

HEMIANAX EPHIPPIGER (BURMEISTER) IN THE NORTHERN ALGERIAN SAHARA IN WINTER (ANISOPTERA: AESHNIDAE)

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Abstract — Observations of *H. ephippiger* at different stations in the northern Sahara in Nov. 1987 and Jan. 1988 are presented. These specimens are believed to be immigrants from the western Sahel, which accumulated in the foothills of the Sahara Atlas via long and deep, N-S oriented river canyons. Severe winter cold on the high plateaus prevented them from crossing the Atlas.

Introduction

The aeshnid *Hemianax ephippiger* (Burm.) is one among the better documented migrant dragonfly species of Africa. Migratory movements have been reported from Egypt, The Sudan, Nigeria, and Mauretania (WILLIAMS, 1929; GAMBLES, 1960; DUMONT, 1977).

Most of these swarms seem to result from a massive emergence of adults from rainpools generated by the summer monsoon in the Sahel zone (GAMBLES, 1960). They therefore occur predominantly in autumn and winter (DUMONT, 1977). An extreme case is provided by observations of *H. ephippiger* in Iceland, where no native dragonflies exist, but where isolated specimens, transported between the high pressure belt of the Açores and the low above Iceland, have been found (TUXEN, 1976). The same phenomenon is likely to account for the records of *Hemianax* on the British isles (HEYMER, 1967).

New observations

In January 1988, I made a reconnaissance trip

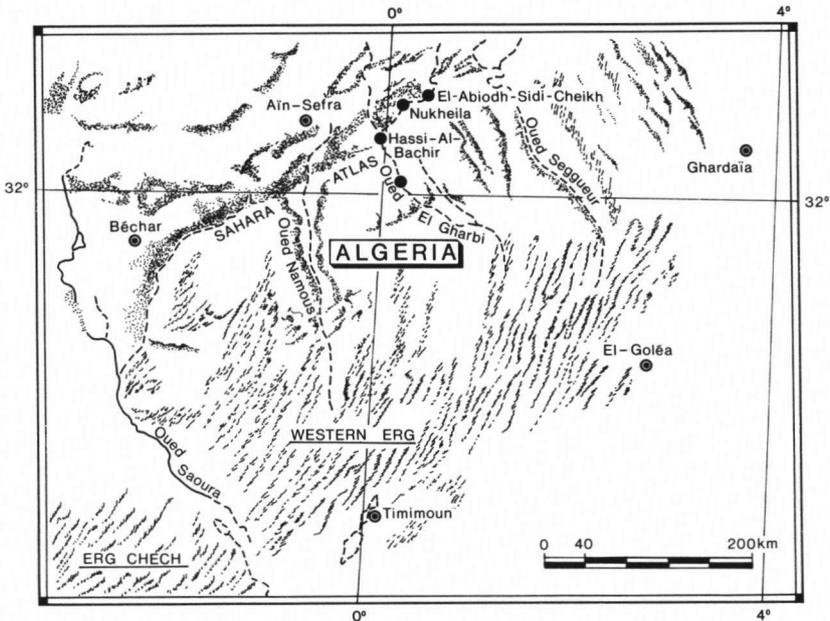


Fig. 1. Study area and list of recorded localities of *Hemianax ephippiger*.

to the southern foothills of the so-called Sahara-atlas in Algeria, an area separating the great western erg from the Atlas mountains and interspersed high plateaus (Fig. 1). I stayed in the small town of El Abiodh Sidi Cheikh which, having an average precipitation of 117 mm (period 1930-1950), is situated almost exactly at the northern boundary of the Sahara desert, at an altitude of ca. 1000 m. The climate of this region is pronouncedly continental, with cold winters and hot summers (CALOT, 1987). Frost is common between November and March and, indeed, rime was occasionally seen on the dunes in the morning hours during my stay there. Daytime temperatures were dependent on winds and cloudiness, but were not normally above 10°C. Yet, *H. ephippiger* was conspicuously on the wing in the vicinity of the town.

The following records of patrolling individuals were noted:

- 1 ex, El Abiodh Sidi Sheikh (32°54', 0°32'), 16-1-1988.
- 1 female, Nukheila oasis (32°44', 0°00'), 18-

-1-1988.

- 1 female, pool in small oued near Nukheila, on road to salt lakes of Ain Ouarka, 18-1-1988.
- Numerous specimens in both sexes (1 female captured) in Oued Gharoua at Hassi al Bachir (32°34', 0°08'), N. of Benoud, 21-1-1988 (some males conspicuously blue, hence sexually mature).

Origin of the specimens

A local origin of the *Hemianax* seen can be ruled out, not only because of the climate, but also because no larva or exuviae could be found in the springs and oueds. Importantly, Mr Koen Desmet of Algiers, who had attracted my attention to the site of El Abiodh Sidi Cheikh, had seen specimens, in early November 1987, in the oasis of Nukheila, and in the canyon of the Oued el Gharbi (Fig. 1). It thus appears that a *Hemianax* flock had been present in the area for at least two months.

I situate the origin of these animals in rainpools of the Sahel, filled by the monsoon of

1987, and hypothesize a northward dispersal of specimens that had emerged from these in September and October. The southernmost chain of the Atlas was an unsurmountable climatic barrier for them.

With regard to the visual cueing hypothesis of DUMONT & HINNEKINT (1973), it is worth attracting attention to the series of canyons of the Oueds Seggueur, El Gharbi, and Namous (Fig. 1) which, draining the southern slopes of the Atlas, have carved out a series of parallel canyons deep into the western erg. These may serve as natural "collectors" of specimens of *Hemianax* randomly drifting across the erg. Further West, the Oued Saoura provides an even more formidable pathway of the same nature, cutting a wedge between the western erg and the erg Chech, but no information on *Hemianax* in its valley during the winter of 1987-1988 could be obtained.

Acknowledgements — I thank Ir K. DESMET (Algiers) for valuable information, Dr R. BOSMANS (Algiers) for assistance in the field, and the brothers of Charles de Foucauld's fraternité at El Abiodh Sidi Sheikh for their hospitality during my visit.

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Received February 8, 1988