Chapter 6

Katydids (Orthoptera: Tettigonioidea) of the Grensgebergte mountains and Kasikasima region of Southeastern Suriname

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SUMMARY

Fifty two species of katydids (Orthoptera: Tettigoniidae) were recorded during a rapid biological assessment of lowland and mid-elevation forests of the Grensgebergte mountains of SE Suriname. At least six species are new to science, and 26 species are recorded for the first time from Suriname, bringing the number of species of katydids known from this country up to 128. The current survey confirms that the katydid fauna of Suriname is rich, yet still very poorly known. Although no specific conservation issues have been determined to affect the katydid fauna, habitat loss in Suriname due to logging and mining activities constitute the primary threat to the biota of this country.

INTRODUCTION

Katydids (Tettigonioidea) are a large superfamily of orthopteroid insect, which includes approximately 8,600 species distributed worldwide. Based on the rate of discovery and numbers of recently described species of these insects at least 2,000-3,000 species remain to be named. In some areas, especially in the humid areas of the circumtropical belt of the globe, as many as 75% of species found there remain to be collected and formally described. One of such areas is the Guiana Shield, including Suriname, where katydids have never been systematically studied. Despite the recent increase in the faunistic and taxonomic work on katydids of the Neotropical region, forests of Suriname remain some of the least explored and potentially interesting areas of South America. Approximately 200 species of the Tettigoniidae have been recorded from countries comprising the Guiana shield (e.g., Venezuela, Guyana, Suriname, and French Guiana), but this number most likely represents only a small fraction of the regional species diversity, and at least 300–500 species can be expected to occur there. Up to date, 128 species have been reported from Suriname, which includes 29 species collected for the first time in Suriname during a RAP survey in 2010 (Naskrecki 2012), and the species recorded during the present survey. The remainder of these records is based on material collected in the 19th century, and most of the species from Suriname were described in the monographic works by Brunner von Wattenwyl (1878, 1895), Redtenbacher (1891), and Beier (1960, 1962). More recently Nickle (1984), Kevan (1989), Naskrecki (1997), Emsley and Nickle (2001), and Montealegre and Morris (2003) described additional species from the region.

Many katydid species exhibit strong microhabitat fidelity, low dispersal abilities (Rentz 1993), and high sensitivity to habitat fragmentation (Kindvall and Ahlen 1992) thereby making them good indicators of habitat quality and disturbance. These insects produce species-specific acoustic signals, which can be used for non-invasive, remote assessment of species richness and abundance (Diwakar et al. 2007). These insects also play a major role in many terrestrial ecosystems as herbivores and predators (Rentz 1996). It has been demonstrated that katydids are the principal prey item for several groups of invertebrates and vertebrates in Neotropical forests, including birds, bats (Belwood 1990), and primates (Nickle and Heymann 1996).

The following report presents results of a survey of katydids conducted during March 9-28, 2012 at four lowland rainforest sites in the southeastern region of Suriname.

METHODS AND STUDY SITES

During the survey 3 methods were employed for collecting katydids: collecting at an ultraviolet (UV) light at night, visual searches at night and during the day, and detection of stridulating individuals using an ultrasound detector (Petersson D1000X) at night. Representatives of all encountered species were collected and voucher specimens were preserved in 95% ethanol. Voucher specimens of all collected species will be deposited in the National Zoological Collection of Suriname, Paramaribo, while remaining specimens will be deposited in the collections of the Museum of Comparative Zoology, Harvard University and the Academy of Natural Sciences of Philadelphia (the latter will also become the official repository of the types of any new species encountered during the present survey upon their formal description.)