TAXONOMIC DATA ON FAMILY ASILIDAE (DIPTERA) IN THE CANARY ISLANDS. II.

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Des données concernant la distribution et la phénologie de huit espèces d'Asilidae dans les îles Canaries sont augmentées. Pour sept de ces espèces, les diagnoses sont complétées et les aînatures génitales sont figurées.

In 1991, we had published a paper regarding taxonomic data referring to Asilidae family in the Canary Islands. On that occasion, we mentioned, as well as new taxonomic data for the species within subfamilies Stenopogoninae and Dasypogoninae, the history of the researches concerning these Diptera in the Archipelago.

In the present paper we are giving new taxonomic data concerning other species within three subfamilies, namely: Laphriinae, Stenopogoninae and Asilinae.

Genitalia — the only which offer sure identification criteria — are illustrated for all species we mention. Besides new morphological data, we mention the up-to-date situation of the records in literature.

Studies done on the specimens which make the subject of this paper provided a substantial increasing of the information regarding the species' distribution in the Archipelago; besides, we confirm the occurrence of one species whose occurrence in the area was uncertain and we make the first mention of a palearctic species in the Canary Islands.

Out of the species we identified and which are dealt with in this paper, 5 are endemic ones.

MATERIAL AND METHODS

We had at our disposal 73 specimens collected in 5 of the Archipelago's islands, namely: Fuerteventura, Gran Canaria, Tenerife, Gomera and Hierro. The specimens belong to the following subfamilies: Laphriinae (one species); Stenopogoninae (2 species, 2 genera) and Asilidae (5 species, 3 genera).

The specimens were collected between 1973 and 1982 by the junior author, Dr. Marcos Baez. Only one specimen was collected in 1942.
Dr. Baez carried on his activity on field from January to October; we were thus enabled to make some statements regarding the flight period by correlating our own data with literature ones.

The information on each species is presented in the following sequence: the specimens, grouped by sequence of years; a critical analysis of the literature data; specifications regarding distribution and phenology; illustration of the genitalia components. Whenever we disposed of enough specimens we illustrated the genitalia components for both sexes.

The identification, the dissections and the illustration of the genitalia components were made by the senior author, Dr. Medeea Weinberg.

We consulted several papers referring to these Diptera from the Canary Islands: Macquart (1839), Becker (1908), Engel (1930), Frey (1936, 1958); we also considered the mentions that Lehr (1988) is making for this area in this recent Palearctic Catalogue of Diptera.

After grouping the specimens by species and by their place of origin, the data we obtained were compared with the literature ones.

The diagnosis given by Macquart, by Becker and by Engel (op. cit.), being based on unspecific characteristics, the systematic status of some of the taxa needed clarification: this situation was solved only after studying the genitalia components we are now illustrating.

In order to make more obvious the characteristics given by the genitalia components, we rehydrated the specimens for 24 hours, then we dissected the abdominal apex in the males and the abdomen at the level of the third segment in the females. Each separated fragment was introduced into a small glass tub containing a KH$_{10}$% solution.

Each specimen and the detached anatomical piece were labeled with the same number.

After 24 hours, the fragment was well washed in water; pure glycerine was poured into the tub containing the fragment. The more the fragment is hold in glycerine, the better its components clear up and the easier the dissection will be; meanwhile the bounds between the different genitalia components are neither destroyed nor disturbed; thus, this method offers the possibility to establish with precision the insertion points of each component — a very important characteristic for their homologation.

This method was used by the senior author for merely 30 years; she informed her dipterologist colleagues about it, both orally and by letters, whenever she was asked to; it was of a great help in all her studies.

Abbreviations

$\text{a = accessory gland; } \text{AE = aedeagus; } \text{d = dorsal view; } \text{E = epandrium; }$
$\text{G = gonopod; } \text{g = gonapodema; } \text{H = hypopygium; } \text{h = hypandrium; } \text{l = lateral view. }$
$\text{s = sternite; } \text{sp = spermatheca; } \text{t = tergite; } \text{v = ventral view.}$

**RESULTS**

The species are listed below in alphabetical sequence, grouped by subfamilies.

The sequence of the taxa is the one given by Lehr (op. cit.).
SUBFAM. LAPHRIINAE

*Andrenosoma atrum* (Linnaeus, 1758)


*Remarks*. *Macquart* (op. cit.) mentions this species from the Canary Islands in 1839. *Becker* (op. cit.) refers to *Macquart's* (op. cit.)
Fig. 2
mention, pointing out that he did not find the species. The only mention based on collected specimens, made by Macquart (op. cit.) is also referred to by Frey (1936), Engel (op. cit.) and Lerchner (op. cit.). After more than 150 years, we record this species, again, on the basis of a specimen collected on Hierro Island.

All the genitalia components are figured for the male (Fig. 1).

The specimen corresponds to the species' diagnosis. Andrenosoma atrum is common in Europe, being also mentioned for the North of Africa (Lerchner, op. cit.).

SUBFAM. STENOPOGONINAE

Stichopogon canariensis Becker, 1908


Remarks: Becker (op. cit.) describes the ♂ and the ♀ from Tenerife Island, after specimens he collected in March. His data are quoted by Engel (op. cit.) and by Frey (1936).

The specimens we studied correspond to the species diagnosis (Becker, op. cit. and Engel, op. cit.), which we now complete by illustrating genitalia in both sexes (Fig. 2).

Considering the data we recorded when collecting the specimens, the flight period extends from March (Becker, op. cit.) to the end of May (our data).

Up to now, Stichopogon canariensis has been recorded only from Tenerife Island.

Habropogon pertusus Becker, 1908


Remarks. Becker (op. cit.) describes the female from Tenerife Island. Weinberg and Bacz (1991) are recording the species for the second time, from the Archipelago, after two specimens collected at the same time in two localities on Fuerteventura Island, describing on this occasion the male and illustrating the genitalia components.

Among the specimens at our disposal, we identified 2 males, originating from the two islands Habropogon pertusus has been recorded from. This is the third record of the species from the Canary Islands.

The specimens we studied now correspond to the species’ diagnosis (Weinberg and Bacz, op. cit.). Considering the observations we made on the 5 specimens we have collected, the species is active from the second decade of May to mid-June.

SUBFAM. ASILINAE

Epitriptus mixtus Becker, 1908

Fig. 3
GRAN CANARIA: 3 ♂♂, 16.IX.1976, Tejeda; 1 ♂, 8.III.1977, Baudame.

Remarks. Becker (op. cit.) describes this species from Tenerife Island, where it was also recorded from by Engel (op. cit.) and by Frey (1936) who collected 2 ♂♂ and 2 ♀♀ in June and August.

We had at our disposal 20 ♂♂, collected from February to the end of October. We have noticed some deviations from the species’ diagnosis, namely in the colour of the bristles on the head and of the femurs. We emphasise, after analysing the genitalia components, that these deviations are only variable features; we are now describing them, thus widening the diagnosis of Epitriptus mixtus:

— in some specimens, the gibbosity carries white bristles; some black bristles are present only on its superior side;
— on the forehead, white bristles can be — in some specimens — both black and white, in different proportions, or only black or white;
— occipital bristles can be white; some of them are black in the upper side of the head.

These deviation from the original diagnosis have been found in distinct specimens, seldom all of them in one specimen; more than that, specimens in which all the deviations were present are originating from the same localities with specimens which fit the original diagnosis.

It is worth mentioning that, in very few specimens, the whole femures’ surface is black, excepting the apex which is brick-red. We found 2 such males, on Tenerife Island, in two different places: Las Lagunetas and Altos Arafo.

Until now, Epitriptus mixtus had been known only from Tenerife Island. We now mention the species from 3 other islands: Fuerteventura, Gran Canaria and Gomera; also, we are mentioning it from new localities on Tenerife.

Machimus nigrifemoratus (Macquart, 1839)


Remarks. Macquart (op. cit.) names the species and briefly describes it, considering it might be a variety of Asilus varipes. Becker (op. cit.) completes the diagnosis based on numerous specimens he collected starting with March; this author mentions that the species is more abundant during May and June. Becker (op. cit.) is also specifying the species’ status, including it within genus Machimus and is emphasizing that it has nothing in common with Antipalus varipes, whose variety it had been considered by Macquart (op. cit.).

Engel (op. cit.) mentions the species from Tenerife, after specimens collected in November. Frey (1936, 1958) extends the species’ distribution, recording it from Gran Canaria, after specimens collected in March and
July. The specimens we studied have been collected since January, February and March until July and September.

The *Machimus nigrifemoratus* specimens we identified do not differ from the species’ diagnosis by any particular feature.

We are adding the description of the genitalia components (Fig. 4) to the morphological features given by the diagnosis.

*Machimus antennatus* (Becker, 1908)


*Remarks*: Becker (op. cit.) describes the species after two specimens (1 ♀ and 1 ♂) collected on the Hierro Island. His data have been taken over by Engel (op. cit.). Frey (1958) collected 15 specimens, in March, on the same island. We analysed 10 specimens collected during the end of January, in April, during late May, mid-August and early October. The specimens we studied did not differ from the diagnosis.

*Machimus antennatus* is now recorded from the first time from Tenerife and Gomera Islands.

*Tolmerus atripes* Loew, 1854

(Fig. 6)


*Remarks*: This is the first record of the species from the Canary Islands. In the Palearctics, it is known from several countries, as indicated by Lehner (op. cit.).

The specimens we analysed fit the diagnosis; we illustrated the genitalia components (Fig. 6).

*Tolmerus fuscus* (Macquart, 1839)

(Fig. 7)


*Remarks*: When describing the species, Macquart (op. cit.) includes in within genus *Asilus*. Becker (op. cit.) is the one who describes the species again and correctly includes it within genus *Tolmerus*. He is recording the species from Tenerife Island, in June. Records from the same island are made by Engel (op. cit.) and by Frey (1936, 1958). In 1958, this author also mentions the species from Palma, where he collected it from, at an altitude of 1300 m.
Fig. 6
Tolmerus fuscus has been collected by the above mentioned authors from April to mid-August. The 24 specimens we studied have been collected from May to the second half of September.

We are specifying that, unlike the legs' coloration described by Becker (op. cit.) and by Engel (op. cit.), we noted that in males tibias are mainly reddish-brown; only apically are they dark like the metatarsus. In some specimens, t₁ exhibits a darker median area, but these deviations after analysing the genitalia components are only variable features.

This is the first record of Tolmerus fuscus from Gomera and Hierre Islands.

In the Palearctic it is known from Caucasus.

CONCLUSIONS

The study of the members of these three subfamilies of Asilidae enabled us to complete the taxonomic characteristics of species belonging to 5 genera.

It has been possible not only to enlarge the diagnoses of these species by adding the description of the genitalia components, the only characters which actually allow the exact delimitation of species, especially within subfamily Asilinae, but also to mention certain elements of variability.

Nothing can be concluded in respect of the phenology, because of the scarcity of data available until now, in spite of the fact that specimens have been collected during almost ten years. It is worth mentioning that because of the few investigations in this area, some species, such as Andrenosoma atrum and Stichopogon canariensis are mentioned for the second time in the Archipelago, Habropogon pertusus, Epitriptus mixtus and Machimus antenatus for the third time, Machimus nigrifemoratus and Tolmerus fuscus for the fifth time on the basis of collected specimens.

Among the species we examined, the highest number of specimens has been registered in Tolmerus fuscus (24 individuals), followed by Epitriptus mixtus (20 individuals); less than 10 specimens have been available from the other species.

Five of the eight species we identified are endemic to the Archipelago; the other three have a Palearctic distribution; among these ones, we mention Tolmerus atripes, recorded now for the first time in the Canaries.

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DATE TAXONOMICE PRIVIND FAMILIA ASILIDAE (DIPTERA) DIN INSULELE CANARE. II

REZUMAT

În continuarea studiilor taxonomice efectuate asupra dipterelor Asilidae din Insulele Canare în prezenta lucrare se completează diagnoza cu noi date
pentru un număr de 8 specii din subfamilii: Laphriinae, Stenopogoninae și Asilinae.

Materialele au fost colectate de Dr. M. Baez între anii 1973—1982 începând cu luna ianuarie pînă în octombrie. La 7 specii sunt figurate componentele genitale, singurele care dau caracter e cert de determinare. La cele 8 specii identificate sunt îmbogățite atît datele fenologice ci și cele privind repartiția lor.

*Andrenosoma atrum* este resemnalată după mai bine de 150 de ani în arhipelag, din Insula Hierro. Din cele 8 specii identificate și prezentate în lucrare 5 sint endemice (*Stichopogon canariensis, Habropogon pertusus, Epitriptus mixtus, Machimus antenatus, și Machimus nigrifemoratus* și 3 palearctice din care *Tolmerus atripes* este semnalată pentru prima dată in Insulele Canare.

REFERENCES


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