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Observations of dragonflies (Odonata) on Corsica

by Nico MICHIELS[1]

Abstract

In June 1986 I investigated the Odonata-fauna of Corsica. According to my observations the previous knowledge was highly incomplete. I observed 30 species in total and confirm the presence of three new species for the island: *Cercion lindeni, Aeshna affinis* and *Anax imperator*. Nine species that had not been observed for half a century or more and four species of which only one recent observation was known, were observed, often in fair numbers. The total number of Odonata known from Corsica is now 39.

Introduction

In a recent review, DOMMANGET & MARTINEZ (1984) summarize all known dragonfly records and collections of Corsica, resulting in a total of 36 species (17 Zygoptera, 19 Anisoptera). They point out that the fauna of Corsica is poorly known, and that several species not yet found on the island, occur on nearby Sardinia (Bucciarelli et al., 1983).

PAPAZIAN (1987) visited the island in July 1986 and collected 19 species, amongst them three new species for Corsica: *Anax imperator, Aeshna affinis* and *Cercion lindeni*.

Between 3 - 19 June 1986 I visited Corsica and investigated as many waterbodies as possible in order to compose a list of dragonfly-species, their numbers and distribution over the island.

Methods

34 different localities were visited, including most of the lentic biotopes of Corsica near sea level. See also Figure 1.

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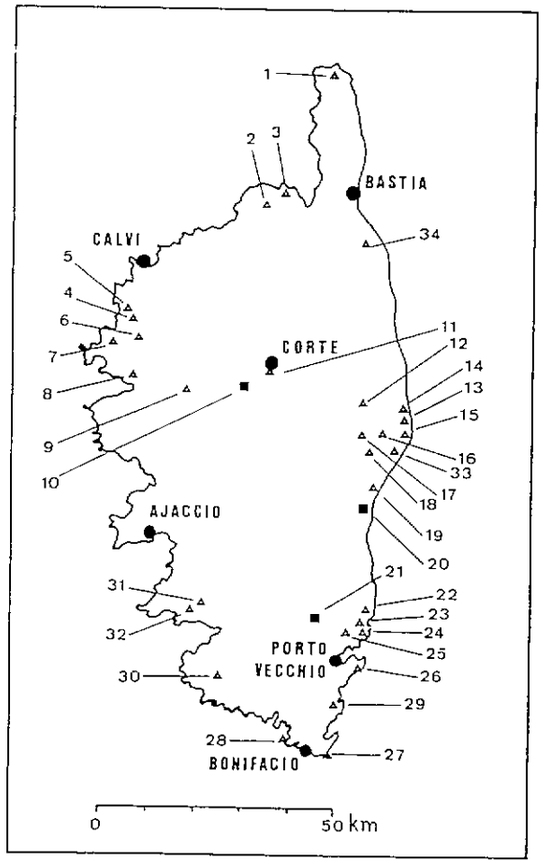


Figure 1. Overview of the localities that were investigated. A square indicates a locality where no Odonata were observed.

List of the investigated localities:

date - altitude - weather

1. 3 June - 0 m - sunny and warm
   Two freshwater lakes at 1.5 km east of Barcaggio. Shallow with extensive aquatic vegetation and marshy shores. Eutrophic, not polluted.
2. 4 June - 40-80 m - sunny and hot
   Ruisseau de Zente near Monte Genova in the Désert des Agriates. Low water-level and almost no current. Bottom covered with boulders. Extensive shore vegetation.

3. 4 June - 0 m - sunny and hot
   Etang de Loto and surrounding garrigue near Petrajacciu in the Désert des Agriates. Brackish lake with sandy bottom; freshwater reedland in the most southwestern part.
4. 6 June - 40-80 m - sunny and hot
   Small and old storage lake of l'Argentella. Deep with extensive and overhanging shore vegetation. Shallow parts near the water inlet.
5. 6 June - 0 m - sunny and hot
   Etang de Crovani. Very shallow and probably partly brackish. Muddy bottom and extensive shore vegetation.
6. 6/7 June -< 40 m - sunny and warm
   Fango valley. Near mouth marshy with lentic parts. Upstream rocky with strong current.
7. 7 June - 80-120 m - sunny and hot
   Small and old storage lake SW of Galeria. Deep with extensive and overhanging shore vegetation.
8. 8 June -< 40 m - sunny and warm
   Ruisseau de Vetricella, near crossing with D.81, 6 km north of Porto. Small and rocky river.
9. 8 June - 1000 m - partly sunny and warm
   Forêt d'Aitone. Woods 4 km east of Evisa. No water around.
10. 9 June - 1711 m - sunny and warm
    Lac de Melo. Cold mountain-lake with rocky bottom. No Odonata observed.
11. 9 June - 441 m - sunny and warm
    Corte. Near the village. No water around.
12. 10 June - 80-120 m - sunny and warm
    On road N.200, near Corsiglièse. No important waterbodies in the surroundings.
13. 10 June -< 40 m - sunny and hot
    Etang de Terrenzana. Densely overgrown and marshy freswater ponds including a small rivulet.
14. 10 June - 0 m - sunny and hot
    Etang de Stagnolo. Brackish with sandy bottom and grassy shores.
15. 10/11/18 June - 0 m - sunny and warm on all occasions. Mouth of Tavignano. Slowly streaming river with reedy shores and overgrown ditches that enter the river from both sides.
16. 11 June -< 40 m - sunny and warm
    Réservoir de Teppe Rosse. Storage lake near Finichiola in a cultivated area. Only a very narrow border of shore-vegetation.
17. 11 June - 40-80 m - sunny and warm
    River le Tagnone. Strongly overgrown. Moderately streaming.
18. 11/18 June - 40-80 m - sunny and warm on both occasions
    Réservoir d'Alzitone. Storage lake near Ghisonaccia-Gare. I sampled the surroundings only.
19. 12 June - 0 m - sunny and warm
    Marais de Canna. Marshy freshwater lake near Casamozza. Extensive shore and water-vegetation.

20. 12 June - 0 m - sunny and warm
    Etang de Palo. Brackish lake near Mignataja. No Odonata observed.
21. 12 June - 880-920 m - cloudy and cool
    Storage lake near l'Ospedale. Shallow parts with shore vegetation on the southwestern part. No Odonata observed.
22. 13 June - < 40 m - cloudy and cool
    Etang de l'Ovu Santu. Strongly overgrown freshwater ponds. Difficult access.
23. 13 June - 0 m - partly sunny and warm
    Lakes south of Pinarellu. Only the northeastern, brackish lake is accessible.
24. 13 June - 0 m - partly sunny and warm
    Etangs d'Arasu. Mostly brackish ponds near San Ciprianu. The easternmost pond contains freshwater and is partly overgrown with shore vegetation.
25. 13 June - < 40 m - partly sunny and warm
    River l'Osu near N.198. Rocky bottom. Difficult access due to dense maquis on the shores.
26. 14 June - 0 m - clouded and cool
    Etang de Palombaggia. Slightly brackish ponds with sandy soil.
27. 14 June - 0 m - sunny and warm
    Lake near Ciappili. Brackish, but fed with freshwater. Sandy soil on limestone.
28. 15 June - 0 m - partly sunny and warm
    Lake in Baie de Stagnolu, 8 km northwest of Bonifacio. Very brackish. With freshwater inlet at the eastern side. Sandy bottom.
29. 15 June - 80-120 m - clouded and cool
    Padule Maggiore and Tre Padui, 12 km north of Bonifacio. Four very shallow freshwater ponds without shore vegetation and muddy bottom.
30. 16 June - 80-120 m - sunny and warm
    Small rivulet near the Dolmen of Fontanaccia. Slowly streaming and densely overgrown.
31. 16 June - < 40 m - partly sunny and warm
    Filitosa. Small rivulet near prehistoric site.
32. 17 June - < 40 m - clouded and cool
    Etang de Canniccia. Former freshwater lake, now completely overgrown with marshy vegetation.
33. 18 June - 0 m - sunny and warm
    Etang del Sale. Dry area with overgrown draining ditches.
34. 19 June - 0 m - sunny and warm
    Etang de Biguglia. Very large, slightly brachish lake with extensive reedlands on the shores.

At each locality as many individuals as possible were netted, and identified with AGUESSE (1968), CONCI & NIELSEN (1956) and AGUILLAR *et al.* (1985). Individuals that were difficult to identify, or of special interest, were killed with ethyl acetate and preserved dry or in alcohol for later examination.

Results

Table 1 summarizes my observations at each locality. Out of 30 species found in total, 27 were listed by DOMMANGET & MARTINEZ (1984). *Cercion lindeni, Aeshna affinis* and *Anax imperator* were new for the island, but published already by PAPAZIAN (1987). As I observed them at resp. 3, 2 and 5 different localities, and at least once with 6 or more individuals at a time, these species must have been present on the island for some time. The lack of previous records might be caused by the fact that, amongst others, these three species are difficult to catch.

Table 1 shows that the most common damselfly is *Ischnura genei*. Within the Anisoptera, *Sympetrum*-species are by far the most common. Several times we observed Aeschnids without being able to catch them. This was the case in localities 6, 15, 18, 30, 33 and 34. Most individuals were from the *A. mixta/affinis* type; only at locality 18 I saw a large *Aeshna* from the *A. cyanea* type.

Some cases of specific interest are described in more detail below.

Calopteryx splendens ssp.

DOMMANGET & MARTINEZ (1984) stipulate that for *C. splendens* only one doubtful record (a female) from 1864 is known. We discovered 2 males near the mouth of the river Tavignano. These males were territorial in a suitable biotope for the species, suggesting that it was a small population with the females hiding in the surrounding vegetation.

Figure 2 shows two characteristics indicating that the specimens from Corsica differ from the nominate subspecies: the band of bluish coloration ending a few mm below the wingtop (unfortunately paled due to preservation in alcohol), and the venation in the anal field being relatively dense compared to that of the nominate ssp. According to DUMONT (pers. comm.) the exact status of this subspecies is uncertain, the ssp. *caprai* CONCI 1956 (syn. *faivrei*) being rejected as a possibility.

Sympecma fusca

S. fusca had not been observed since 1934 (DOMMANGET & MARTINEZ, 1984). It probably escaped attention due to its inconspicuous coloration and concealed behaviour. All the individuals caught were tenerals, indicating that emergence started two weeks earlier than indicated by e.g. DOMMANGET (1985) and AGUESSE (1968).

Lestes macrostigma

It was observed for the last time in 1909-10 (DOMMANGET & MARTINEZ, 1984). I found it to be common at several brackish localities, its typical biotope.

Coenagrion puella

No observations are known after 1900 (DOMMANGET, 1987). It is, however, common at several ponds in the southern part of the island. Probably, *C. puella* has been overlooked in the past as well.

Coenagrion pulchellum

The only observation of this species on Corsica was made in 1909-1910 (DOMMANGET & MARTINEZ, 1984). It seems, however, to be at least as common as the previous species.

Coenagrion scitulum

C. scitulum was discovered for the first time in Corsica in 1983 (DOMMANGET & MARTINEZ, 1984) near Porto-Vecchio. I found it to be present at 7 localities. It is possible that it invaded the island recently and is in expansion at this moment.

Erythromma viridulum

The first observation of this species was published by DOMMANGET & MARTINEZ, (1984). As we saw it on 4 localities, sometimes in fair numbers, the actual status of *E. viridulum* probably can be compared with that of the previous species.

Aeshna mixta

One teneral female was identified with certainty. As the emergence period for *A. mixta* had just begun, it is probably more common. The only known previous observation, however, comes from the first half of this century (DOMMANGET & MARTINEZ, 1984).

Anaciaeschna isosceles

The only known observation of this species was published in 1864 (DOMMANGET & MARTINEZ, 1984). It is, however, the most common Aeschnid on Corsica, at least in June. Has it been overlooked because of its early flying season?

Anax parthenope

One female, found dead recently near San-Giovanni was the only record known (DOMMANGET & MARTINEZ, 1984). As I discovered the species on 5 locations, the scarcity of records probably is an artefact. Even more so than *A. imperator, A. parthenope* is difficult to catch.

Orthetrum cancellatum

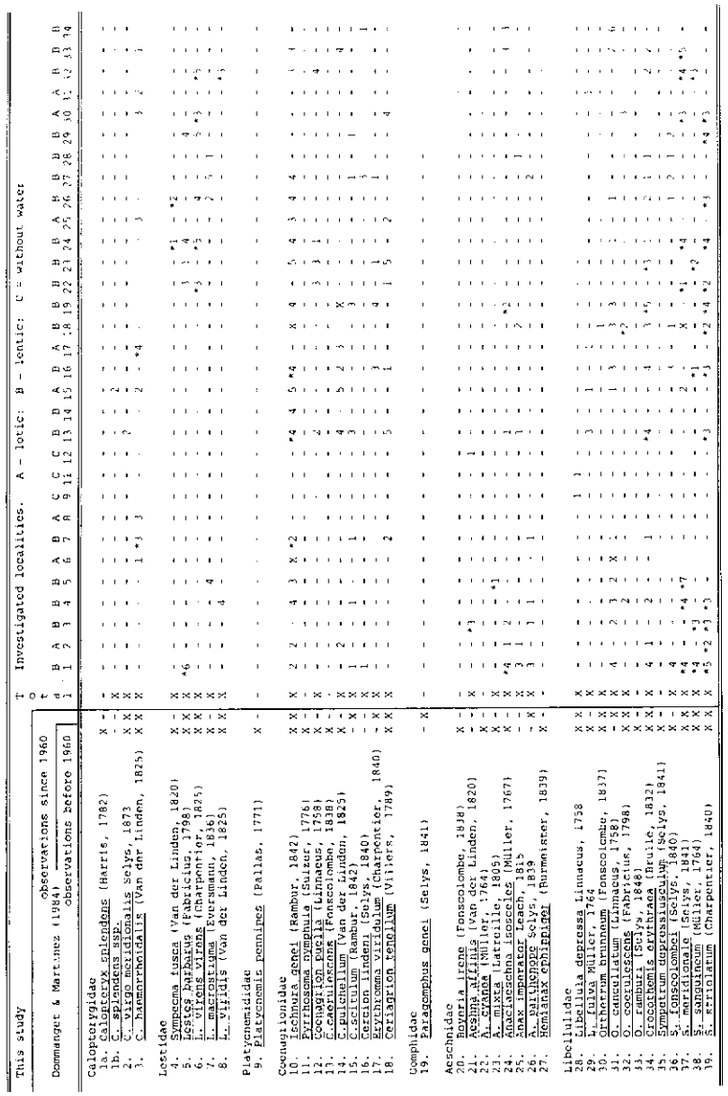
According to DOMMANGET & MARTINEZ (1984) this species was seen for the first time in Corsica only very recently. Observations from 14 localities, and very high numbers at lake Biguglia suggest that it dispersed all over the island.

Libellula fulva

L. fulva was seen for the last time in 1910. I observed it at four different localities. PAPAZIAN (1987) mentions 1 female along the border of the river Golo.

Sympetrum fonscolombei

S. fonscolombei had not been observed since 1958 (DOMMANGET & MARTINEZ, 1984). It is, however, common as it was seen at 7 localities. PAPAZIAN (1987) observed this species as well.



Summary of the observations. See Material and Methods for an explanation for the localitycodes. 1: 1 ind.; 2: 2-5 ind.; 3: 6-20 ind.; 4: 21-100 ind.; 5: 101-500 ind.; 6: 501-1000 ind.; 7: 1000 ind.; x: observed; * teneral observed.

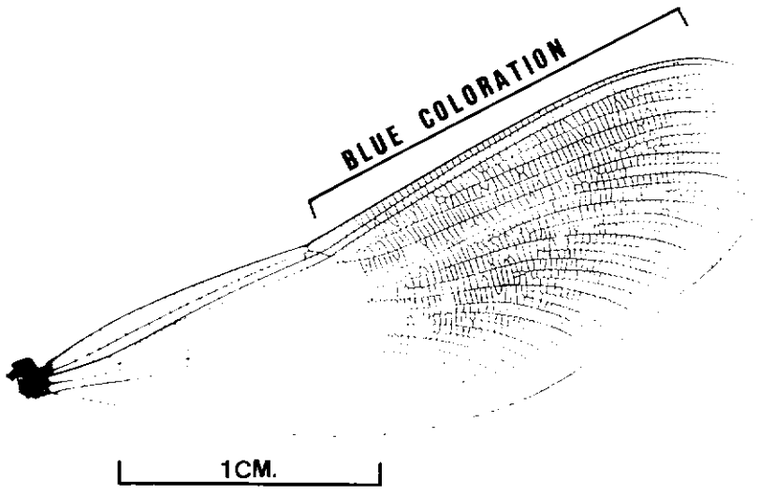


Figure 2. Right hindwing of a male *Calopteryx splendens* ssp. (x 2). Corsica, June 1986.

Conclusions

My observations confirm that the Odonata of Corsica were poorly known. A combination of a low sampling-intensity (seemingly more so in spring and early summer), limited efforts of odonatologists, lack of systematic searching, and the difficulty of catching some species probably has led to this distorted image of the actual fauna of the 'Ile de Beauté'.

I confirmed the presence of the three new species published by PAPAZIAN (1987): *Aeshna affinis, Anax imperator* and *Cercion lindeni*, making a total of 39 species and not 38 as published erroneously by PAPAZIAN (1987). DOMMANGET & MARTINEZ (1984) predicted their presence as they are common on the adjacent continental part of France (DOMMANGET, 1987), Italy (CONCI & NIELSEN, 1956) and Sardinia (BUCCIARELLI *et al.*, 1983).

Four species that were known from one single recent observation only were found to be present in several localities, sometimes even numerously: *Coenagrion scitulum, Erythromma viridulum, Anax parthenope* and *Orthetrum cancellatum*.

At least nine species, only known from old, sometimes single records, were seen on different localities, often in fair numbers: *Calopteryx splendens, Sympecma fusca, Lestes macrostigma, Coenagrion puella, Coenagrion pulchellum, Aeshna mixta, Anaciaeschna isosceles, Libellula fulva* and *Sympetrum fonscolombei*.

I am convinced that this list is still incomplete and that in the next few years new discoveries will be made, as I did not investigate some of the mountain lakes, suffered from bad weather during some part of the journey, and collected data in June only. Systematic inventories, especially by experienced odonatologists, are strongly desired.

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