

Chapter 9

Freshwater fish and water quality of two catchments in the Nakorotubu Range, Ra and Tailevu Provinces, Viti Levu, Fiji.

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SUMMARY

A total of 15 species from eight families were collected and/or observed. These included the native species *Bunaka grinooides* and *Ophioeleotris* sp. (Eleotridae); *Awaous guamensis*, *A. ocellaris*, *Glossogobius* sp., *Sicyopus zosterophorum* and *Sicyopterus lagocephalus* (Gobiidae); *Microphis leiaspis* (Syngnathidae); *Kuhlia marginata* and *K. rupestris* (Kuhliidae); the freshwater eels *Anguilla marmorata* and *A. megastoma* (Anguillidae), freshwater moray eel *Gymnothorax polyuranodon* (Muraenidae); and the introduced *Oreochromis mossambicus* (Cichlidae) and *Gambusia affinis* (Poeciliidae).

Surveyed streams and rivers in the Nakorotubu watershed showed low fish diversity ranging from zero to ten with an average of four species per streams surveyed. The fish species collected from Nakorotubu represented 9% of the total freshwater fish diversity of Fiji.

There was an abundance of the amphidromous goby *S. lagocephalus* in the Uloa River and the introduced mosquito fish *G. affinis* in the Uloa and Wailotua Rivers. Species from the family Eleotridae were not collected at Uloa River. A single species of *K. marginata* and *K. rupestris* each were collected at Uloa River. There was a low abundance of *K. marginata* and *K. rupestris* from Wailotua River compared to the intact forest of the Sovi Basin. There were no endemic or rare species collected or observed during this survey.

INTRODUCTION

This report documents the freshwater ichthyofauna and habitat (water) quality of eleven sites along the upper reaches Uloa and Wailotua rivers, a small creek beside Base camp 2 and the Nalalau Creek in the Nakorotubu Range which were surveyed between 30 November and 10 December 2009. The findings from this survey will contribute to the overall conservation significance of the Nakorotubu Range. In addition, results from this survey will allow comparison of freshwater fauna with other river/ stream systems in Fiji and other Pacific islands.

Habitat and Catchment Description

The Nakorotubu watershed is covered with well vegetated lowland and upland tropical forest. The stream-bed habitats are covered with sand, small rocks/pebbles, gravels, fused rock bottoms and rocks and boulders on the sides. Morphology of the rivers and creeks surveyed vary widely and range from shallow to deep sections. The rivers and creeks have range from very narrow to very wide. As the water flow rates depend on the river and creek shape and size, the water flow rate of the rivers and creeks are slower in the wide and deeper section of the pools, and rapid in shallow and narrow sections. There are sections within the rivers that have cascades with rock pools.

The rivers and creeks surveyed drain into the Wainibuka River which then flows into the Rewa River. The Wainibuka River catchment is one of the major tributaries of the Rewa River. The geomorphology of the Nakorotubu Range has rugged, mountainous steep slopes and deep weathering, highly erodible grassland soil, farmland and grazing along the mid- upper reaches of the Uloa and Wailotua rivers. There are feral cattle in the forest and along the edge of the Uloa and Wailotua rivers. This survey was undertaken during the dry period of the year, therefore the