

## ODONATA FROM SOME WEST-COAST MEXICAN ISLANDS

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**Abstract** – Occasional collections in 14 islands brought about 130 specimens belonging to 16 spp., 11 genera and 3 families. As expected, the most wide ranging species belong to strong fliers of the suborder Anisoptera. *Pantala hymenaea* and *P. flavescens* were the most widespread spp., occurring at 8 and 6 islands, respectively. *P. flavescens* was the only sp. recorded from Isla Clarión, the farthest Mexican island.

### Introduction

The current knowledge of the Odonata fauna from Mexico is based exclusively on the fauna that occurs on the mainland (GONZÁLEZ & NOVELO, 1996, 2007). Virtually nothing is

known about the dragonfly fauna associated with any Mexican island. During 1985-1987 members of the entomological staff of the Instituto de Biología, Universidad Nacional Autónoma de México (although not odonatological specialists) made explorations of some Mexican Pacific coast islands in the Gulf of Baja California (or Mar de Cortés) and brief visits to some islands off Nayarit and Colima states. Among the insects they collected, some Odonata adults were captured.

A total of 14 islands were visited, belonging to the states of Colima (COL) (1), Baja California (BC) (6), Baja California Sur (BCS) (3), Sonora (SON) (1) and Nayarit (NAY) (3).

Most of the islands are situated in the Gulf of California or Sea of Cortés (see Fig. 1), including Isla Angel de la Guarda, Isla Las Ánimas, Isla Partida, Isla Rasa, Isla San Pedro Mártir, Isla Salsipuedes, Isla Tiburón (SON), Isla del Carmen (BCS), Isla Espiritu Santo (BCS) and Isla San José (BCS) (VILLALOBOS, 2000).

The remaining islands belong to other states, i. e. Isla Clarión and Isla Socorro to the state of Colima (not shown in Fig. 1), and Isla Maria Madre and Isla Maria Magdalena (not shown in Fig. 1) to the state of Nayarit. Isla Clarión is an oceanic island and the farthest from the Mexican mainland ( $\pm 970$  km W Manzanillo). Isla Tiburón with 1208 km<sup>2</sup> and Isla Angel de la Guarda with 895 km<sup>2</sup> are the largest islands.

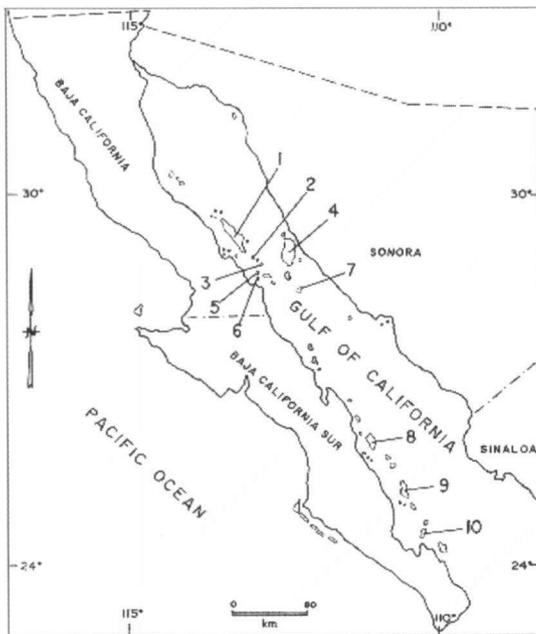


Fig. 1. Islands of Gulf of California where collections were made.

**List of collecting localities on some West-Coast Mexican islands**

- (1) Isla Angel de la Guarda, BAJA CALIFORNIA, 29°00'-29°34'N and 113°33'-113°09'W
- (2) Isla Partida Norte, BAJA CALIFORNIA, 28°52'N, 113°02'W
- (3) Isla Rasa, BAJA CALIFORNIA, 28°49'N, 112°59'W
- (4) Isla Tiburón, SONORA, 28°45'-29°15'N and 112°12'-112°36'W
- (5) Isla Salsipuedes, BAJA CALIFORNIA
- (6) Isla Las Ánimas, BAJA CALIFORNIA, 28°45'N, 112°59'W
- (7) Isla San Pedro Mártir, BAJA CALIFORNIA, 28°23'N, 112°20'W
- (8) Isla del Carmen, BAJA CALIFORNIA SUR, 26°04'-25°48'N and 111°05'-111°12'W
- (9) Isla San José, BAJA CALIFORNIA SUR, 24°52'-25°06'N; 110°43'-110°35'W
- (10) Isla Espiritu Santo, BAJA CALIFORNIA SUR, 24°30'N, 110°21'W
- (11) Isla Clarión, COLIMA\* 18°21'N, 114°44'W
- (12) Isla María Madre, NAYARIT\* 21°15'-

- 21°50'N and 106°14'W
- (13) Isla Maria Magdalena, NAYARIT\* 21°15'-21°50'N and 106°14'W
- (14) Isla Socorro, COLIMA\* 18°48'N, 110°59'W

The asterisked (\*) islands are not shown in Figure 1.

**List of Odonata from some West-Coast Mexican islands**

Coenagrionidae	Localities
<i>Enallagma civile</i> (Hag.)	2, 5
<i>Ischnura capreolus</i> (Hag.)	12
<i>Ischnura hastata</i> (Say)	12
<i>Ischnura ramburii</i> (Sel.)	12
<i>Telebasis salva</i> (Hag.)	12
Aeshnidae	
<i>Anax junius</i> (Dru.)	1
<i>Rhionaeschna pilus</i> Calv.	14
Libellulidae	
<i>Erythrodiplax berenice</i> (Dru.)	1, 2, 5, 9
<i>Micrathyria hagenii</i> Kirby	13
<i>Orthemis discolor</i> (Burm.)	12

<i>Orthemis ferruginea</i> (Fabr.)	10, 14
<i>Pantala flavescens</i> (Fabr.)	10,11,12, 13,14
<i>Pantala hymenaea</i> (Say)	1, 3, 4, 7, 8, 9,13, 14
<i>Sympetrum corruptum</i> (Hag.)	1, 3, 5,7,10
<i>Tramea calverti</i> Muttkowsky	14
<i>Tramea onusta</i> Hag.	1, 3, 4, 6, 8, 10, 13

### Discussion

A total of 130 specimens were collected, belonging to 16 species, 11 genera and 3 families.

The genus *Ischnura* was the most diverse with three species. Surprisingly, all specimens of this genus come from a single island: Isla Maria Madre, Nayarit.

The species with a wider distribution were *Pantala hymenaea* (in eight of 14 islands), *P. flavescens* (6), *Sympetrum corruptum* (5), *Tramea onusta* (7) and *Erythrodiplax berenice* (4). *Enallagma civile* and *Orthemis ferruginea* (2). On the other hand, the following species were located only on a single island: *Ischnura capreolus*, *I. hastata*, *I. ramburii*, *T. salva*, *Anax junius*, *Rhionaeschna psilus*, *Micrathyria hagenii*, *Orthemis discolor* and *Tramea calverti*.

The islands with a greatest number of species were Isla Angel de la Guarda and Isla Maria Madre with five species. Isla Espiritu Santo, Isla Maria Magdalena and Isla Socorro with four species. Isla Salsipuedes with three and Isla Rasa, Isla Tiburón, Isla San Pedro Mártir and Isla del Carmen with two each. On the other hand, Isla Las Ánimas and Isla Clarión (the farthest islands from the continent) had only one species each.

Although the list presented here is preliminary, and the species lists are presumably minimal, this represents the first attempt to document the Odonata from any of the Mexican islands. The paucity of odonate records from any island undoubtedly reflects the dearth of collections at these sites. Most of the islands visited, especially those of the Gulf of California, are situated very close to the mainland and hence could harbor many more species than those here reported. Most of the species found represent common and wide-ranging species, even migratory ones, as for example some Li-

bellulidae (e. g. *Pantala flavescens* and *P. hymenaea*) and the common and widespread (and also migratory aeshnid) *Anax junius*.

### Comments on selected species

– *Ischnura capreolus* – Members of the genus *Ischnura* are among the smaller Mexican Zygoptera and are poor fliers. Because of its proximity to the coast, their presence in the Islas Marias (Isla Maria Magdalena, Nayarit) is not surprising.

– *Ischnura hastata* – A single female was collected in Isla Maria Madre (Nay). This species is known to occur in some oceanic islands. BELLE & VAN TOL (1990) found a parthenogenetic population of this American damselfly in the Azores islands, composed only of females.

– *Erythrodiplax berenice* – Its presence in four islands is not unexpected. *E. berenice* is a common inhabitant of salt marshes, saline lakes and mangrove swamps (DUNKLE, 2000). I do not know whether some of this islands have salt marshes, but at least one (Isla San José) has mangroves (SECRETARÍA DE GOBERNACIÓN, 1988).

– *Pantala hymenaea* and *P. flavescens* – The fact that these two species were among the more widely distributed Odonata is not surprising since both are known to be very good fliers (VAN TOL, 1990). *P. hymenaea* has by far the widest distribution in the islands. Its migratory nature has been well documented elsewhere (e. g. DUNKLE, 2000).

– *Sympetrum corruptum* – The genus *Sympetrum* has an holarctic distribution. In northern Mexico *S. corruptum* is widespread and commonly found in lentic habitats, some of which are man-made water reservoirs for cattle (E. Gonzalez, unpubl. observations). It is also highly migratory in western North America, and migrants are likely to visit offshore islands (D. Paulson, pers. comm.).

– *Tramea calverti* – The only female specimen collected of this species has a notorious reduction of its hindwing spot. This feature is also shared with *T. cophysa*, in which some specimens from the Galapagos Islands have the hindwing spot extremely reduced (DE-MARMELS & RÁCENIS, 1982).

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