Two New Species of *Praon* Haliday (Hymenoptera: Aphidiidae) from Greece[1]

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ABSTRACT

Two new species of *Praon* Haliday: *P. staryi* spec. nov. and *P. athenaeum* spec. nov., are described. *P. staryi* was collected and reared from *Myzus nicotianae* Blackman on *Nicotiana tabacum* L. and *P. athenaeum* from *Hyperomyzus lactucae* (L.) on *Sonchus oleraceus* L.

Introduction

Myzus nicotianae Blackman is considered as a serious pest of tobacco in several areas of the world (Lampert 1989, Lykouressis and Mentzos 1995) because of the direct and indirect damages it causes. *Hyperomyzus lactucae* (L.) is a very common aphid on *Sonchus* spp. which are its secondary hosts. The aphidiid spectrum of *M. nicotianae* on *Nicotiana tabacum* L. in Greece is composed by the genera *Aphidius*, *Daeretiella*, *Lysiphlebus* and *Praon* (Kavallieratos et al. 1997). It has also been found that aphids on citrus are parasitized by 11 species of aphidiids (Santas 1979, Kavallieratos and Lykouresis 1999). In the present paper, our research concerning the Aphidiidae of Greece, is continued with the description of two new *Praon* species. The new species were collected in central (Attica, Phthiotis) and northern (Xanthi) Greece. Mummies of *M. nicotianae* and *H. lactucae*, after their transportation to the laboratory, were placed separately for parasitoid emergence in small plastic boxes of 35 mm diameter and 40 mm height. On the lid of each box there was a circular opening covered by muslin for ventilation, in order to maintain similar conditions inside the box to those existing in the growth cabinet. The conditions inside the growth cabinet in which plastic boxes were placed were 22.5°C, 65% RH and 16:8 L:D.

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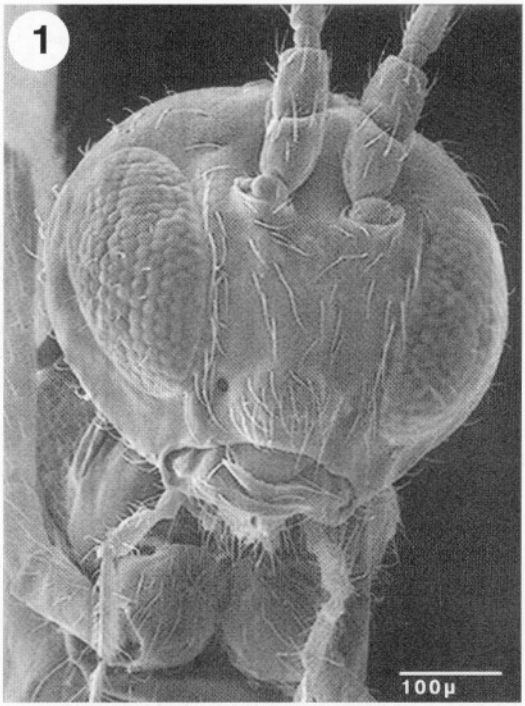
Praon staryi spec. nov.

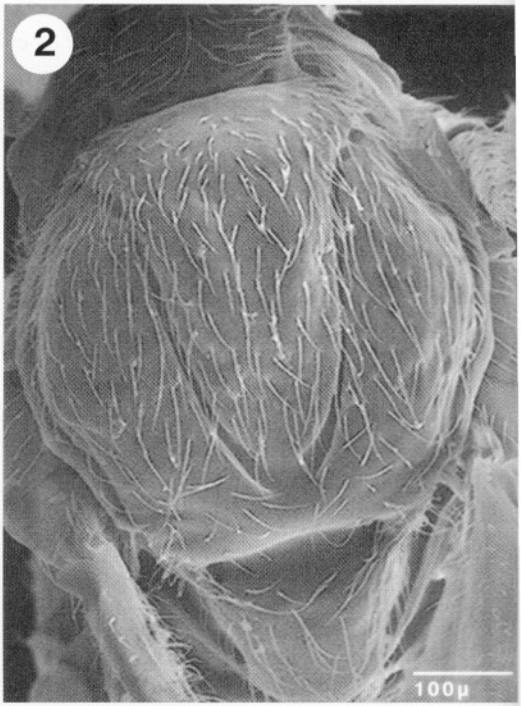
DESCRIPTION

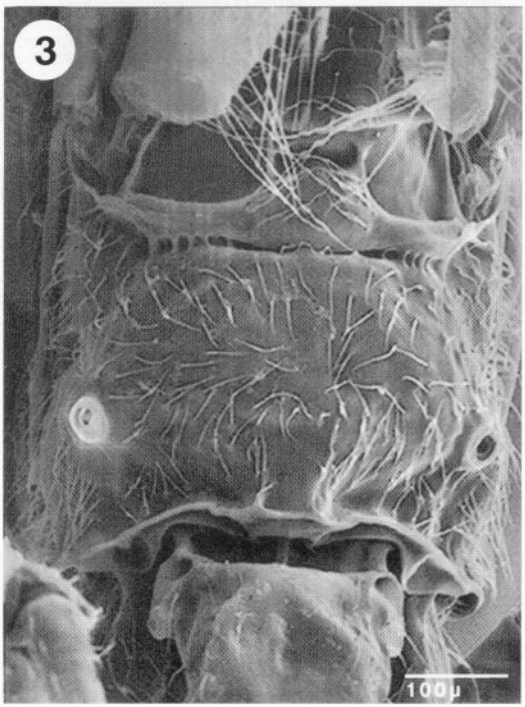
FEMALE. Head (Fig. 1). Subcubical, smooth, shiny with sparse long hairs, wider than thorax. Occiput margined. Gena equal to 0.15 of longitudinal eye diameter. Clypeus oval, raised with 20 long hairs, separated from face by a shallow arched groove with wide, deep tentorial pit. Face with sparse long hairs. Tentorio - ocular line equal to 0.17 of intertentorial line. Eyes middle sized, oval, slightly convergent towards clypeus, sparsely haired. Antennae 16-segmented, filiform, with semierected hairs. First flagellar segment 5.5 times as long as wide, about 1.37 times the length of 2nd flagellar segment.

Thorax. Smooth, shiny. Mesoscutum falling vertically to pronotum. Lateral lobes as well as medial part too of mesoscutum densely haired. Notaulices deep and distinct throughout (Fig. 2). Mesopleuron, almost hairless but pubescent along the sides. Propodeum smooth, densely haired (Fig. 3).

Forewing. Pterostigma triangular, 3.55 times as long as wide. Metacarpus length approximately 0.56 that of pterostigma. Radial vein shorter than length of pterostigma. First abscissa of median vein colourless throughout [Figs. 5, 7 (arrows)].

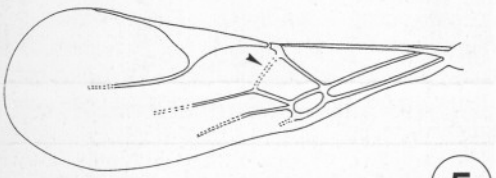


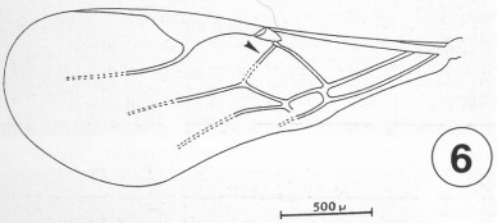


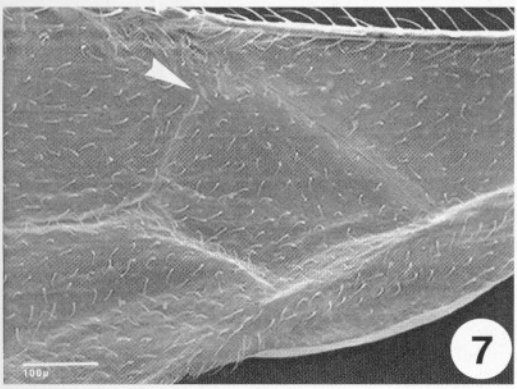


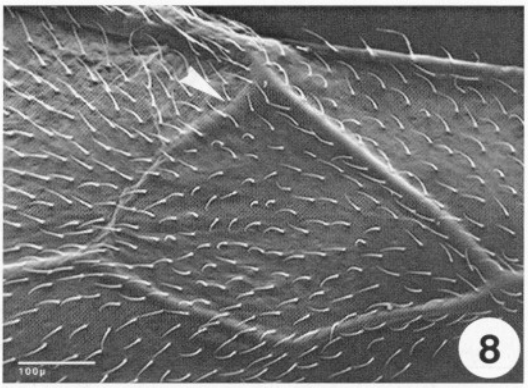
FIGS. 1-4. *Praon staryi:* 1 head, 2 mesoscutum, 3 propodeum, 4 first abdominal tergite.

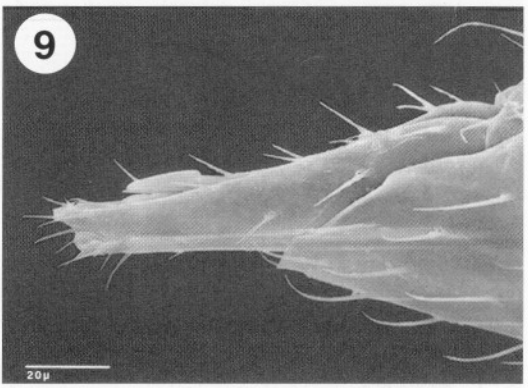
Abdomen. Lanceolate. First tergite (Fig. 4) longer than wide at spiracle level, the distance between spiracles and apex less than first tergite width at spiracle level, convex in profile, with the dorsal part smooth and hairless. There are weak wrinkles along the sides with sparse long hairs. Spiracular tubercles relatively prominent. Third valvulae lanceolate, sparsely haired. Dorsal and ventral outline of third valvulae almost rectilinear (Fig. 9).











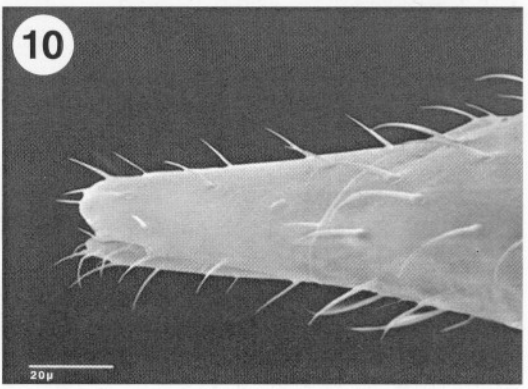


FIG. 5. *Praon staryi:* forewing.

FIG. 6. *Praon volucre:* forewing.

FIG. 7. *Praon staryi:* part of forewing, first abscissa of medial vein.

FIG. 8. *Praon volucre:* part of forewing, first abscissa of medial vein.

FIG. 9. *Praon staryi:* lateral view of third valvulae.

FIG. 10. *Praon volucre:* lateral view of third valvulae.

Colouration. Head brown, face somewhat lighter, eyes black, clypeus light brown; mandibles, maxillary and labial palps yellow. Antennae brown to light brown, sometimes scape and pedicel darker. Propleuron, pronotum, mesopleuron, metapleuron, postscutellum, scutellum light brown. Mesoscutum brown. Propodeum light brown to yellowish. Wings hyaline with light brown venation. Legs yellow, apices of tarsi dark. First tergite yellowish. Tergites 2 and 3 light

brown. The rest of abdomen brown. Third valvulae brown to light brown. The cocoon is white. Body length 1.65-1.88 mm.

MALE. Antennae 18 - segmented, colouration generally as in female. Body length 1.25-1.30 mm.

TYPE MATERIAL: Holotype female, Greece, Gravia, Phokis, 25 September 1995 from *Myzus nicotianae* Blackman on *Nicotiana tabacum* L. Allotype male, Greece, Tithorea, Fthiotis, 20 August 1997 from *M. nicotianae* on *N. tabacum*. Paratypes: 5 females and 1 male from *M. nicotianae* on *N. tabacum*. 1 female, Tithorea, Fthiotis, 1 July 1996, 1 female, Agrinion, Aitoloakarnania, 14 August 1996, 1 female, Aghia Marina, Fthiotis, 1 August 1997, 2 females, Tithorea, Fthiotis, 29 August 1997, 1 male, Agrinion, Aitoloakarnania, 25 August 1997. Deposition: Collection of Laboratory of Agricultural Zoology and Entomology, Agricultural University of Athens.

DISTRIBUTION: Greece.

HABITAT: Fields in lowlands and foot of mountains.

HOST RECORDS: *Myzus nicotianae* Blackman on *Nicotiana tabacum* L.

ETYMOLOGY: The species is named in honor of Dr. Petr Starý, D. Sc., (Institute of Entomology, Czech Academy of Sciences, Prague), for his invaluable contribution to the taxonomy of Aphidiidae.

TAXONOMIC NOTES - DIAGNOSIS: Similar to *Praon volucre* (Haliday), but differing from it in the 16-segmented antennae, the female of *P. volucre* having 17-20 segmented antennae (Starý 1961, Takada 1968, Starý 1976; in Greece, *P. volucre* has 17-18 (19) segmented antennae), different shape of the third valvulae (Figs. 9, 10), the colourless first abscissa of the medial vein throughout whereas in *P. volucre* it is coloured at its basal part [Figs. 5-8 (arrows)] and the generally lighter colouration of the body. So far, *P. staryi* has been recorded only from *M. nicotianae* whereas *P. volucre* parasitizes various aphid groups (Starý 1966, Takada 1968).

Praon athenaeum spec. nov.

DESCRIPTION

FEMALE. Head (Fig. 11). Subcubical, smooth, shiny with long hairs, wider than thorax. Occiput margined. Gena equal to 0.31 of longitudinal eye diameter. Clypeus oval, raised with 38 long hairs, separated from face by a shallow arched groove, with wide, deep tentorial pit. Face with sparse long hairs. In lateral view, head with a relatively big number of long hairs (Fig. 15). Tentorio-ocular line equal to 0.25 of intertentorial line. Eyes middle sized, oval, slightly convergent towards clypeus, sparsely haired. Antennae 20-segmented, filiform, with semierected hairs. First flagellar segment 6 times as long as wide, 1.2 longer than 2nd flagellar segment.

Thorax. Smooth, shiny. Mesoscutum falling vertically to pronotum. Lateral lobes of mesoscutum with small hairless areas (Fig. 12). Notaulices deep and distinct throughout (Fig. 12). Mesopleuron smooth, almost hairless but pubescent along the sides. Propodeum smooth, densely haired except in the upper and lower half of the central part (Fig. 13).

Forewing. Pterostigma triangular, 4 times as long as wide. Metacarpus 0.54 length of pterostigma. Radial vein and intermedian vein partly coloured [Fig. 17 (arrows)].

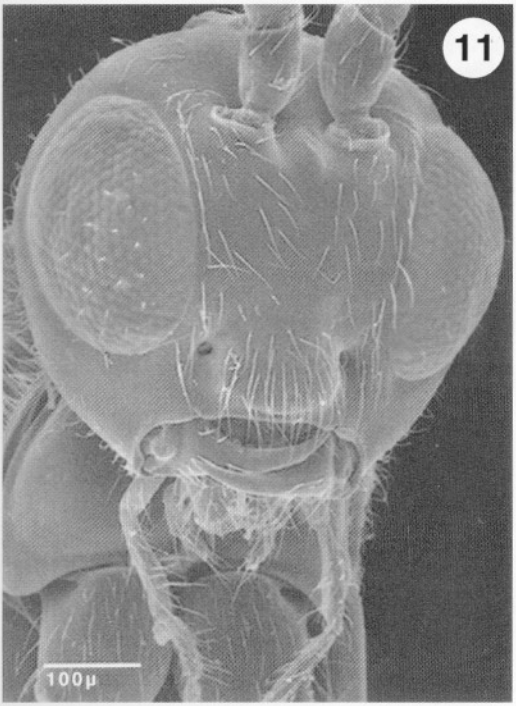
Abdomen. Lanceolate. First tergite (Fig. 14) longer than wide at spiracle level, the distance between spiracles and apex less than first tergite width at spiracle level, convex in profile whereas the dorsal part is smooth and hairless. There are weak wrinkles along the sides with sparse long hairs. Spiracular tubercles prominent. Third valvulae sparsely haired, moderately prominent. Dorsal outline of third valvulae slightly concave (Fig. 21) with one conical apical spine [Figs. 21, 22 (arrows)].

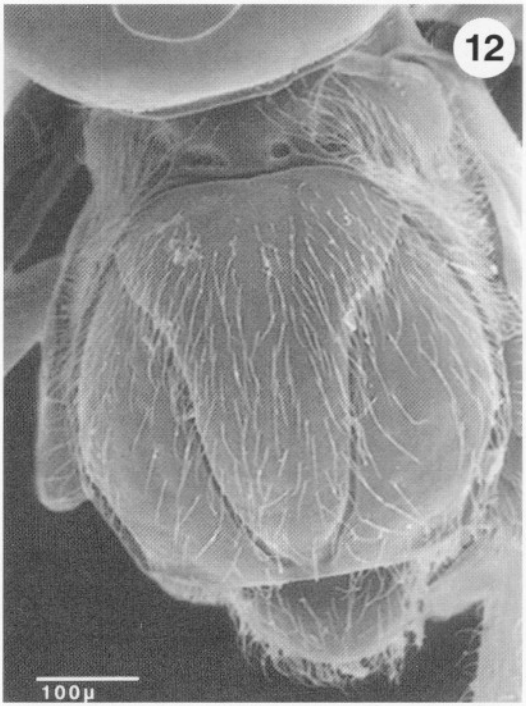
Colouration. Head dark brown, face lighter, eyes black, clypeus light brown, mandibles light brown (except darker apices), maxillary and labial palps yellow. Antennal scape and pedicel yellow, flagellar segment 1 yellow with a dark ring at the apex, remainder of antenna dark brown. Propleuron, pronotum, mesopleuron, metapleuron light brown to yellowish. Propodeum, postscutellum dark brown. Mesoscutum dark to light brown. Wings hyaline with brown venation. Legs yellow, apices of tarci dark. First tergite light brown. The rest of abdomen brown. Third valvulae dark brown. The cocoon is beige. Body length 1.90-1.95 mm.

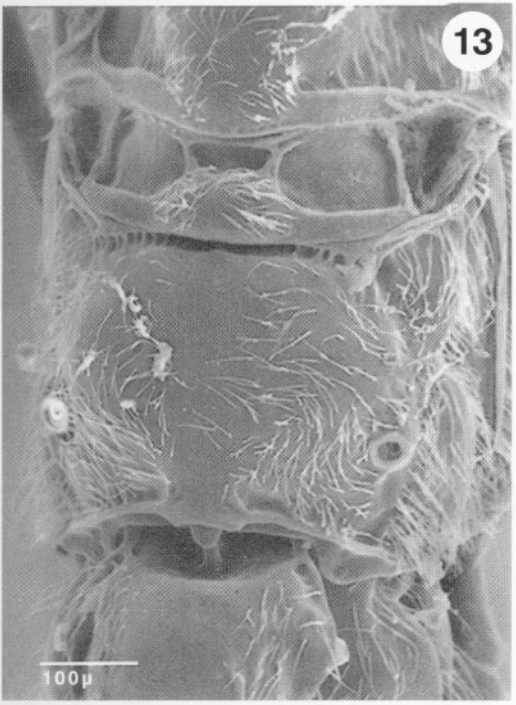
MALE. Unknown.

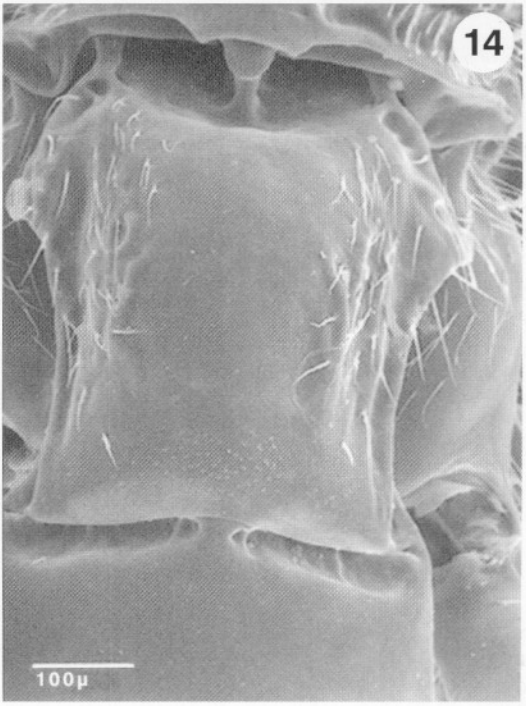
TYPE MATERIAL: Holotype female, Greece, Athens, Attica, 21 May 1995 from *Hyperomyzus lactucae* (L.) on *Sonchus oleraceus* L. Paratypes: 3 females, Ehinos, Xanthi, 6 June 1999 from *H. lactucae* on *S. oleraceus*. Deposition: Collection of Laboratory of Agricultural Zoology and Entomology, Agricultural University of Athens.

ETYMOLOGY: The name of the species is derived from Athens, the capital of Greece, where it was initially found.

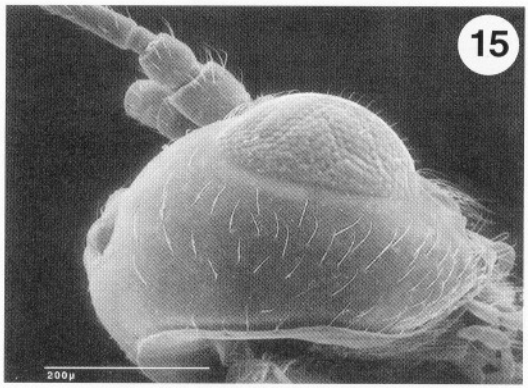


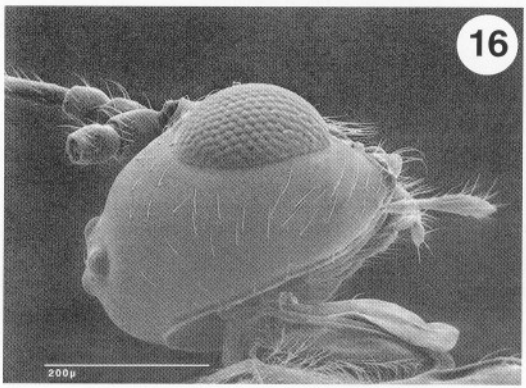


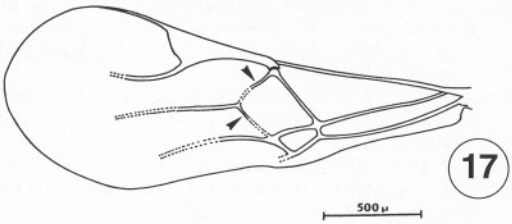


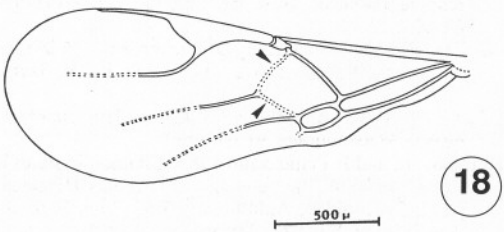


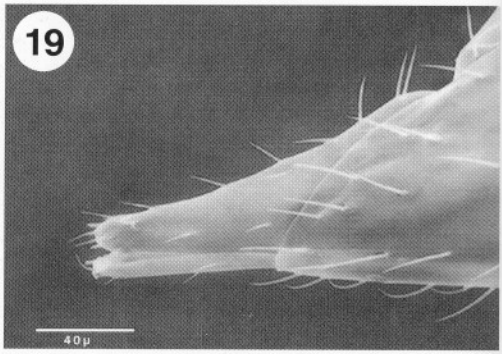
FIGS. 11-14. *Praon athenaeum:* 11 head, 12 mesoscutum, 13 propodeum, 14 first abdominal tergite.

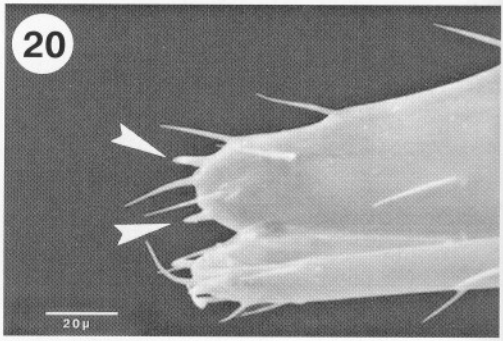


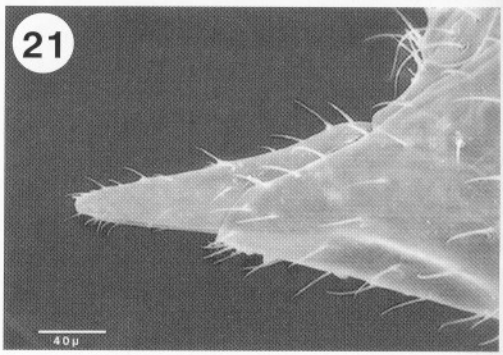












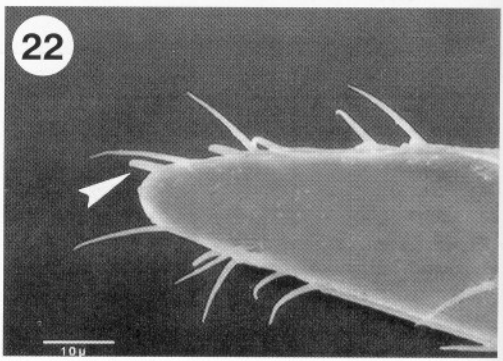


FIG. 15. *Praon athenaeum:* lateral view of head.
FIG. 16. *Praon yomenae:* lateral view of head.
FIG. 17. *Praon athenaeum:* forewing.
FIG. 18. *Praon yomenae:* forewing.
FIGS. 19-20. *Praon yomenae:* 19 lateral view of third valvulae, 20 apex of third valvula.
FIGS. 21-22. *Praon athenaeum:* 21 lateral view of third valvulae, 22 apex of third valvula.

TAXONOMIC NOTES - DIAGNOSIS: Belonging to the group characterized by the entirely yellow first flagellar segment and the hairless areas of the lateral lobes of mesoscutum. In general appearance, this species is related to *Praon yomenae* Takada differing from the former in the 20-segmented antennae whereas *P. yomenae* has 18-19 segmented antennae (Takada 1968, Tremblay and Pennacchio 1985; in Greece, *P. yomenae* is also 18-19 antennae segmented), the less prominent and more lanceolate third valvulae, the less rounded apex of third valvulae and the slight dorsal concavity of the outline of third valvulae (Figs. 19-22), the number of conical apical spines of the third valvulae (1 in *P. athenaeum* instead of 2 in *P. yomenae*) [Figs. 19-22 (arrows)], the partly coloured first abscissa of median vein and intermedian vein whereas in *P. yomenae* are colourless throughout [Figs. 17, 18 (arrrows)], the greater number of hairs on the lateral view part of head (Figs. 15, 16) and the different host range. *P. athenaeum* is a parasitoid of *H. lactucae* whereas *P. yomenae* is a parasitoid of *Uroleucon* spp. and *Acyrtosiphon pisum* (Harr.) in the Mediterranean area (Starý 1976, Tremblay and Pennacchio 1985).

Saha et al. (1982) have described *Praon hyperomyzus* from *Hyperomyzus carduelinus* (Theobald). However *P. athenaeum* differs from the former in the smaller ratio between gena and longitudinal eye diameter (0.31 in *P. athenaeum* instead of 0.5 in *P. hyperomyzus*), the hairy eyes, the shorter ratio between tentorio - ocular and intertentorial lines, (0.25 in *P. athenaeum* instead of 0.33 in *P. hyperomyzus*), the greater ratio between length and width of flagellar segment 1 (6 times in *P. athenaeum* instead of 5 times in *P. hyperomyzus*), the greater ratio between flagellar segment 1 and flagellar segment 2, (2nd flagellar segment, 0.83 of flagellar segment 1 in *P. athenaeum* instead of 0.67 in *P. hyperomyzus*), the smaller hairless areas on lateral lobes of mesoscutum, the absence of lateral carina on first tergite, the number of conical apical spines on the third valvulae (1 in *P. athenaeum* instead of 2 in *P. hyperomyzus*) and the entirely yellow flagellar segment 1 instead of yellowish brown flagellar segment 1 in *P. hyperomyzus*.

DISTRIBUTION: Greece.

HABITAT: Roadsides, urban environment.

HOST RECORDS: *Hyperomyzus lactucae* (L.) on *Sonchus oleraceus* L.

Acknowledgments

We would like to thank Dr. Petr Starý (Institute of Entomology, Czech Academy of Sciences, Prague) for his most useful comments on the identification on the first specimen from *M. nicotianae* and *H. lactucae* we sent to him. He mentioned that the specimen from *H. lactucae* didn' t belong to any known species while he expressed doupts for that from *M. nicotianae* whether it belongs to *P. volucre*. We also thank Assist. Professor C. Fasseas (Agricultural University of Athens) for his help taking the photomicrographs from the scanning electron microscope, Mrs Evangelia Simou and Mr Eustathios Paulakos for typing the text.

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KEY WORDS: New insect species, Aphidiidae, *Praon staryi, Praon athenaeum.*

Δύο Νέα Είδη στο Γένος *Praon* Haliday (Hymenoptera: Aphidiidae) από την Ελλάδα

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ΠΕΡΙΛΗΨΗ

Περιγράφονται δύο νέα είδη στο γένος *Praon* Haliday, το *P. staryi* spec. nov. και το *P. athenaeum* spec. nov. Το *P. staryi* καταγράφηκε από την αφίδα *Myzus nicotianae* Blackman σε *Nicotiana tabacum* L. Το *P. athenaeum* καταγράφηκε από την αφίδα *Hyperomyzus lactucae* (L.) σε *Sonchus oleraceus L.*