نامهٔ انجمن حشره شناسان ایران
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معرفی پنج‌گونه شته‌از دوجنس *Protaphis* CB و *Staticobium* Mordv. برای فون ایران

نگارش:
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چکیده:

فرمهای بی‌بال وبالدار بکرزا از گونه‌های *P. alexandrae* Nevsky از روی میزبان *Centaurea virgata*، *P. anuraphidoides* Nevsky از روی Carthamus *oxycanthus* و بی بال بکرزا *P. elongata* Nevshk از روی *Artemisia annua* وبی‌بال وبالدار بکرزای *Staticobium latifoliae* Bozh.. و فرم بی بال بکرزا از گونه *Staticobium limonii* Bozh. از روی *Limonium latifolia* جمع آوری شده‌از استانهای تهران و آذربایجان غربی ازنظر مشخصات مورفولوژیک در این مقاله مورد بحث قرار گرفته‌اند.

مقدمه:

تابحال بیش از ۳۰۰ گونه‌شته ازنقاط مختلف ایران توسط محققین خارجی و ایرانی جمع آوری وشناسائی شده‌اندکه حدود ۲۰۰ گونه‌از آنها درمقالات مختلف بچاپ رسیده‌اند (Remaudier & Davatchi 1956, 1958، فرحبخش ۱۹۶۱ Remaudier 1964، Stroyan 1970، ایستاپ وحجت ۱۹۸۰، حجت وایستاپ ۱۹۸۱ رضوانی 1987

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۱۹۸۳) . اکثر گونه‌های شناخته شده در ایران با گونه های اروپا ، غرب آسیا و آسیای میانه شباهت زیاد دارند و تعدادی نیزمخصوص مناطق ایران می‌باشند که تاکنون درسایر مناطق جهان گزارش نشده‌اند . بررسیهای سالهای اخیر برتعداد گونه‌های شناخته شده‌در ایران افزوده است وبا ادامه بررسیها مرتبا برتعداد گونه‌هااضافه می‌گردد و بعضاگونه‌های کاملا "جدیدی نیز معرفی شده‌اند (Rezwani & Lampel, 1987, Holman 1980)

در این مقاله پنج‌گونه از دوجنس *Staticobium* Mordv. و*Protaphis* CB. برای اولین بار ازایران گزارش می‌شوند . لازم به ذکر است که‌جنس‌اخیرنیز برای ایران‌و حتی غرب آسیاجدید می‌باشد . شرح گونه‌ها بتفصیل‌در متن‌انگلیسی ارائه گردیده است .

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FIVE NEW APHIDS (HOMOPTERA:APHIDIDAE) FOR IRANIAN FAUNA.

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SUMMARY

The paper contains the description of apterous Viviparus females and alate viviparus females of *Protaphis alexandrae* Nevsky, *Protaphis anuraphidoides* Nevsky, apterous viviparus females of *Protaphis elongata* Nevsky living on *Centaurea virgata*, *Carthamus oxycanthus*, *Artemisia annua* and apterous viviparus females and alate Viviparus females of *Staticobium latifoliae* Bozh apterous viviparuus females of *Staticobium limonii* Bozh. The last two species are collected on *Limonium latifolium*.

INTRODUCTION: Sofar more than 300 species aphids have been collected in different parts of Iran, but at most 2/3 of them are published by foreing and iranian authors (REMAUDIER and DAVATCHI 1956 b, 1958, FARAHBAKHSH 1961, REMAUDIER 1964, STROYAN 1970, EASTOP & HODJAT 1980, REZWANI 1983, 1987, REZWANI & RADJABI 1987). According to the latest results obtained, there is a considerable similarity between aphids of Iran and those of Europe, west and central Asia. In last ten years some new species have been described(HOLMAN and SZELEGIEWICZ 1979, HOLMAN 1980, REZWANI AND LAMPEL 1987). The present paper introduces 5 species of the genus *Protaphis* CB and *Staticobium* Mordv.

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1- *Protaphis alexandrae* Nevsky (Table I, Fig.I)

Syn.= *Xerophilaphis alexandrae* Nevsky 1928, 1-20

Apterous viviparus females (n=10)

Morphological characters: Body oval 1, 54 - 1 , 84 mm length, 1,48-1,61 times as long as wide, antennae o,60-0,81 mm not reaching to basal part of cornicles. Ant. seg.III=o,172-0,246, IV= o,o74-o,o98, V=o,o65-o,100, VI=b. (o,o84-o,123)+pt.(o,o74-o,100) mm. Ant.seg.III Without secondary rhinaria, siphunculi cylindrical, as long as processus terminalis of ant.seg.VI, and 1,3-1,5 times as long as their basal diameter. Cauda o,o96-0,148 mm shorter than it thickness in basal part, with 11-16 hairs. Rostrum not reaching to the 3rd coxae, apical part of rostrum o,123-o,147 mm with 4 additional hairs, longer than hind tarsus II. First tarsal joint with 3:3:2 setae.

colour in living specimens dark green, greyish with blackish cornicles and antennae. In cleared specimens head, prothorax, rostrum, distal half of femora, about 1/lo distal part of tibiae, tarsus, two last seg. of antennae, siphunculi, subgenital plate, coxae dark brown to black, remainder parts pale or light coloured. The thoracic seg. I, II, and III with 3 large sclerites in each sides. Abdominal dorsum with numerous relatively small sclerites which are distributed mostely in lateral part.

Alate viviparus famales (n=3)

Body 1,37 - 1, 97mm, antennae 0, 63 - 0, 68 mm, ant. seg. III =0, 209 -0,227 mm, IV=o, 065- 086, V=074-0,086,

VI=b. (0,086-0,098)+Pt. (0,086-0,098) mm. Secondary rhinaria on ant.seg.III 5-8. Last seg.of rostrum o,123, siphunculi o,o74-o,o86 mm, as long as ant. seg V. cauda o,098-o,11 and last joint of hind tarsus o,o86-o,o98 mm. Colour: Antennae brown, rostrum, thorax,femora and coxae dark brown to black. The other characters are similarely to those of apterous viviparus ones.
Foodplants: Material are collected on stalks of *Centaurea virgata* Lam. *subsp.squarrosa* (Willd.)(=*Centaurea squarrosa* Willd.)
Locality:Collected on 04,06,1989 in Tehran by Rezwani.
Distributed in central Asia (Nevsky 1928, 1-20)
Taxonomic notes :Nevsky(1928),in his paper has given just an average of all the measurements and so it is not easy to show all of differences between those of Nevsky and iranian specimens. This species differs slightly from the specimens of Nevsky by having a longer cauda and shorter siphunculi/ cauda index.

2- *Protaphis anuraphidoides* Nevsky(Table I, Fig.I)
Syn.=*Xerophilaphis anuraphidoides* Nevsky 1928,1-20

Apterous viviparus females (n=3)
Morphological characters:Body 1,62-1,80 mm length, 1, 50 - 1, 76 times as long as wide,antennae o, 806-0, 836, ant. seg. III= o,221, 0,246,IV=0,110-0,123,V=0,084-0,110. VI=b.(o,o98-0,110)+ Pt.(0.110-0,123), mm, number of secondary rhinaria on ant.seg.III 4-6,On IV o-1. cauda o,123-o,147 mm,shorter than its basal diameter and longer than processus terminalis of ant.seg.VI and cornicles,

Table I : Main characters of apterous viviparus females of tree *Protaphis* species collected on *Centaurea virgata*, *Carthamus oxycanthus* and *Artemisia annua* in Iran.

Characters	Protaphis alexandrae on Centaurea virgata		P. anuraphidoides on Carthamus oxycanthus		P. elongata on Artemisia ammua	
	from Iran n=10	from central Asia	from Iran n=3	from C.Asia	from Iran n=15	from C.Asia
Body length	1,54-1,84	1,30-1,70	1,62-1,80	1,76	1,50-1,91	1,50-1,80
Antennae	0,600-0,810	o,50	0,806-0,836	0,82	0,587-o,689	0,65
Ant.seg.III	0,172-0,246	0,110	0,221-0,246	o,25	0,160-0,209	0,19
IV	o,074-0,098	0,050	0,110-0,123	0,10	0,062-0,086	0,08
V	0,065-0,100	0,060	0,084-0,110	0,10	0,074-0,098	0,08
VI B.	0,084-0,123	0,084	0,098-0,110	0,10	0,o86-0,110	0,10
VI Pt.	0,074-0,100	0,080	0,110-0,123	0,90	0,074-0,110	0,09
Ult.rost.	0,123-0,147	-	0,147-0,160	-	0,123-0,135	-
siphunculi	o,074-0123	0,080	0,086-0,098	0,10	0,05-0,084	0,07
Cauda	0,098-0,148	0,040	0,123-0,147	0,13	0,098-0,135	0,08
H.tars.II	o,089-0,110	-	0,086-0,098	-	0,086-0,110	-
Ratio:						
Ant./body	o,350-0,460	0,35	0,460-0,480	0,460	0,340-0,430	0,390
Siph./eauda	0,600-0,900	2,00	0,580-9,800	0,760	0,600-0,870	0,870
pt./bas.	o,780-1,00	1,00	1,00-1,16	0,900	0,800-1,10	0,90
Number of sec.						
ant.seg. III	0	0	4 ----6	4--9	0	0
IV	0	0	0 ----1	2--5	0	0
Number of caudal hairs	11 - 16	14	12--- 14	-	10 - 17 10 - 17	-

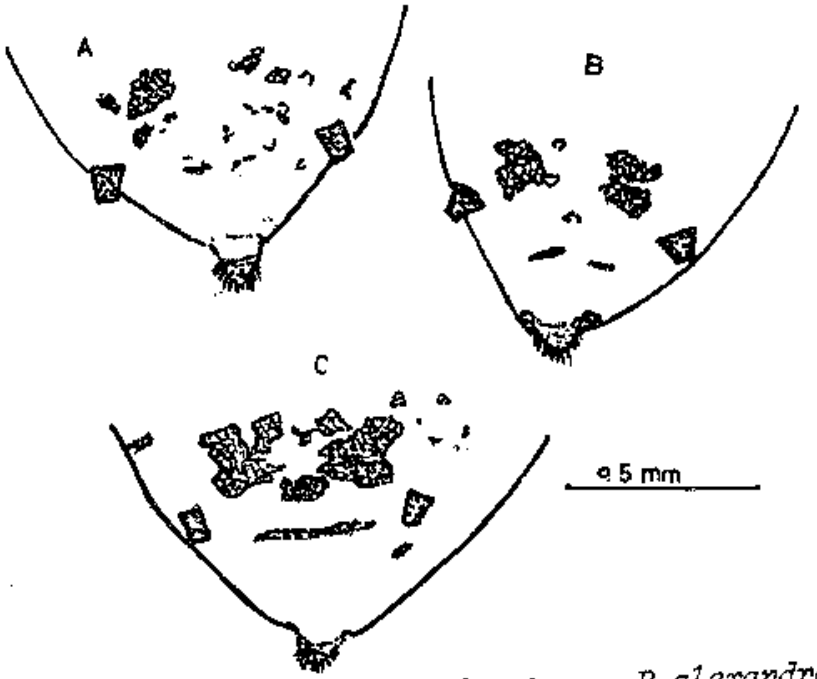

Fig.I: Apterous vivparus females A=*P.alexandrae*, B=*P.anuraphidoides*, C=*P. elongata*.

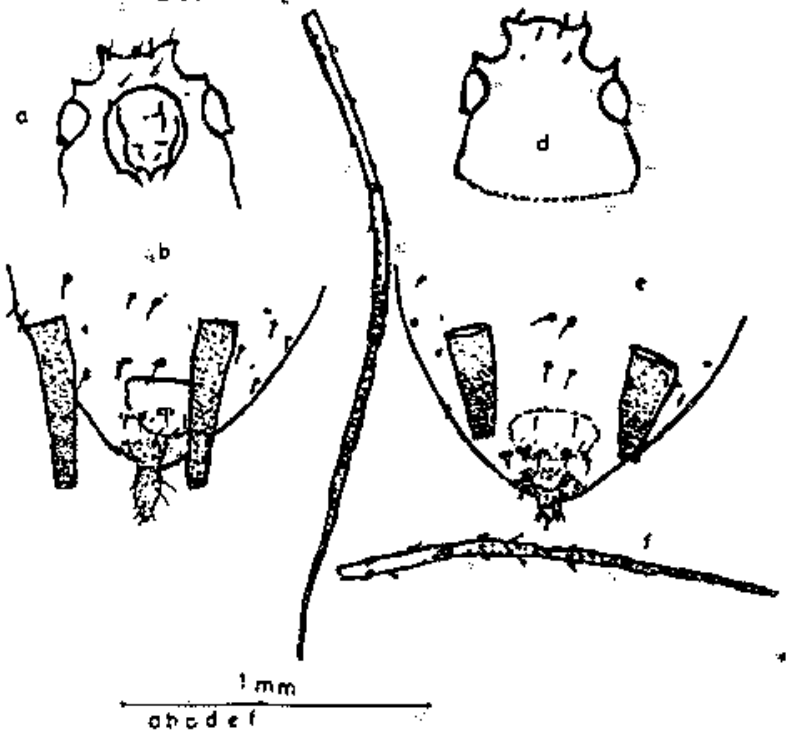

Fig.II:a:head,b:abd.seg.c:ant.of apt.vivi.f.of *St. latifoliae* d:head,e:abd.seg.f:ant.apt.vivi. of.*St.limonii*

with 12-14 hairs. Cornicles conical,o,o86-0,098 mm,shorter than their basal diameter,rostrum reaching to the 3rd coxae. Last joint of rostrum 0,147-0,160mm 1,50-1,85 times longer than hind tarsus II. First tarsal seg.with 3:3:2 setae.

Colour In life dark green with mealy covering. In cleared specimens head, coxae, femara, o, lo distal part of tibiae, tarsus, rostrum, cauda, cornicles, subgenital plate and last joint of antennae brown to dark brown. Abdominal dorsum colourless with two large and interrupt sclerites on seg.IV-V. Thorax with 3 sclerites on each sides.

Alate Viviparus females (n-3)

Body 1,47-1,62mm length, antennae 0,713-0,740,ant.seg. III=o,234-0,246,IV=0,o86-0,11o,V=o,086-o,110,VI=b.(o,098-o,110)+pt.(o,o98-o,11o)mm-Number of secobdary rhinaria on ant, seg.III 7-8.IV 1-2.Cornicles 0,074-0,084,cauda o,123-o,135mm 1,42-1,66 times as long as cornicles,ultimate rostral segment o,147-o, 160mm. longer than cauda. First tarsal seg. with 3:3: 2 Setae.

Colour: Antennae, brown, head, toerax, rostrum, coxae, trochanters, femora, tarsus, apical part of tibiae,genital and subgenital plate and cauda dark brown.

Foodplant and locality: The aphids have been collected on stalks of Carthamus oxycanthus on 16.08.1985 in Orumieh area (Western-Azarbaydjan Province) by Parvizi.

Taxonomic notes: This aphids differ slightly from specimens of Nevsky by having of a conical cornicle which

is as long as it thickness.

3- *Protaphis elongata* Nevsky (Table I,Fig.I)

Syn.= Xerophilaphis elongata *Nevsky* 1928,1-20

Apterous Viviparus females (n=15)

Morphological characters: Body oval 1,50- 1,91 mm length, 1, 43 - 1,58 times as long as wide. Antennae o,587- o,689 ant. seg. III=0,160-0,209, IV=0,062- 0,086, V=0.074 -o,o98, VI= b.(o,o86-o,11o)+ Pt.(o,o74-o,11o)mm. Ant.seg III with O , in One specimen with 5 secondary rhinaria. Cornicles cylindrical 1,3-1,5 times as long as their basal diameter and o,65-o,87 of the cauda length and as long as ant.seg. IV. Rostrum reaching to the 3rd coxae. Ult.rostral joint o,123-o,135 mm, 1,12-1,57 times as long as second joint of hind tarsus. First tarsal joint with 3:3:3 setae ,two long and one short. Processus terminalis of ant.seg.VI have the same long as the basal part of the same segment. Cauda o,o98-o,135 mm, almost as long as ult. rost.joint, and o,75-1.o times of the its basal diameter with lo-17 hairs in differentsize. Subgenital plate eliptical with numerous short hairs.

Colour: In life green to dark green. In cleared specimens head, ant. seg. I and VI, rostrum, apical part of femora and tibiae, tarsus and cornicles dark brown to black. Prothorax with 3 large sclerites. Ant.seg.II-V pale to yellowish. Abdominal dorsum with two large sclerites on seg.IV-V and in some specimens a narrow band on seg.VI.

Foodplant: Material have been collected from the roots of *Artemisia annua*

Table II:

Main characters of apterus viviparus females of two *Staticobium* species collected on *Limonium latifolia* in Iran.

Characters	*Staticobium latifoliae* Bozh.				*Staticobium limonii* Bozh.			
	from Iran (n=31)			from USSR n=?	from Iran (n=11)			from USSR n=?
Body length mm	1,64	- 1,84 -	2,08	2,08	1,48	- 1,75 -	1,97	2,21
Antennae	1,88	2,15	2,42	2,13	1,27	- 1,39 -	1,59	1,34
Ant.seg III	0,429	0,523	0,630	0,530	0,246	- 0,326 -	0,381	0,36
" IV	0,340	0,401	0,454	0,430	0,184	- 0,247 -	0,307	0,24
" V	0,277	0,333	0,403	0,330	0,184	- 0,246 -	0,283	0,24
VI b.	0,100	0,114	0,139	0,140	0,086	- 0,096 -	0,123	0,09
VI Pt.	0,491	0,594	0,680	0,560	0,322	- 0,362 -	0,381	0,34
Siphunculi	0,466	0,558	0,680	0,53	0,270	- 0,312 -	0,357	0,33
Cauda	0,277	0,229	0,340	0,30	0,160	- 0,183 -	0,209	0,18
Ult.rost.seg.	0,113	0,125	0,139	0,13	0,110	- 0,125 -	0,135	0,11
H.tars.II	0,100	0,114	0,139	0,110	0,098	- 0,108 -	0,123	0,115
Ratio:								
Ant./Body	1,11	1,17	1,27	1,04	0,770	0,790	0,930	0,61
Siph./Cauda	1,68	1,87	2,09	1,77	1,59	1,70	1,92	1,83
Pt./bas.	4,34	5,21	6,30	4,60	3,17	3,82	4,31	3,77
Rhin.on ant. seg. III	1--3			4		1--2		1--2
Suppl.hairs	6--8			-		6--7		- -
Number of caud. hairs	7--9			8		7--9		- -

Locality: Amol (250 km northern of Tehran in Province Mazanderan on 21,06,1989 by Rezwani. Distributed in central Asia(Samarkand) Nevsky 1928, 1 - 20)

Taxonomic notes: This aphids differ from those of Nevsky by having black femora(in comparison distal half of femora black) and Shorter cauda (average 0. 080 mm in comparisom 0.126 mm).

4- *Staticobium latifoliae* Bozh. Fig.II Table II

Apterous viviparus females (n=31)

Morphological characters: Body 1,64-2 08 mm length, dorsum with numerous small sclerites situated on segments I - VII, bearing only one spatulate hair, being long 48 ± 69 mm. Antennal tubercles higher than frontal one. frontal hairs have the same length with dorsal ones, 1,3-1,5 times as long as basal diameter of 3rd ant. seg.,ant.Seg.I and II with 6-7 and 5-6 relatively long hairs. Antennae 1,88-2,42 mm,1,11-1,27 times as long as body length. Ant.seg.III=0.429-0,630, IV= o,340-0,454,V= 0,277-0,403,VI=b. (0,100-0,139)+pt.(0,491+0,680)mm. 3rd ant.seg.with 1-3 secondary rhinaria, longest hair on ant. seg.III o,5-0,6 times as long as basal diameter of the same segment. Processus terminalis of ant.seg.VI 4,34-6,30 times as long as basal part of the same segment.Siphunculi 0,466-0,680 mm,1,68-2,09 times as long as cauda length,reticulated 0,40-0,48 distal part, 1/3 basal part weakly imbricated. Cauda tongue shape 0,277-0,340 mm,distinctly constricted 1/3 basal part, with 7-9 hairs in variable size, longest hair

up to 86 um. Rostrum surpassing 3rd coxae. Ult.rostral joint o,113-o,139 mm,almost equal with 2nd joint of hind torsus and basal part of ant.Seg.VI with 6-8 supplementary hairs. Tarsus I with 3:3:3 setae,second joint of hind tarsus o,1oo - o.139 mm,Genital plate with two long on anterior and several short hairs on posterior part.
Tergite 8 with 3 hairs. Postsiphuncular sclerites absent.
Colour:In life blackish, in macerated specimens , head , ant . seg. I,II,V,VI and distal part of ant.seg .III and IV.last joint of rostrum. coxae, 1/4 distal part of femora, whole length of tibiae and tarsus, genital plate, 2/3 distal part of siphunculi brown to dark brown, remainder part pale.

Alate viviparus females (n=19)
Morphological characters:Dorsum with marginal sclerites on segments I-VI. Postsiphuncular sclerites well developed. Body 1,70-2,14 mm,length.Antennae 2,20-2-55 mm,1,11-1,39 times as long as body length.Ant. seg.III -0,441-0,617, IV= 0391- o,479 V=0, 340 - 0,403, VI=b. (0.113- o,139) +pt. (o,567-0, 743)mm. Secondary rhinalis on 3rd ant. seg.III 2-5on seg.IV absent.Processus terminalis of VI. ant. seg. 4,5-5,9 times as long as basal part of the same segment.Dorsal,frontal and antennal hairs likely to those of apterous viviparus ones in length. Siphunculi 0.429-0,592 mm,1,80-2,35 of cauda and 0,25-0,30 of body length, reticulated part 0,42-0,47 of the whole length, remainder part heavily imbricated .Cauda 0,239-0,315 mm,slightly constricted in medial part.Ult. rostral joint 0,126-0,151mm, 1,0-1,34 times as long as 2nd joint of hind tarsus which

are 0,113-0,126mm length. The other characters are similar to those of apterous viviparus ones.

Colour: In life like to those of apterous viviparus ones, in cleared specimens, head , thorax, ant,seg..IIIand VI, distal part of V,coxae, 1/3 distal part of femora and 1/5 distal part of tibiae, whole length of tarsus, 3/4 distal part of siphunculi, genital and subgenital plate dark brown, remainder part pale.

Hostplant and locality: On lower side of leaves and stalks of *Limonium latifolia* (Plumbaginaceae). Material collected in Orumieh area (Western Azarbaydjan province) (1500 m) on 22, sept. 1987 by Parvizi. Distributed in south west Kazakhstan (Bozhko 1961).

These aphids differ from material of Bozhko in following charadters:

Iranian specimens:

-Longest hair on 3rd ant.seg. o,5-0,6basal diameter of the diameter of seme seg.

-average of pt./bas.=5,21

- " body length=1,84mm

Specimens of Bozhko:

-Longest hair on 3rd ant.seg ist equal with basal diameter of the same seg.

!-average/of pt./bas.=4,6

-" "body length=2,04mm

5-*Statidobiun limonii* Bozhko Fig. II Table II

Apterous viviparus females(n=11)

Morphological characters:Body oval,1,48-1,97mm length 1,57-1,77 times as long as long as wide in medial part of abdominal segment. Dorsal hairs spatulate,40-60 um,1,30-1,50. times as long as basal diameter of 3rd ant. seg. standing on dark spots situated on abdominal seg. I-VII

Frontal hairs with the same length as dorsal ones. Frontal tubercles lower than those of antennae. 1,27-1,59mm, 0,77 - 0,93 times as long as body length. Ant. seg.III-0,246-0,381,IV=0,184-0,307,V=0,184-0,283,VI-b.(0,086-0,123)+pt. (0,086-0,123)+pt.(0,332-0,381)mm.3rd ant. seg. with 1-2 secondary rhinaria. Longest hair on ant. seg.III as long as basal diameter of the same seg. Rostrum surpassing 3rd eoxae, ult. rostral joint 0, 110 - 0, 135,mm 1,0 - 1, 37 times as long as 2nd joint of hind tarsus, which are o,o98-0, 123 mm long bearing 6- 7 additional hairs. Siphunculi thicker at base, 0270-0,357mm, 0,16-0,20 of body and 1,59-1,92 of the cauda length , reticulated part 0,41-0,52 of the whole length. Cauda tongue shape weakly constricted in medial part,0,160-0209mm,1,3-1,6 time as long as its basal diameter, with 7-9 hairs.Processus terminalis of VI.ant. seg. 3,17-4,31 times as long as basal part of the same segment. Hind tarsus II 0,098 - 0,123mm a little longer than basal part of VI. ant. seg.,genital plate with two long hairs on anterior and numerous on posterior part . Tergite 8 with 5 hairs. Postsiphuncular sclerites absent.

Colour: In life dark, in macerated specimens, head, ant. seg,I,II,VI and apical part of IIIand IV,coxae, 1/2 distal part of femora, 1/5 distal part of tibiae, tarsus, second half of siphuncule, ult. rostral seg., genital plate dark brow

Hostplant and locality: Collected on shoots and stalks of *Limonium latifolia*(Plumbaginaceae) in Orumieh area on 17 jul. 1988 by Parvizi. Distributed in western Europe, west Kazakhstan, central Asia(Shaposhnikov,1967).

The differcnces between this aphids and specimens of Bozhko(1961) are as follows:

Iranian specimens	Specimens of Bozhko
-Average of body length 1,75	-Average of body length2,21
-Ant./body L 0,79	-Ant./ body L 0,67

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