



EUROPEAN | PARIS
CONFERENCE OF | 26-29 MARCH
TROPICAL ECOLOGY | 2018

ANNUAL MEETING OF THE SOCIETY FOR TROPICAL ECOLOGY (GTÖ)



**CHALLENGES IN
TROPICAL ECOLOGY AND CONSERVATION -
GLOBAL PERSPECTIVES**





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IMPRINT

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This book is available at www.gtoe.de

ISBN: 978-3-00-059300-0

The respective authors are solely responsible for the contents
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Printed on 100% recycled paper



EFFECTS OF LAND USE PATTERN ON INVASIVE PLANT DIVERSITY IN GUINEAN SAVANNA ECOSYSTEMS OF TOGODO PROTECTED AREA, TOGO

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Tropical natural ecosystems host a very diverse flora and fauna and are key ecosystems for global climate and biogeochemical regulation. Unfortunately, in West African landscapes, large areas of savanna and forest have been progressively replaced or fragmented by crops. These dynamics promote the spread of many invasive plants representing on the one hand, a real and growing threat for many conservation areas and on the other hand, a serious problem for agricultural production. Similarly, Togodo Protected

Area, a crucial habitat for many vulnerable and endangered species in Togo, is submitted to important threats by human disturbance which promote the establishment and development of invasive plants.

The eradication of invasive plants already established over a large area is rarely possible. Thus, understanding and predicting the invasive success of plants is one of the major concerns of the ecology of invasive plants. In order to evaluate the relations between current land use patterns and invasive plant diversity and abundance, first, a typology of landscape elements was defined based on the heterogeneity of the environment (forests, savannas, fallows, oil palm and teak plantations, crops). Then, in each identified landscape element, the dominant plant species have been identified. A total of 133 botanical surveys including: 27 in crops, 41 in fallows, 17 in palm plantations, 13 in teak plantations, 18 in savannas and 17 in forests.

As results, 178 dominant plant species including 31 (17.42 %) invasive or potentially invasive were recorded. In terms of diversity, fallows (25 species) and crops (15 species) contain more dominant invasive species, unlike teak plantations and forests dominated by only 4 and 5 species respectively. Among the most common dominant invasive species, *Panicum maximum* Jacq. and *Chromolaena odorata* (L.) R.M.King & H.Rob. dominate all types of landscape elements while other species such as *Acmella oleracea* (L.) R.K.Jansen and *Triumfetta rhomboidea* Jacq. dominate only one type of landscape element.

Our results show that fallows are most susceptible to invasion and *Panicum maximum* Jacq. and *Chromolaena odorata* (L.) R.M.King & H.Rob are the most invasive species in our site. This is fundamental for predicting the future and for the restoration of these very useful ecosystems for biodiversity as well as for the population of the area.

Merian Award Applicant