylskij & Tobias (1998). The following abbreviation are used: POL - postocellar line; OOL - ocellar-ocellar line; Od - maximum diameter of lateral ocellus. All type material is deposited in the collection of Zoological Institute, Russian Academy of Sciences (St. Petersburg, Russia). The present work was partly supported by Russian Foundation of Fundamental Investigation (Grant No 01-04-49655).

***Synaldotrema* Belokobylskij et Tobias, subgen n.**

Типовой вид: *Dinotrema* (*Synaldotrema*) *speciosum* sp. n.

DESCRIPTION. Paraclypeal areas small, oval, widely separated from eye margin. Furrow between antennal socket and eye very shallow, almost indistinct. Mesoscutal pit present. First radiomedial vein of fore wing usually present, rarely absent in posterior half or entirely. Metasoma compressed, lanceolate, distinctly narrowed toward apex, apical sternites (with ovipositor) distinctly retracted under long apical tergites. Fourth tergite significantly elongate. Propodeum at most part rather finely rugose-striate, with small or large smooth areas anteriorly and posteriorly, with distinct short median and strongly divergent lateroposterior (following to spiracles) carinae.

SPECIES INCLUDED. Type species only.

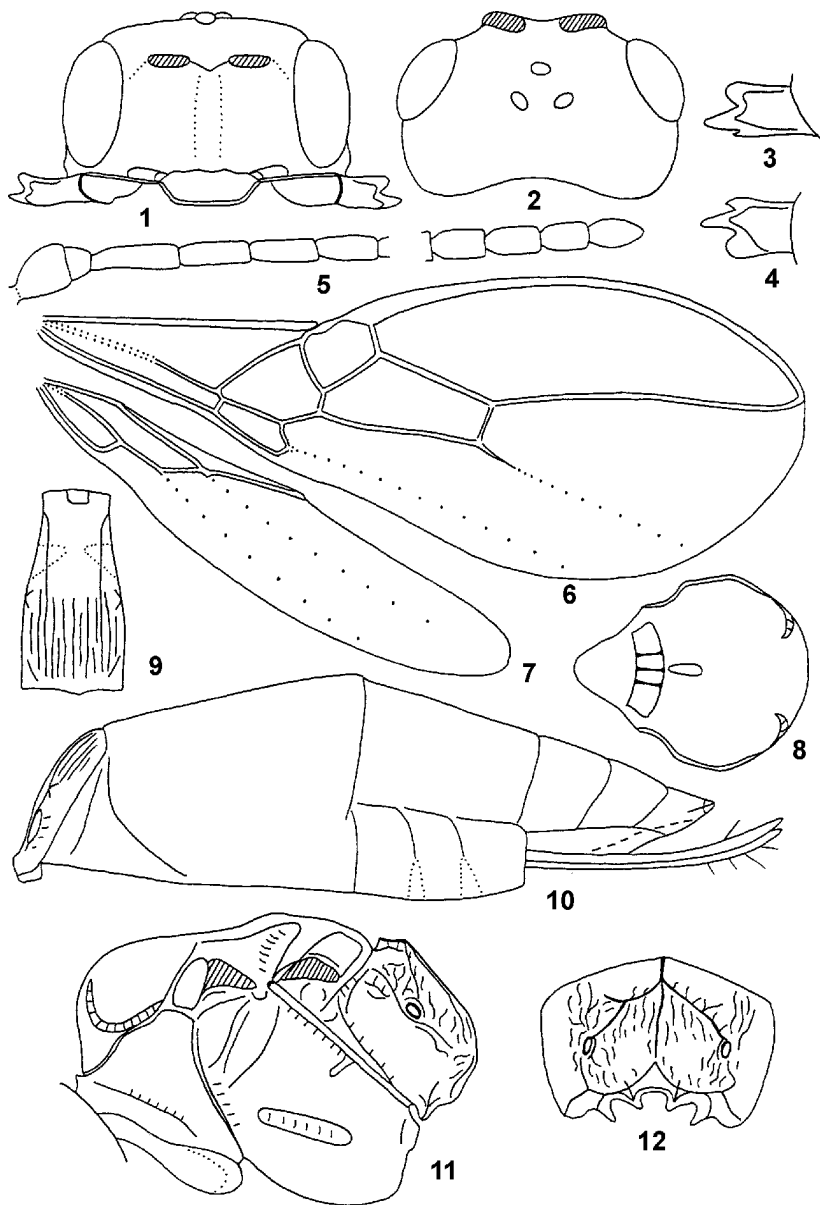
ETYMOLOGY. From united generic names *Synaldis* and *Dinotrema*, because this subgenus has intermediate position between them.

***Dinotrema* (*Synaldotrema*) *speciosum* Belokobylskij et Tobias sp. n.**

Figs 1-12

MATERIAL. Holotype: ♀, Russia: Primorskii krai, 10 km SSW of Partizansk, border of forest, 12-13.VII 1996 (S. Belokobylskij). Paratypes. Russia: 1 ♀, Primorskii krai, 50 km N of Olga, mixed forest, 29.VII 1979 (S. Belokobylskij); 1 ♀, Primorskii krai, Pogranichnyi District, Barabash-Levada, forest, 3-6.VI 1980 (S. Belokobylskij); 1 ♀, Primorskii krai, 42 km S of Plastun, forest, 24.VI 1979 (S. Belokobylskij); 1 ♀, Tuva, 14 km E of Kyzyl, lowland of Ka Khem River, 31.V 1975 (D. Kasparyan).

DESCRIPTION. FEMALE. Body length 1.9-3.4 mm; fore wing length 2.1-2.5 mm. Head width 1.7-1.8 times its median length, 1.5-1.6 times its maximum length, 1.3-1.4 times width of mesoscutum. Head behind eyes almost parallel-sided in anterior half, roundly narrowed in posterior half. Transverse diameter of eye equal to or weakly larger than length of temple. Ocelli in almost equilateral triangle. POL equal



Figs 1-12. *Dinotrema (Synaldotrema) speciosum* sp. n., female. 1) head, frontal view; 2) head, dorsal view; 3) mandible, showed upper tooth; 4) mandible, showed lower tooth; 5) basal and apical segments of antenna; 6) fore wing; 7) hind wing; 8) mesonotum; 9) first metasomal tergite; 10) metasoma, lateral view; 11) mesosoma, lateral view; 12) propodeum.

to Od, 0.25-0.35 times OOL. Maximum diameter of eye 1.4-1.5 times its minimum diameter. Face width 1.5-1.6 times its median height (with antennal tubercles), 1.3-1.4 times maximum diameter of eye. Width of clypeus about 3 times its median height. Mandible more or less distinctly widened toward apex, its median length 1.2-1.5 times maximum width. Upper tooth rather small or medium size, more or less distinctly directed upper, shorter than median tooth, almost as long as lower tooth, rounded apically. Median tooth rather narrow or more or less wide, pointed, longest. Lower tooth wide, widely rounded.

Antennae filiform, rather thick, without distinct constrictions in base of segments, 19-20-segmented, about 0.7 times as long as body. Scapus 1.3-1.6 times as long as its maximum width, 0.7-0.8 times as long as first flagellar segment. First flagellar segment rather thick, 3.4-4.2 times as long as its apical width, 1.2-1.3 times as long as second segment. Second segment 2.5-2.8 times as long as its width. Penultimate segment 1.5-1.6 times as long as wide, 0.5-0.55 times as long as first flagellar segment, 0.8-1 times as long as apical segment, the latter weakly pointed apically.

Mesosoma. Length 1.3-1.35 times its height. Mesoscutum wide, its width 1.1-1.2 times median length. Notauli on vertical surface of mesoscutum deep and crenulate, absent on horizontal surface. Mesoscutal pit rather long, narrow, smooth. Prescutellar depression deep, smooth, with 3-5 carinae, 0.3-0.35 times as long as scutellum, 0.3-0.45 times as long as maximum width. Sternauli rather long, oblique, crenulate, situated nearly middle of below half of mesopleura. Mesopleural suture very finely crenulate in upper half. Spiracles of propodeum small, its diameter 0.3-0.4 times distance from spiracle to base of propodeum.

Wings. Fore wing 2.4-2.6 times as long as wide. Radial vein arising not far from base of pterostigma. Second radial abscissa 3.2-4.2 times as long as first radial abscissa, 0.4-0.45 times as long as third radial abscissa, 1.8-2 times as long as first radiomedial vein. Second radial cell strongly narrowed toward apex, 2.4-2.6 times as long as wide. First radiomedial vein present usually, but often discolored at most part; sometimes this vein absent in posterior half or entirely. Discoidal cell 1.3-1.4 times as long as wide. Recurrent vein strongly postfurcal, 1.5-2.3 times as long as second abscissa of medial vein. Distance from nervulus to basal vein 0.3-0.7 times nervulus length. Parallel vein arising before middle of distal vein of brachial cell. Hind wing 4.4-4.8 times as long as wide. Second mediocubital abscissa about half first abscissa, 1.2-1.7 times basal vein.

Legs. Hind femur 4-4.8 times as long as maximum width. Hind tibia weakly widened toward apex, 7.5-9 times as long as maximum width, with row of long and dense hairs on its apical inner margin. Hind tarsus 1.1-1.15 times as long as hind tibia. Hind basitarsus 0.6-0.7 times as long as second-fifth segments combined. Second tarsal segment 0.4-0.5 times as long as basitarsus, 1.3-1.6 times as long as fifth segment (without pretarsus). Claw slender, rather short and weakly curved.

Metasoma compressed, lanceolate, distinctly narrowed apically, apical sternites (with ovipositor) distinctly retracted under apical tergites. First tergite rather weakly widened toward apex, its length 1.5-1.7 times apical width, 1.3-1.5 times length of propodeum; apical width 1.6-2 times its minimum width. Second tergite with small

semiround basolateral depressions. Second suture absent medially. Fourth tergite 0.75-1.0 times as long as second-third tergites combined. Ovipositor sheath rather long, weakly curved up, shortly following behind top of metasoma, about twice as long as first tergite, about 0.9 times as long as hind tibia, 0.27-0.3 times as long as fore wing.

Sculpture and pubescence. Head, pro- and mesothorax smooth, rarely (in large specimens) face finely rugulose submedially and frons near antennal sockets finely granulate. Mesopleura smooth. Propodeum at most part rather finely rugose-striate, with small or sometimes rather large smooth areas anteriorly and posteriorly, with distinct short median and strongly divergent irregular lateroposterior (following to spiracles) carinae. Legs smooth. First metasomal tergite longitudinally striate at most part, with distinct, almost complete and weakly convergent dorsal carinae. Antennae with rather short, semi-erect, quite dense hairs, Face densely setose on wide median part. Mesoscutum with rather dense hairs on anterior vertical part, and with very sparse hairs along trace of notauli. Ovipositor sheath in apical 1/3-1/2 with several very sparse short hairs.

Colour. Body black, dark brown partly, sometimes metasoma entirely reddish brown. Antenna black, two basal segments yellowish brown. Mandible brownish yellow. Palpi yellow. Tegulae reddish brown. Legs brownish yellow, hind tibia apically infuscate. Ovipositor sheath black. Wings hyaline. Pterostigma brown.

MALE unknown.

DISCUSSION. New species is distinctly separated from all species of *Synaldis* Foerster and *Dinotrema* Foerster (Fischer, 1967, 1969a, 1969b, 1969c, 1969d, 1971a, 1971b, 1972; Achterberg, 1988; Fischer, 1993a, 1993b; Chen & Wu, 1994; Papp, 1994, 1996; Belokobylskij, 2002) by specious metasomal shape with strongly retracted apical sternites under tergites.

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