

Chapter 2

Rapid survey of dragonflies and damselflies (Odonata) of North Lorma, Gola and Grebo National Forests, Liberia

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SUMMARY

During a rapid survey of the North Lorma, Gola and Grebo National Forests, 93 species of dragonflies and damselflies were found. Seven species were recorded in Liberia for the first time. Numbers of species and individuals seemed low, probably because the survey was at the end of the wet season, rather than towards the start. The results nonetheless indicate a healthy watershed in each forest, with limited pollution and streambed erosion. If forest cover and natural stream morphology are retained, the present dragonfly faunas are expected to persist. The most interesting species assemblage was recorded in Gola National Forest, including two species of conservation concern. Gola National Forest is a major diamond mining area, and the possible beneficial and detrimental impacts of these activities are discussed. Harboring typical examples of a rich Upper Guinea fauna, each forest, and especially Gola National Forest, deserves to be conserved.

INTRODUCTION

Odonata (dragonflies and damselflies) are receiving increasing attention from scientists and the general public. These graceful, colorful creatures are the quintessence of freshwater health. Due to their attractive appearance, dragonflies and damselflies can function as guardians of the watershed. They can be flagships for conservation, not only of water-rich habitats such as wetlands and rainforests, but also of habitats where water is scarce and, therefore, especially vital to the survival of life. Their sensitivity to structural habitat quality (e.g. forest cover, water limpidity) and amphibious habits make Odonata well suited for evaluating environmental change in the long term (biogeography, climatology) and in the short term (conservation biology), both above and below the water surface (Corbet 1999).

Odonata larvae are excellent indicators of the structure and quality of aquatic habitats (e.g. water, vegetation, substrate), while adult Odonata are highly sensitive to the structure of their terrestrial habitats (e.g. degree of shading). As a consequence, Odonata respond strongly to habitat changes, such as those related to deforestation and erosion. Ubiquitous species prevail in disturbed or temporary waters, while habitats like pristine streams and swamp forests harbor a wealth of more vulnerable and local species. Different ecological requirements are linked to different dispersal capacities. Species with narrow niches disperse poorly, while pioneers of temporal habitats (often created by disturbance) are excellent colonizers. For this reason, Odonata have a potential use in the evaluation of habitat connectivity (Clausnitzer 2003, Dijkstra and Lempert 2003).

Odonata possess characteristics distinct from those of relatively well-studied taxonomic groups like plants, birds, mammals and butterflies. Therefore, their study supplements knowledge obtained from these better-known groups. There are also practical advantages to Odonata as environmental monitors. Aquatic habitats, the focal point of their life histories, are easy to locate, and their diurnal activity and high densities make Odonata easy to study. The number