

DISTRIBUTION AND ZOOGEOGRAPHY OF ODONATA ON THE LESSER ANTILLES (Abstract of paper presented at the meeting of the Netherlands Zoological Society, Leiden, May 19, 1980)

The tropical islands of the Lesser Antilles are situated along the north coast of the South American continent, enclosing the Caribbean Sea from the island of Trinidad north to the Greater Antilles. Their area varies from 4800 km² (Trinidad) to 13 km² (Saba), most of them having an area of 200-1500 km² (Grenada - Guadeloupe). The Dutch Leeward Islands (Aruba, Curaçao, Bonaire) and the Windward Islands in the north of the range have a dry climate, the remaining a moderately wet climate. Many islands are mountainous and of volcanic origin.

Up to now a total of 35 zygopteran and 80 anisopteran species are known from the Lesser Antilles. Those breeding in stagnant waters predominate as against species living in running water in a ratio 3:1.

On most of the islands the odonate fauna is composed of 10-20 species, depending on local ecological conditions. The smaller islands, with a dry climate, show a reduced fauna,

sometimes only three species. Due to lack of natural fresh water, breeding is sometimes only possible in artificial reservoirs. On the other hand, the dragonfly fauna of Trinidad and Tobago amounts to 93 species, of which no fewer than 57 are confined to these islands. They belong to the continental fauna of South America, in particular that of Venezuela.

On the islands situated more offshore, the fauna composition and the number of species are greatly distinct, depending not only on the present ecological circumstances, but also on dispersal of species from the mainland in recent and historical times.

From a zoogeographical point of view, six species groups are recognizable in the Lesser Antilles (cf. also Fig. 1), viz.:

- (a) Numerous South American, fewer North American species, with a wide dispersal over neotropical and southern nearctic regions (about 40 spp.), e.g. *Ischnura ramburii*, *Orthemis ferruginea*, *Erythrodiplax umbrata*, *Leptemis vesiculosa*, *Tramea binotata*, *T. onusta*, *Pantala flavescens*;
- (b) Immigrants from South America, inhabiting the Lesser Antilles, but lacking

- on the Greater Antilles (7 spp.), viz. *Telebasis filiola*, *Triacanthagyna caribbea*, *Anax concolor*, *Erythrodiplax connata fusca*, *E. abjecta*, *Dythemis multipunctata*, and *Brechmorhoga praecox*,
- (c) Continental South American species, occurring on Trinidad and Tobago, but not on the islands of the Lesser Antilles (57 spp.), isolated by fragmentation from the mainland, e.g. members of the genera *Hetaerina*, *Mecistogaster*, *Neoneura*, *Teagrion*, *Leptagrion*, *Aeolagrion*, *Acanthagrion*, *Metaleptobasis*, *Phyllocycla*, *Negomphoides*, *Staurophlebia*, *Belonia*, *Zenithoptera*, *Nephepeltia*, *Uracis*, and *Anatya*;
 - (d) Endemic taxa found on the Lesser Antilles from Grenada to Guadeloupe (3 spp.), probably relics of a partially extinct ancient fauna, viz. *Argia concinna*, *Protonura ailsa*, and *Scapanea archboldi*;
 - (e) Invading species from North America via the Greater Antilles, present on some of the Lesser Antilles (7 spp.), viz. *Enallagma c. coecum*, *Anomalagrion hastatum*, *Aeshma (Hesperaeschna) psilus*, *Triacanthagyna trifida*, *Anax junius*, *Macrothemis celeno*, and *Tramea onusta*;
 - (f) North American species present on Curaçao, partly on Aruba, not found on the other Lesser Antilles, migrating via Central- and South America: western elements (3 spp.), viz. *Erythrodiplax naeva*, *Pantala hymenea*, and *Macrodiplax balteata*.

Lesser Antilles (except Trinidad and Tobago), is remarkable.

D.C. Geijskes, Rijksmuseum van Natuurlijke Historie, Raamsteeg 2, Leiden, The Netherlands.

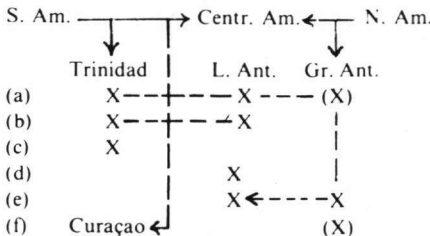


Fig. 1. Diagram of zoogeographical groups of Odonata on the Lesser Antilles.

The absence of Calopterygidae, Polythoridae, Megapodagrionidae, Pseudostigmatidae, Gomphidae and Corduliidae from the