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ON A COLLECTION OF PSICOPTERA FROM THE AZORES

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With 8 figures

ABSTRACT. Two new species of Psocoptera are described from the Azores, *Aaroniella hanka* and *Ectopsocus josephi*. A further nine species are recorded as new to the Azores, and additional Azoran records of seven other species are given.

SUMÁRIO: No presente trabalho, são descritas duas espécies novas de Psocópteros colhidos nos Açores, *Aaroniella hanka* e *Ectopsocus josephi*. Mais nove espécies são assinaladas como novas para os Açores e são fornecidos dados adicionais, colhidos nos Açores, sobre outras sete espécies.

INTRODUCTION

The psocid fauna of the Azores is still rather inadequately known. Previously only eight species were recorded, six of which were described by Badonnel (1963) and two others by Meinander (1975).

I have had the opportunity to examine material placed in the American Museum of Natural History by the late Aaron M. Nadler from collections made during his trips in 1960 and again in 1964.

This collection contains eighteen species, of which nine are recorded as new to the Azores and two are new species.

The recorded psocid fauna of the Azores contains many species with European or cosmopolitan distribution, which also inhabit neighboring mid-Atlantic islands.

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LIST OF SPECIES

T r o g i i d a e**Cerobasis guestfalicus** (Kolbe, 1880)

Widely distributed domestic species, not recorded previously from the mid-Atlantic Islands.

São Miguel: Ponta Delgada, Municipal Park, June 17, 1964; October 19, 1964. — Santa Maria: Vila do Porto, July 11, 1960; October 20, 1964.

Myopsocnema annulata (Hagen, 1865)

Known from Europe and North America. Although reported from the Canary Islands by Enderlein, 1910; Badonnel, 1944, 1946 and Meinander, 1973, this species has not been recorded from the Azores.

São Miguel: Furnas, July 7-9, 20, 1960; June 21, 23, 1964; October 14-15, 1964; Ponta Delgada, Municipal park, June 17, 1964; Ponta Delgada, Do Canto Parque, June 17-18, 1964; Ponta Delgada, October 19, 1964. — Terceira: Mata de Serreta, June 14, 1964, — Santa Maria: Alto de São Pedro, July 12, 1964.

E p i p s o c i d a e**Epipsocus lucifugus** (Rambur, 1842)

European species. Known from Madeira (Meinander, 1975). New record for the Azores.

São Miguel: Furnas, July 8, 1960.

C a e c i l i i d a e**Caecilius flavidus** (Stephens, 1836)

European species, widespread. Recorded from the Canary Islands (Badonnel, 1944, 1946; Meinander, 1973) and the Azores (Badonnel, 1963; Meinander, 1975). The present collection includes a new record for one additional island of the Azores.

São Miguel: Furnas, July 7-10, 1960; June 19-23, 1964; October 14-16, 1964; Ponta Delgada, June 17, 1964; Lake Furnas, Do Canto Parque, June 27, 1964. — Terceira: Angra, banana farm, July 12, 1960; Monte Brasil, June 15, 1964. — Santa Maria: Vila do Porto, October 26, 1964.

P e r i p s o c i d a e

Ectopsocus briggsi McLachlan, 1889

Cosmopolitan species. Described from the Azores (Meinander, 1975). The present material includes a new record for one of the archipelago's islands.

São Miguel: Furnas, July 7-10, 1960; June 19-25, 1964; October 14-16, 1964; Furnas, Parque Florestal, June 24, 1964; Lake Furnas, Do Canto Parque, June 27, 1964; Ponta Delgada Municipal Park, June 17, 1964; October 19, 1964. — Terceira: Angra, banana farm, July 12, 1960; Mata de Serreta, June 1964. — Santa Maria: Vila do Porto, July 11, 1960, October 26, 1964; Alto de São Pedro, July 12, 1964.

Ectopsocus strauchi Enderlein, 1906.

Common in the Canary Islands (Meinander, 1973). Reported from the Azores (Badonnel, 1963).

São Miguel: Furnas, July 9, 1960; July 10, 1964.

Ectopsocus josephi sp. n.

(Figs. 1-3)

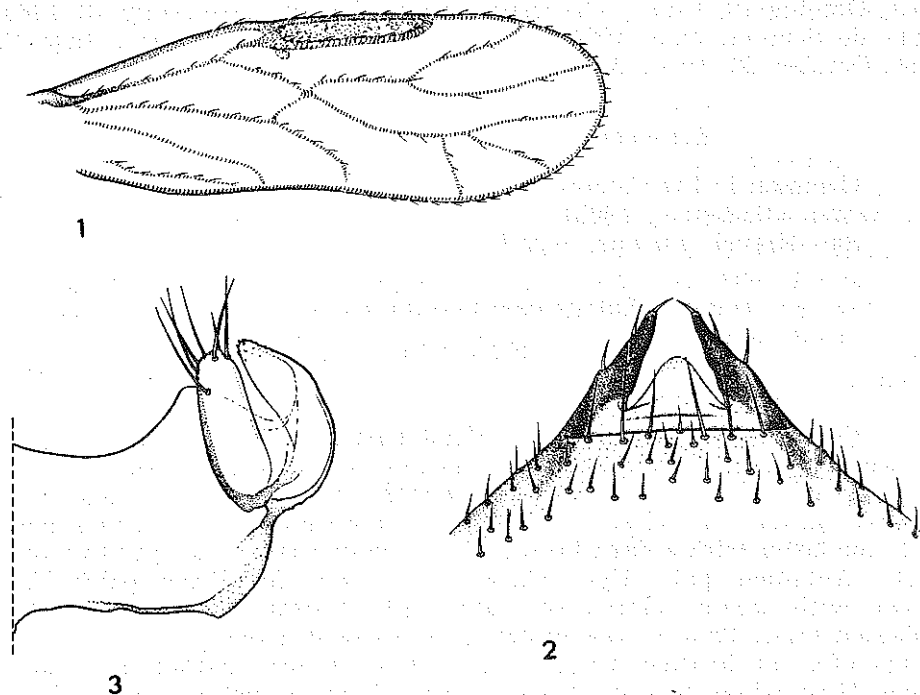
Female.

Coloration (in alcohol). — Head buff with pale brown irregular markings adjacent to the interior margin of compound eyes and medially at the frons and back of the vertex. Postclypeus pale buff with slightly darker parallel stripes converging anteriorly. Labrum and genae pale, the latter with a dark brown line extending from the eyes to mouth parts. Antennae pale. Eyes black. Ocelli pale. Maxillary palps light brown with cream colored tip. Legs light brown, femurs paler than tibiae on tarsi. Thorax pale brown, progressively paler posteriorly. Fore wings (fig. 1) hyaline, tinged with yellow, faintly darker at ends of veins. Hind wings hyaline, tinged with yellow at distal margin. Abdomen pale yellow, devoid of markings. Apex of abdomen dark due to sclerotization of subgenital plate. Apophyses dark brown.

Morphology. — Length of body 1.7 mm. Long, dark setae on vertex and frons, finer shorter setae on postclypeus. Median epicranial suture fine but distinct. Length of flagellar segments f_1 0.18 mm., f_2 0.8 mm. Flagellar segments setose. IO/D (Badonnel) : 2.8; P O : 0.63. Measurements of hind leg: F : 0.32 mm.; T : 0.53 mm.; t_1 : 0.16 mm; t_2 : 0.06 mm. Forewing length: 1.4 mm., forewing width: 0.54 mm. Pterostigma nearly rectangular, approximately four times long as wide. Rs and M fused for a short length. Wing margin setose. Veins with sparse, short setae, not easily observed. Hind wing length 1.0 mm. R_{2+3} meets

margin at right angle. Epiproct simple, rounded behind. Subgenital plate (fig. 2) with apophyses distally incurved and ornamented with three strong setae, the apical being the shortest. Triangular median lobe, minutely setose, its apex reaches midway between the basal and medial apophysal setae. Gonapophyses (fig. 3).

Material examined: São Miguel, Ponta Delgada, October 19, 1964. 1 female (holotype).



Figs. 1-3 : *Ectopsocus josephi* n. sp. ♀. 1. Forewing; 2. Subgenital plate; 3. Gonapophyses.

Discussion :

Ectopsocus josephi resembles *E. ghesquieri* Ball, 1943 described from the Congo in many aspects. However, they can be separated on certain characters of the female genitalia. In *E. ghesquieri* the apex of the median lobe of subgenital plate is rounded and does not reach the basal apophysal setae while in *E. josephi* the apex is triangulate and reaches halfway between the basal and medial apophysal setae. This

and the marked differences in their biometric characters suffice for separating these two close species.

***Peripsocus phaeopterus* (Stephens, 1836)**

Common European species, not recorded previously from the Azores. Reported from the Canaries (Badonnel, 1964, Meinander, 1973).

São Miguel : Furnas, July 10, 1960. — Santa Maria: Alto de São Pedro, July 12, 1964.

***Peripsocus reductus* Badonnel, 1943**

Known from Western Europe. First record from the Mid-Atlantic Islands.

São Miguel : Furnas, July 10, 1960; June 23, 1964; Ponta Delgada, June 17, 1964.

***Peripsocus subfasciatus* (Rambus, 1842)**

European species. First record from Mid-Atlantic Islands.

São Miguel : Furnas, July 10, 1960; October 16, 1964; Parque Florestal, June 24, 1964. — Terceira : Mata de Serreta, June 14, 1964.

T r i c h o p s o c i d a e

***Trichopsocus acuminatus* Badonnel, 1943**

Widespread, European species, common in the Mid-Atlantic Islands. First record from the island of Santa Maria.

São Miguel : Furnas, July 7-9, 20, 1960; June 19-23, 1964; July 10, 1964; October 15, 1964; Lake Furnas, Do Canto Parque, June 27, 1964; Ponta Delgada, June 17, 1964; October 19, 1964. — Terceira : Mata da Serreta, June 14, 1964; Angra, banana farm, June 15, 1964; Monte Brasil, June 15, 1964. — Santa Maria : Alto de São Pedro, July 12, 1964.

E l i p s o c i d a e

***Elipsocus azoricus* Meinander, 1975**

Described from São Miguel (Meinander, 1975). New record for Santa Maria.

São Miguel : Furnas, June 19, 1964; Lake Furnas, Do Canto Parque, June 27, 1964. — Santa Maria : Alto de São Pedro, July 12, 1964.

Elipsocus brinckii Badonnel, 1963

São Miguel : Furnas, July 9, 1960; June 19-25, 1964; Parque Florestal, June 24, 1964.

P h i l o t a r s i d a e

Philotarsus picicornis (Fabricius, 1793)

Widespread, holarctic species. First record for the Azores.

São Miguel : Furnas, July 7, 9, 1960; June 19-23, 1964; Parque Florestal, June 24, 1964; Ponta Delgada, Do Canto Parque, June 17, 18, 1964; Lake Furnas, Do Canto Parque, June 27, 1964.

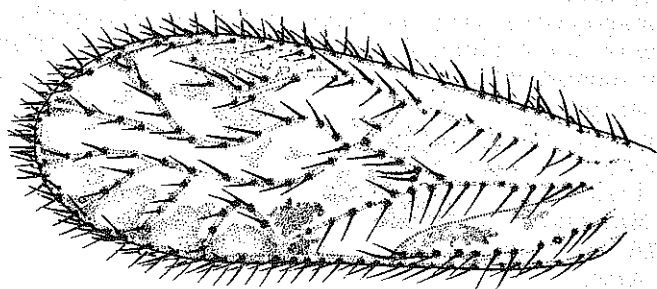
Aaroniella hanka sp. n.

(figs. 4-8).

Female.

Coloration (in alcohol). — Head pale brown with rounded, irregular brown marking adjacent to eyes and epicranial suture; inner margins of ocelli black; clypeus yellow, decorated with parallel brown stripes converging anteriorly. Labrum buff. Antennae with scape and pedicel brown; flagellar segments light brown, distal ends white. Eyes dark. A brown stripe between eye and antennal base. Brown patch medially, anterior to ocelli, on frons. Anterior lobe of scutum brown with a median pale patch. Lateral lobes of mesothorax dark brown with a pale area posteriorly. Scutellum cream. Lateral lobes of metathorax uniformly dark brown. Metascutellum pale. Legs pale, tarsi brown. Distally, on ventral region of the femora, a dark spot. Brown band at distal end of tibia. Fore wings hyaline, dark spots at setal bases and at vein/margin junctions of R_{2+3} , R_{4+5} , M_1 , M_2 , M_3 , and Cu_{1a} . Faint brown markings in cells Cu_1 , Cu_2 , M_3 , r_1 . Pterostigma densely punctate (fig. 4). Hind wings hyaline. Abdomen pale with darker irregular spots. Terminal segments and genitalia dark brown.

Morphology. — Head covered with setae, particularly long and stout at posterior margin. Eyes small. IO/D (Badonnel) : 2.3; : 0.66 : Ocelli large, anterior ocellus slightly smaller. Lacinia with broad, shallow toothed outer cusp and small bifid inner cusp (fig. 5). Antennae setose, terminal segment with long, thin apical lobe shorter than segment, bearing a single apical seta (fig. 6). $F_1 = 0.24$ mm., $f_2 = 0.15$ mm. Fore wings long. Forewing length : 2.4 mm. Forewing width 0.43 mm. Veins distinct and, but for Cu_2 marked by single row of long setae. Marginal setae shorter and finer than vein setae. Hind wing veins setose. Hind wing length 1.8 mm., measurements of hind leg : F : 0.52 mm.; T : 0.86 mm.; f : 0.24 mm.; t_2 : 0.04 mm.; f_3 : 0.03. Hind tibia with four



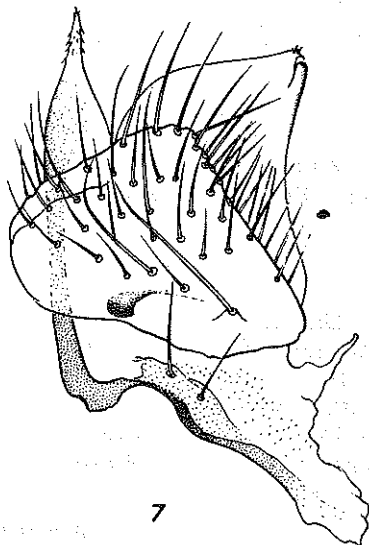
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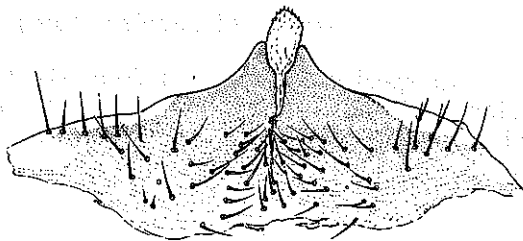
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Figs. 4-8: *Aaroniella hanka* n. sp. ♀. 4. Forewing; 5. Lacinia; 6. Terminal segments of antennae; 7. Gonapophyses; 8. Subgenital plate.

distal spines. Claws with a pronounced subapical tooth and a curved tip. Gonapophyses (fig. 7) large, outer valve roughly triangular, decorated with setae along dorsal edge. Dorsal valve triangulate, its apex slightly curved dorsally and decorated with minute spicules. Rounded subapical process. Ventral valve elongate, broadening subapically, its tip decorated with barbs. Paraprocts setose. Epiproct with rounded posterior margin, setose. Subgenital plate (fig. 8). Median sclerite nearly trapezoid; plate consists of a V-shaped pigmented area.

Material examined: Holotype female: São Miguel, Furnas, October 16, 1964. Paratypes: 3 females, same data as holotype. Deposited in the American Museum of Natural History.

Aaroniella hanka can be separated from previously described *Aaroniella* species by the shape and insertion of the subgenital plate sclerite, its wing markings and biometric characters.

P s o c i d a e

Trichadenotecnum sexpunctatum (Linne, 1761)

Widespread Holarctic species. First record from the Azores. São Miguel : Ponta Delgada, Do Canto Parque, June 17, 18, 1964.

Atlantopsocus chopardi Badonnel, 1944

Endemic to the Azores, the species has been known only from São Miguel (Badonnel, 1944; Meinander, 1975).

São Miguel : Furnas, July 7, 8, 19, 1960; June 19, 21, 23, 1964; July 10, 1964; October 15, 19, 1964; Parque Florestal, June 14, 1964; Ponta Delgada, Do Canto Parque, June 17, 18, 1964; October 19, 1964. — Terceira : Angra, Monte Brasil, June 15, 1964.

M y o p s o c i d a e

Rhaptoneura eatoni (McLachlan, 1880)

A Mediterranean species, well known from the Canaries (Badonnel, 1944, Meinander, 1973, 1975). First record from the Azores.

São Miguel : Ponta Delgada, Do Canto Parque, June 17, 1964; October 19, 1964.

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LITERATURE CITED

Badonnel, A. :

1944. Contribution à l'étude des Psocoptères de l'Atlantides. Rev. Française Entomol. 11 : 47-60.
 1946. Les Psoques des Iles Atlantides. Mem. Soc. Biogéographie 8 : 239-243.
 1963. Sur les Psocoptères des Açores et de Madère. Bol. Mus. Mun. Funchal 17 : 66-78.

Ball, A. :

1943. Contribution a l'étude des Psocoptères, III. *Ectopsoeus* du Congo belge, avec une remarque sur le rapport I. O./D. Bull. Mus. r. Hist. nat. Belg. 19 (38) : 1-28.

Enderlein, G. :

1910. Neue äussereuropäische Copeognathen. Zool. Anz. 36 : 161-169.

Meinander, M. :

1973. The Psocoptera of the Canary Islands. Not. Ent. 53 : 141-158.
 1975. Psocoptera from the Mid-Atlantic Islands and Morocco II. Not. Ent. 55 : 45-48.