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A new species of *Masaris* Fabricius from Iran (Hymenoptera: Vespidae: Masarinae)

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Abstract

A new species of *Masaris* Fabricius, 1793 from Iran, *Masaris agnolii* Selis, **sp. nov.**, is described and figured based on a single male.

Key words: Hymenoptera, Vespidae, Masarinae, *Masaris*, new species, Iran

Introduction

Masaris is a Palearctic genus of pollen wasps comprising seven species, one of which is subdivided into two subspecies, distributed in arid areas from North Africa to Kazakhstan and Kyrgyzstan (Carpenter 2001; Gusenleitner 2002). The species of this genus are characterized by strongly marked sexual dimorphism, with males bearing elongate antennae with the apical segments fused into a club and the metasomal sterna variously modified. According to previous authors (Carpenter 2001; Ebrahimi & Carpenter 2008; Gusenleitner 2002), the only species of the genus known from Iran was *Masaris carli* von Schulthess, 1922.

Examining a box of Vespid wasps that was received from Gian Luca Agnoli in April 2018, a single male of an undescribed *Masaris* from Iran was found. This new species is here described and figured.

Material and methods

The adult morphology and coloration were observed on a pinned, dried specimen under an Optech SZ-NT stereoscopic microscope. The photos of the specimen were taken with a Jessop 50mm f3.5 magnifying lens mounted on a Canon EOS 1300D with extension tubes, while photos of genitalia were taken by mounting a Canon EOS 1300D on the above mentioned microscope. “Body length” indicates the length in dorsal view from frons to the apex of T7. Measurements were taken using a digital Vernier caliper (accuracy ± 0.1 mm). Metasomal terga, metasomal sterna and antennal flagellomeres are abbreviated as T, S and F respectively.

In reproduction of labels, single slash (/) divides lines on same label and double slash (//) divides labels. The holotype is deposited in the private collection of the author.

Masaris agnolii Selis, **sp. nov.**

(Figs. 1–10)

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Material examined. Holotype, ♂, pinned: “IRAN, ZAGROS Mts. / CHAHARMAHAL & BAKHTIARI prov. / Borujen distr., near Nasirabad, / Kalar mts, alt. 2750–3150 m, / 26–27. VI. 2017 / E. Rutjan leg. // *Masaris agnolii* / Selis, sp. nov. / HOLOTYPE ♂ / Det. Marco Selis 2018”.

Diagnosis. This species can be differentiated from the other Central Asian *Masaris* species by the following

combination of characters: F8–F13 fused in an elongate parallel sided club (Fig. 6), clypeus hexagon-shaped with straight margins except apical emargination (Fig. 3), lateral propodeal lamellae forming a rounded right angle (Fig. 4), T7 apically with two rounded lobes each bearing a median tubercle (Fig. 7), S2 with low rounded apical elevation, S3 with high apically truncate elevation (Fig. 5), S7 with median smooth depression in basal half and apical transverse elliptical sculpted plate (Fig. 8), and propodeal lamellae and S2–S7 extensively marked with yellow.

Description. *Male.* Body length 18.3 mm; fore wing length 12.9 mm.

Head in frontal view $1.3 \times$ as wide as long. Clypeus in frontal view $1.25 \times$ as wide as long; hexagon-shaped with straight margins, apical margin emarginate, emargination $4 \times$ as wide as deep and margined by a short translucent lamella; interocular part distinctly longer than apical free part; clypeus in lateral view weakly and regularly convex. Interantennal space broad and strongly convex. Frons with a longitudinal median furrow anterior to median ocellus. Ocellar triangle obtuse, distance between lateral ocelli $1.8 \times$ as distance between median ocellus and lateral ocellus. Vertex long, distance from lateral ocellus to occipital margin $4.2 \times$ as distance between lateral ocellus and eye. Gena narrow, $0.45 \times$ as wide as eye at level of ocular sinus. Mandibles tridentate, teeth short and dull. Scapus short and broad, $2.2 \times$ as long as apically wide, flattened dorsoventrally; F1 flattened dorsoventrally and weakly curved, $3.75 \times$ as long as wide; F2 dorsally flattened, forming an elliptical plate, $4.35 \times$ as long as wide; F3–F5 cylindrical, F3–F4 $6.55 \times$ as long as wide, F5 shorter and $5.35 \times$ as long as wide; following flagellomeres fused in a single stick-shaped segment, weakly curved in lateral view, $8.2 \times$ as long as wide.

Mesosoma in dorsal view elongate, $1.5 \times$ as long as wide. Pronotum in dorsal view evenly convex anteriorly, without distinct humeri; lateral faces broad and strongly convex; transition from dorsal to anterior face rounded and not marked, except medially where a short transverse lamella is visible; posterodorsal corner bearing a short carina between mesoscutum and tegulae. Mesoscutum in dorsal view $1.1 \times$ as long as wide between tegulae; in lateral view moderately convex; in anterior view strongly convex, with nearly vertical lateral faces; posterior margin of mesoscutum concave. Scutellum large, nearly as long as half the length of mesoscutum, posteriorly prolonged in a lobe which covers metanotum; transversely convex but flattened on disc; in lateral view strongly convex anteriorly, then flattened and strongly oblique; axillary fossa rounded and large. Metanotum short and wide, reduced to a curved median portion, laterally margined by deep pockets; metanotum separated from scutellum by a deep furrow. Mesepisternum strongly convex dorsoventrally, with a barely demarcated epimeron. Tegula long, about $3 \times$ as long as posteriorly wide, outer margin enlarged in the anterior half. Propodeum in dorsal view short and wide, nearly rectangular; median third weakly depressed, dorsolateral faces distinctly convex, prolonged posterolaterally by flattened lamellae, lamellae in shape of a right angle with rounded corner; lateral face of propodeum dorsally depressed.

Metasoma elongate, $2.8 \times$ as long as basally wide, parallel sided in the basal half, then converging posteriorly. T1 $2.45 \times$ as broad as long in dorsal view, lateral margins strongly convex; moderately convex in lateral view; anterior vertical portion with shallow lateral depressions. T2–T4 in dorsal view transverse, with convex lateral margins. T5–T6 trapezoidal, with converging lateral margin. T7 in dorsal view trapezoidal with concave lateral margins, apical margin with a transverse carina on each side forming a rounded lobe, lobes separated by a median semicircular emargination and continuing below in a tubercle. S2 in lateral view basally depressed and apically armed with a transverse rounded elevation. S3 in lateral view weakly convex in basal half, then prolonged in a high transverse tubercle, apically truncated. S4 in lateral view convex in basal half, with rounded humps on posterolateral corners. S5 weakly depressed, with posterolateral low humps. S6 flattened, with weakly convex corners. S7 with a deep subtriangular depression in basal half, margins of depression continued laterally by short transverse carina reaching margins of sternum, apical half with a weakly raised transverse elliptical area.

Clypeus shiny on lateral thirds, dull in the middle; punctures larger and sparser laterally, becoming finer and irregular in the middle. Frons densely and irregularly punctate, except for finely striate area below median ocellus; ocular sinus shiny with dense fine punctures. Vertex densely and irregularly punctate in the middle, laterally smooth with very fine and sparse punctures. Back of head irregularly sculptured, with concentric striae and elongate punctures on dorsal half and deep dense punctures ventrally. Mandible smooth with a patch of irregular punctures near apex. Anterodorsal face of scape with dense small punctures, posteroventral face nearly impunctate. Flagellomeres shiny, densely micropunctate with some scattered punctures. Pronotum smooth and shiny, with dense medium sized punctures on whole surface and some smaller punctures mixed on posterodorsal angles, punctures becoming sparse anteriorly and nearly absent on anterior face; ventral corners dull on posterior margin.

Mesoscutum with a peculiar sculpture, forming a concentric semicircular pattern starting from posterior margin; small punctures very dense on posterior and posterolateral margins, becoming sparser anteriorly and disappearing towards middle of scutum, large punctures denser anteriorly, becoming sparse posteriorly, posterior third with very fine concentric striae mixed with punctures. Scutellum with very dense small punctures, confluent and forming irregular longitudinal series, that makes the scutellum appear striate; some larger punctures scattered across whole surface, becoming very dense on lateral margins. Metanotum shiny with fine punctures and a transverse series of five larger punctures in the middle. Tegula smooth and shiny, with some barely visible small punctures. Proepisternum densely microreticulate, reticulation forming a concentric pattern starting from ventrolateral corners; large punctures on whole surface, denser dorsally. Mesepisternum smooth and shiny, with dense medium sized punctures, interspaces about as large as punctures diameter. Metaepisternum irregularly sculpted, with coarse punctures and irregular striae. Dorsal face of propodeum with dense deep punctures, becoming denser on corners of lateral lamellae, median depression with dense oblique striae; lateral faces of propodeum densely microstriate with dense deep punctures. T1–T6 with fine punctures, sparse basally and becoming very dense near apical margin, where interspaces are shorter than punctures diameter or even absent; T7 with very dense and fine punctures on whole surface. S2–S4 smooth, with patches of dense small punctures on anterolateral corners and some scattered larger punctures on posterior half. S5–S6 with fine punctures on apical half. S7 smooth and shiny on basal half, densely and irregularly punctured on apical half. All coxae with deep small punctures, femora and tibiae with sparse irregular punctures.

Clypeus, head, pronotum, anterior third of mesoscutum, proepisternum, mesepisternum, T1–T2, S2–S3, all coxae and base of all femora with long fine blonde setae, denser on vertex and mesepisternum; S7 with long reddish-golden setae on apical margin; rest of body covered by extremely short and sparse, barely visible whitish pubescence. F1–F3 with patches of very dense pubescence on dorsal faces: 8-shaped on apical two thirds of F1, elongate elliptical on whole surface of F2, and linear on basal half of F3.

Aedeagus (Fig. 9) made of two halves apically fused and connected by membranes. Apical portion in ventral view parallel sided and apically rounded, truncate at the extreme apex and truncation margined by two small teeth; in lateral view dorsal margin straight and then curved at apex. Median expansions triangular and pointing towards base of aedeagus, weakly projecting laterally. Lateral apodemes in ventral view straight and evenly diverging, in lateral view evenly curved and a bit thickened in the middle and at apex. Space between median expansions and base of lateral apodemes covered by small translucent tubercles, some reaching apex of aedeagus on dorsal side of apical portion. Paramere (Fig. 10) in lateral view elongate and narrow, nearly claw-shaped, with a thick apical lobe, external surface of lobe punctured and each puncture bearing a short seta. Digitus large and apically pointed, covered by longitudinal striae of which one is stronger and runs from base to apex; ventral margin of digitus is continued by an elongate lobe that point basally and is located between digitus and inner surface of paramere, transition from digitus to lobe forming a pocket bearing some long setae, ventral margin of lobe with five small teeth in apical half.

Color. Black; following parts yellow: clypeus, frons entirely except squarish spot around antennal insertion and median line running from interantennal space to vertex, postocular line connected to yellow markings of frons, scape anterodorsally, pronotum except posterolateral triangular markings, large comma-shaped paired markings on mesoscutum running from anterior margin to posterior third, posterolateral angles of mesoscutum, large rounded spot on scutellum, large pentagonal spot below tegula on mesepisternum, tegula, lateral lamellae of propodeum, medially interrupted broad bands on T1–T4, anteriorly incised broad bands on T5–T6, small paired spots on T7, lateral triangular markings on S2 and S6, laterally expanded apical bands on S3–S5, apical half of fore femur, mid and hind femora except basal half of inner face, all tibiae and tarsi. Flagellum pale yellow with dorsal black line, F1–F3 partly ferruginous. Wings hyaline with light orange suffusion in basal third of first submarginal cell and weakly fuscous spot on marginal cell; venation orange.

Female. Unknown.

Distribution. Iran.

Etymology. This new species is dedicated to Gian Luca Agnoli, expert on Chrysididae and friend, who allowed me to study his collection of Vespidae.

Remarks. This species comes close to *Masaris longicornis* (Kuznetsov, 1923, described in detail by Kostylev 1925, 1927) due to the elongate shape of antennal club, but can be differentiated using the following table [for drawings of *M. longicornis*, see Kostylev (1925, 1927) and Gusenleitner (2002)]:



FIGURES 1–5. *Masaris agnolii* Selis, **sp. nov.**, ♂. 1, Habitus in dorsal view. 2, Habitus in lateral view. 3, Head in frontal view. 4, Propodeum in posterodorsal view. 5, S2–S4 in lateral view.

6



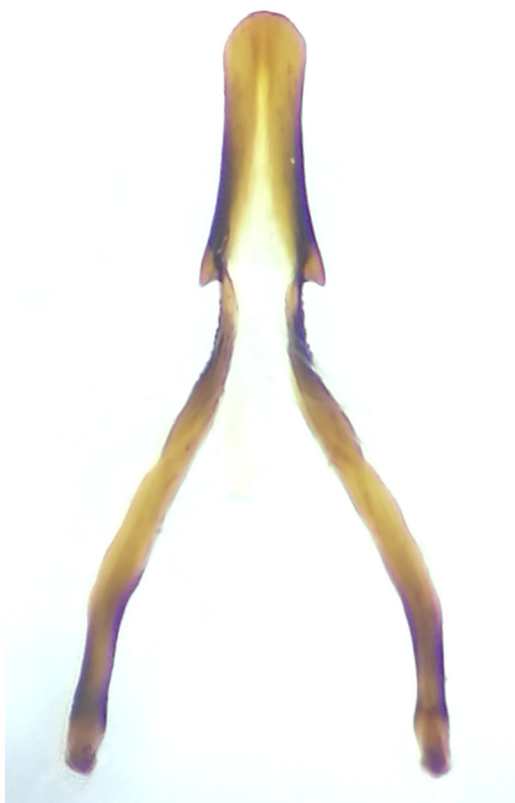
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FIGURES 6–10. *Masaris agnolii* Selis, **sp. nov.**, ♂. 6, Antenna in dorsal view. 7, T7 in dorsal view. 8, S7 in ventral view. 9, Aedeagus in ventral view. 10, Paramere in lateral view.

<i>Masaris agnolii</i> Selis, sp. nov. ♂	<i>Masaris longicornis</i> (Kuznetsov, 1923) ♂
Clypeus hexagon-shaped, with straight margins and deep semicircular apical emargination, apical teeth triangular	Clypeus with rounded margins and shallower apical emargination, apical teeth rounded
T7 with narrow apical incision separating two rounded lobes, each lobe bearing a median apical tubercle	T7 with wide apical incision separating two pointed lobes, each lobe bearing a longitudinal carina
S2 with apical elevated lobe less developed and apically rounded	S2 with apical elevated lobe higher and sharper
S4 in lateral view convex in basal half, bearing low rounded humps on posterolateral angles	S4 in lateral view distinctly depressed in apical half
Lateral propodeal lamellae with margins forming a rounded right angle	Lateral propodeal lamellae with an apical sharp tooth
Frons with moderately dense, long and fine setae	Frons with dense brush-like short setae
T2 and S2–S3 with long sparse setae	T2 and S2–S3 with microscopic pilosity only
Propodeal lamellae and S2–S6 extensively yellow marked	Propodeum and metasomal sterna entirely black

The only other species known from Iran, *Masaris carli* von Schulthess, is readily distinguished from *Masaris agnolii* by shape of last flagellomeres, which are expanded and fused in an enlarged club.

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