

Chapter 8

Damselflies and Dragonflies of the Nakorotubu Range, Ra and Tailevu Provinces, Viti Levu, Fiji.

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SUMMARY

A total of 32 Odonata taxa were found during the RAP-Fiji in the Nakorotubu range, Ra and Tailevu Provinces, Fiji. These taxa represent more than 50% of the all species recorded for the whole Fijian archipelago and about 78% of the species established for Viti Levu. The significance of the group for environmental appraisals is discussed, individual behavioural traits and short ecological information are provided for each species observed during the investigation, and a preliminary habitat classification scheme is suggested for the species collected from the study area. Due to problems with species taxonomy only general conservation recommendations are proposed without specifying local management actions that need to be taken.

INTRODUCTION

Insects belonging to Order Odonata (commonly known as dragonflies or odonates) are among the most suitable subject for any kind of nature observations and research (Corbet and Brooks 2008). Due to specific morphological characteristics, as well as behavioural and ecological peculiarities, they are often among the top selected invertebrate groups for environmental appraisals, wetland management plans preparation, monitoring programmes development and implementation (Clark and Samways 1996, King et al. 2000, Armstrong 2002, Chovanec et al. 2002, Hawking and New 2002, Briers and Biggs 2003, Clausnitzer 2003, Davies et al. 2003, Chovanec et al. 2004, Hadrys et al. 2005, Oertli et al. 2005, Scher and Thiéry 2005, Thomas 2005). Below are some of the features that make dragonflies a priority group for nature conservation programmes and rapid biodiversity assessments:

Big, colourful insects, easily detectable and recognisable even in flight

Experienced observers could, in well studied regions, identify almost all species using a pair of binoculars only. Odonates cannot fold their wings along the body. That keeps them always above the surface and the researchers do not have to turn stones, chop tree bark, search among the leaf litter or dig into the soil to encounter these insects. Dragonflies can hide among dense vegetation however, their life-cycle always “brings” them close to the water bodies for reproduction.

Very specific behavior pattern, which keeps them close to the water

Dragonflies are easily found around wetlands of any kind. Some limits in their distribution and survival are posed by the areas in higher latitudes, fast flowing mountains streams, cold glacial lakes and highly saline coastal lagoons. Otherwise there could be up to 20-25 species encountered (in extremely good mixture of habitat types) during a single walk around water's edge. Normally much fewer occur near water.

Considerably small species number (compared to other insects groups)

With about 6000 currently described species Order Odonata ranks among the species poor insect orders. Low species number around wetlands is a prerequisite for developing effective monitoring programmes involving volunteers with no significant taxonomic knowledge. It is an