Chapter 7

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SUMMARY

Sixty-one species of Tettigoniidae were collected, the highest number of katydids known from a single location anywhere in Africa. Of these, at least 8 are new to science, and 36 are new to Ghana. Site 2 (Asiakwa South) showed the highest species richness (50 spp.), likely due to a high edge effect created by a dense network of roads. While we recommend this area be protected in its entirety, any future development that is allowed within the area should be restricted to the southern part of the range in order to reduce further fragmentation of the remaining forest. Furthermore, roads and clearings that are no longer in use should be reforested to reduce habitat fragmentation and to discourage illegal logging and hunting.

INTRODUCTION

Katydids (Orthoptera: Tettigonioidea) have long been recognized as organisms with a significant potential for their use in conservation practice. Many katydid species exhibit strong microhabitat fidelity, low dispersal abilities (Rentz 1993a), and high sensitivity to habitat fragmentation (Kindvall and Ahlen 1992) thus making them good indicators of habitat disturbance. These insects also play a major role in many terrestrial ecosystems as herbivores and predators (Rentz 1996). They are themselves a principal prey item for several groups of invertebrates and vertebrates, including birds, bats (Belwood 1990), and primates (Nickle and Heymann 1996). At the same time many species of katydids are threatened, and some appear to have already gone extinct (Rentz 1977).

The conservation value of katydids has been recognized in Australia (Rentz 1993b) and Europe, leading to the development of captive breeding programs (Pearce-Kelly et al. 1998), listings on individual country (Glowacinski and Nowacki 2006) and global Red Lists (IUCN 2006), and introduction of regulations aimed at their conservation. But their use as conservation tools or targets of conservation actions in tropical regions, where their importance and the level of endangerment are the highest, is hampered by the lack of baseline data on katydid distribution as well as the shortage of katydid expertise and identification tools, a phenomenon known as the taxonomic impediment. It is therefore critically important that more effort be directed towards basic faunal surveys of katydids across the tropics, thus creating the basis on which a successful conservation strategy for these animals can be built. Such surveys, if conducted in pristine or relatively undisturbed areas, also provide reference data, which can later be used in habitat monitoring or restoration efforts that should follow any industrial or agricultural activity. West African ecosystems are in particular need of extensive biotic surveys, as these are some of the least studied tropical habitats while also being subject to widespread, poorly regulated, and often illegal logging and mining activities, combined with persisting slash-and-burn agricultural practices. This results in a rapid decline of available, natural habitats, and thus an inevitable loss of biodiversity.

The following report presents the results of a survey of katydids conducted between June 6 – 24, 2006 at selected sites within the Atewa Range Forest Reserve (Atewa) in the Eastern