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IS *RHUS*-LIVING ERIOSOMATINAE APHID IN TURKEY REALLY A NEW SPECIES?

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Barjadze Sh. – Is *Rhus*-living Eriosomatinae aphid in Turkey really a new species?

Seven alate females collected on *Rhus* sp. by Dr. Murat Aslan in Turkey are re-studied. Originally considered as an undescribed species, the specimens are determined as *Baizongia pistaciae* (L.). Misidentification of the host plant probably contributed to lead on the initial confusion. Morphological measurements and ratios of diagnostic characters for the alatae are provided.

KEY WORDS: *Baizongia pistaciae, Floraphis, Nurudea, Rhus,* misidentification.

INTRODUCTION

According to the current classification, *Rhus* gall-producing aphids are divided into six genera, ten species and four subspecies (ZHANG *et al.*, 1999; YANG *et al.*, 2010). The life cycle of these species is complex and they alternate between the primary hosts (*Rhus* spp.) and secondary hosts (mosses) (YANG *et al.*, 2009).

Floraphis meitanensis Tsai & Tang, 1946 has been recorded as *Nurudea meitanensis* on *Rhus* sp. from Kahramanmara Province, Turkey (ASLAN and UYGUN, 2005). *Floraphis meitanensis* is an East Asian species, which produces flower-like galls on the leaflets of *Rhus punjabensis var. sinica* (TSAI & TANG, 1946; YANG *et al.*, 2009). After examination of 4 alatae specimens by Dr. G. Remaudière and his colleagues, it was concluded that specimens collected by Dr. Aslan on *Rhus* sp. were not *Nurudea meitanensis* and they further believed that this was probably an undescribed species (REMAUDIÈRE *et al.*, 2006). Turkish *Rhus*-feeding species was reported as *Floraphis* sp. by BLACKMAN & EASTOP (2010). The purpose of this note is to make clear taxonomic status of Turkish *Rhus*-feeding aphid.

MATERIALS AND METHODS

Seven alate females on two slides collected at Menzelet dam (Kahramanmara Province, Turkey), 19.x.1998, from *Rhus* sp. were borrowed from Dr. Murat Aslan (Kahramanmara Sütçü mam University, Turkey). Each morphological character of these specimens was measured, ratios of valuable morphological characters were made and picture was taken (see Table 1; fig. I).

Abbreviations used in the text and table is as follow: BL - body length; ANT - antenna; ANT I - first antennal segment; ANT II - second antennal segment; ANT III - third antennal segment; ANT IV - fourth antennal segment; ANT V - fifth antennal segment; ANT VI - sixth antennal segment; ANT VI base - basal part of ANT VI; PT - processus terminalis; BD ANT III - basal diameter of ANT III; BD ANT IV - basal diameter of ANT IV; BD ANT V - basal diameter of ANT V; BD ANT VI - basal diameter of ANT VI; Rostr. - rostrum; URS length - length of ultimate rostral segments; URS width - width of ultimate rostral segments; HT II - second segment of hind tarsus; HF - hind femora; HT - hind tibia;

DISCUSSION

The Turkish species differs from *Floraphis meitanensis* by the following characters:

1. Turkish species had naked secondary rhinaria on antennae of alate migrants, while secondary rhinaria with ciliate rims is one of the diagnosis character for *Floraphis* species;
2. Number of secondary rhinaria on ANT III of migrant is 4-8, while it is 2-5 in *Floraphis meitanensis;*
3. Number of secondary rhinaria on ANT VI of migrant is 0-1, while it is 3-4 in *Floraphis meitanensis;*
4. Forewings with short pterostigma only about 3× its maximum width, and Cu_{1a} and Cu_{1b} united at base in Turkish species, while forewings with pterostigma 4-6× its maximum width, and Cu_{1a} and Cu_{1b} separate at base in *Floraphis* species;
5. Primary rhinaria on ANT V and VI are almost circular in Turkish species, while primary rhinaria on ANT V and VI are transversely elongate, like secondary rhinaria in *Floraphis* species.

Based on the above mentioned 5 differences, body parts measurements, their ratios and comparison of *Rhus* living aphids with alate migrants of *Baizongia pistaciae*, it was confirmed that this species was *B. pistaciae* (L.), which is a widely distributed gall-making species on *Pistacia* spp. in Mediterranean area (BLACKMAN and EASTOP, 2010) and recorded from Kahramanmara region by ASLAN & UYGUN (2005) (fig. II). In addition, *Pistacia terebinthus* grows in the area around Menzelet dam, where *Rhus*-feeding species have been recorded (ASLAN, pers. comm.). *Rhus* and *Pistacia* superficially resemble each other and this probably leads to the misidentification of the host. The aphids were collected in galls (ASLAN, pers. com.) and *B. pistaciae* does not produce galls on unsuitable hosts such as *Rhus coriaria* L., being it the sole species known from the genus *Rhus* in Turkey (DAVIS, 1967).

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Table 1 – Measurements and ratios of *Rhus coriaria* feeding seven alate migrants

N	Characters	Range (measurements in mm)
1	BL	2.42-2.86
2	ANT	0.660-0.700
3	ANT I	0.045-0.055
4	ANT II	0.055-0.065
5	ANT III	0.160-0.183
6	ANT IV	0.097-0.103
7	ANT V	0.112-0.119
8	ANT VI base	0.133-0.145
9	PT	0.042-0.048
10	Rostr.	0.380-0.435
11	URS length	0.100-0.103
12	URS width	0.037-0.065
13	HT II	0.200-0.220
14	HF	0.495-0.520
15	HT	0.700-0.750
16	BD ANT III	0.020-0.023
17	BD ANT IV	0.020-0.023
18	BD ANT V	0.016-0.019
19	BD ANT VI	0.013-0.015
	Ratios	
1	ANT/BL	0.23-0.28
2	ANT III/ANT III BD	7.11-8.14
3	ANT III/ANT I	3.09-3.83
4	ANT III/ANT II	2.56-3.14
5	ANT III/ANT IV	1.60-1.87
6	ANT III/ANT V	1.39-1.62
7	ANT III/ANT VI base	1.16-1.32
8	ANT III/PT	3.61-4.17
9	ANT III/HF	0.33-0.35
10	ANT IV/ANT IV BD	4.33-5.06
11	ANT V/ANT V BD	6-7.08
12	ANT VI/ANT VI BD	11.83-13.36
13	PT/ANT VI base	0.29-0.35
14	URS length/URS width	1.54-2.73
15	URS/HT II	0.46-0.50
16	URS/ANT VI base	0.71-0.75
17	ANT VI base/HT II	0.62-0.67
18	Rostr./BL	0.14-0.17
19	Rostr./ANT III	2.28-2.52
20	Rostr./HF	0.76-0.88
21	HT/BL	0.26-0.30
22	HF/BL	0.18-0.21
	Number of secondary rhinaria on:	
1	ANT III	4-8
2	ANT IV	1-3
3	ANT V	1-2
4	ANT VI	0-1
	Chaetotaxy	
1	HT II	4:4:4 or 4:5:4

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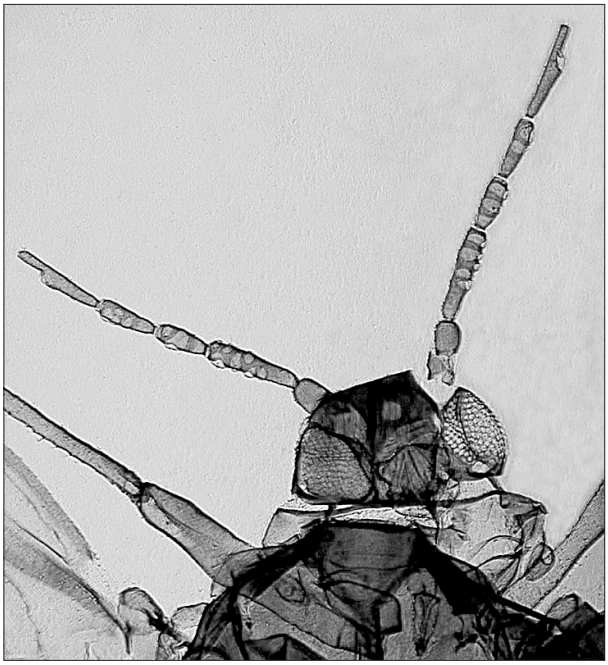

Fig. I – Head of alate migrant of *Baizongia pistaciae.*

Fig. II – Horn-like gall produced by *Baizongia pistaciae* on *Pistacia terebinthus* (courtesy of Dr. M. Aslan).

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