

Chapter 4.3

Checklist of Dragonflies of the Littoral Forests near Tolagnaro (Fort-Dauphin)

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Abstract

We present a checklist of Anisoptera and Zygoptera species of the littoral forests of Petriky, Mandena, and Sainte Luce in southeastern Madagascar. In total, 52 species were recorded and their conservation status mentioned in the literature is listed.

Résumé

Liste de contrôle des libellules des forêts littorales des environs de Tolagnaro (Fort-Dauphin). Nous présentons une liste des espèces de libellules (Anisoptera) et de demoiselles (Zygoptera) des stations de forêt littorale de Petriky, Mandena et Sainte Luce dans le sud-est de Madagascar. Un nombre total de 52 espèces a été enregistré pour lesquelles nous reprenons le statut de conservation mentionné dans la littérature.

Introduction

Madagascar is home to about 180 described species of Odonata. In the literature, 22 species of Odonata are mentioned for the region of Tolagnaro, but only four species records (Nahampoana, col de Sakavalana, Ivondro, and Isaka) have more precise collection information. Given the remarkable variation in the natural forest types of the region (see Goodman and Ramanamanjato Chapter 2.3), it can be assumed that current information is incomplete with regard to the local Odonata fauna. Herein a checklist is presented of the Odonata fauna of the Tolagnaro region, based on recent collections made by the authors at three littoral forest sites in the region.

Methods

Petriky, Mandena, and Sainte Luce were surveyed with varying effort from February to April 2004, from October 2004 to April 2005, and from

September to December 2006. No permanent water source occurs in the Petriky Forest, and hence, there is no habitat appropriate for Odonata larvae, although rice paddies and small rivers in the disturbed surroundings are potential reproduction sites. The littoral forests of Mandena and Sainte Luce have numerous water sources, such as seepages, swamps, rivers, and small streams. In general, the focus of our prospecting was inside the forest fragments, but Odonata were also sampled outside the forests in different aquatic settings.

Identification of specimens was mainly based on the two monographs of the Odonata fauna of Madagascar (Fraser 1956, Schmidt 1951, 1966). Remarkably, little is known about the Odonata fauna of Madagascar, and few sites have been intensively inventoried (e.g., Garcia and Dijkstra 2003). Hence, data on the ecology and distribution of nearly all species are deficient, and in turn, the conservation status of the vast majority of species (Dijkstra and Clausnitzer 2004, IUCN 2006). Dijkstra and Clausnitzer (2004) used the term “primary concern” for endemic Malagasy species whose ranges were inferred to be restricted, and “secondary concern” for those restricted to the island, but widespread within.

Results

We present a list of the 52 Odonata species collected and observed from the littoral forests of Petriky, Mandena, and Sainte Luce. We noted their conservation status (Table 1).

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Table 1. Odonata inventoried in littoral forests near Tolagnaro and their conservation status. PC: primary conservation concern as listed by Dijkstra and Clausnitzer (2004); SC: secondary conservation concern as listed by Dijkstra and Clausnitzer 2004; VU: vulnerable as listed by IUCN (2006).

Family	Species	Petriky	Mandena	Sainte Luce	Conservation status
Calopterygidae					
	<i>Phaon iridipennis</i> (Burmeister, 1839)		x	x	
Megapodagrionidae					
	<i>Nesolestes</i> sp. 1		x	x	-
	<i>Nesolestes</i> sp. 2			x	-
	<i>Protolestes kerckhoffae</i> Fraser, 1949			x	PC
Coenagrionidae					
	<i>Azuragrion kauderni</i> (Sjöstedt, 1917)		x	x	SC
	<i>Ischnura senegalensis</i> (Rambur, 1942)		x	x	
	<i>Ceriagrion glabrum</i> (Burmeister, 1938)		x	x	
	<i>Ceriagrion nigrolineatum</i> Schmidt, 1951		x	x	PC
	<i>Pseudagrion</i> cf. <i>tinctipenne</i> Fraser, 1951		x	x	PC
	<i>Teinobasis alluaudi</i> (Martin, 1896)		x	x	SC
Platycnemididae					
	<i>Paracnemis alluaudi</i> Martin, 1902		x	x	PC
	<i>Platycnemis</i> cf. <i>hova</i> Martin, 1908		x		PC
	<i>Platycnemis sanguinipes</i> Schmidt, 1951		x		PC
Aeshnidae					
	<i>Anax tumorifer</i> McLachlan, 1885		x	x	SC
	<i>Anax imperator</i> Leach, 1815		x		
	<i>Gynacantha malgassica</i> Fraser, 1962		x	x	PC
Gomphidae					
	<i>Isomma hieroglyphicum</i> Selys, 1892		x		PC, VU
	<i>Isomma</i> sp. nov.			x	
	<i>Paragomphus genei</i> (Selys, 1841)	x			
Corduliidae					
	<i>Hemicordulia similis</i> (Rambur, 1842)		x	x	SC
	<i>Nesocordulia malgassica</i> Fraser, 1956			x	PC
	<i>Nesocordulia mascarenica</i> Fraser, 1948		x	x	PC
	<i>Phyllomacromia trifasciata</i> (Rambur, 1842)		x		SC
Libellulidae					
	<i>Calophlebia interposita</i> Ris, 1909		x		PC
	<i>Calophlebia karschii</i> Selys, 1896		x	x	PC
	<i>Neodythemis hildebrandti</i> Karsch, 1889		x		SC
	<i>Neodythemis trinervulata</i> (Martin, 1902)		x		PC
	<i>Tetrathemis polleni</i> (Selys, 1869)		x		
	<i>Hemistigma affine</i> (Rambur, 1842)		x	x	
	<i>Lokia modesta</i> (Ris, 1909)		x		PC
	<i>Orthetrum abbotti</i> Calvert, 1892				
	<i>Orthetrum azureum</i> (Rambur, 1842)		x	x	SC
	<i>Orthetrum icteromelas</i> Ris, 1909		x	x	
	<i>Orthetrum lemur</i> Ris, 1909		x		SC
	<i>Orthetrum trinacria</i> (Selys, 1841)		x		
	<i>Thermothemis madagascariensis</i> (Rambur, 1842)		x	x	SC

Table 1. Continued

Family				
Species	Petriky	Mandena	Sainte Luce	Conservation status
Libellulidae				
<i>Acisoma</i> cf. <i>ascalaphoides</i> Rambur, 1842		x	x	
<i>Crocothemis erythraea</i> Brulle, 1832	x	x		
<i>Crocothemis sanguinolenta</i> (Burmeister, 1839)		x		
<i>Diplacodes exilis</i> Ris, 1911	x	x		
<i>Diplacodes lefebvreii</i> Förster, 1906	x	x		
<i>Trithemis hecate</i> Ris, 1912		x		
<i>Trithemis selika</i> (Selys, 1869)		x		SC
<i>Palpopleura vestita</i> Rambur, 1842		x		SC
<i>Rhyothemis cognata</i> (Rambur, 1842)		x		SC
<i>Rhyothemis semihyalina</i> (Desjardins, 1832)		x		
<i>Pantala flavescens</i> (Fabricius, 1798)	x	x		
<i>Tramea basilaris</i> (Beauvois, 1805)	x	x		
<i>Tramea limbata</i> (Desjardins, 1832)	x	x	x	
<i>Tholymis tillarga</i> (Fabricius, 1798)		x	x	
<i>Urothemis assignata</i> Selys, 1872		x	x	
<i>Urothemis edwardsii</i> (Selys, 1849)		x		

Discussion

This is the first inventory of Odonata occurring in the littoral forests of Madagascar. We have found a species of the genus *Acisoma*, which seems to be restricted to littoral forest habitats and that is different from *A. panorpoidea* Rambur, 1842 and might be referable to *A. ascalaphoides* Rambur, 1842. The species list presented in Table 1 would appear to be incomplete as several of the Libellulidae recorded in Mandena are widespread on the island, and would thus also be expected to occur in Petriky and Sainte Luce. Others with specific habitat requirements, like the Megapodagrionidae and some species of the Gomphidae, are restricted to forests and special aquatic habitats for reproduction.

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