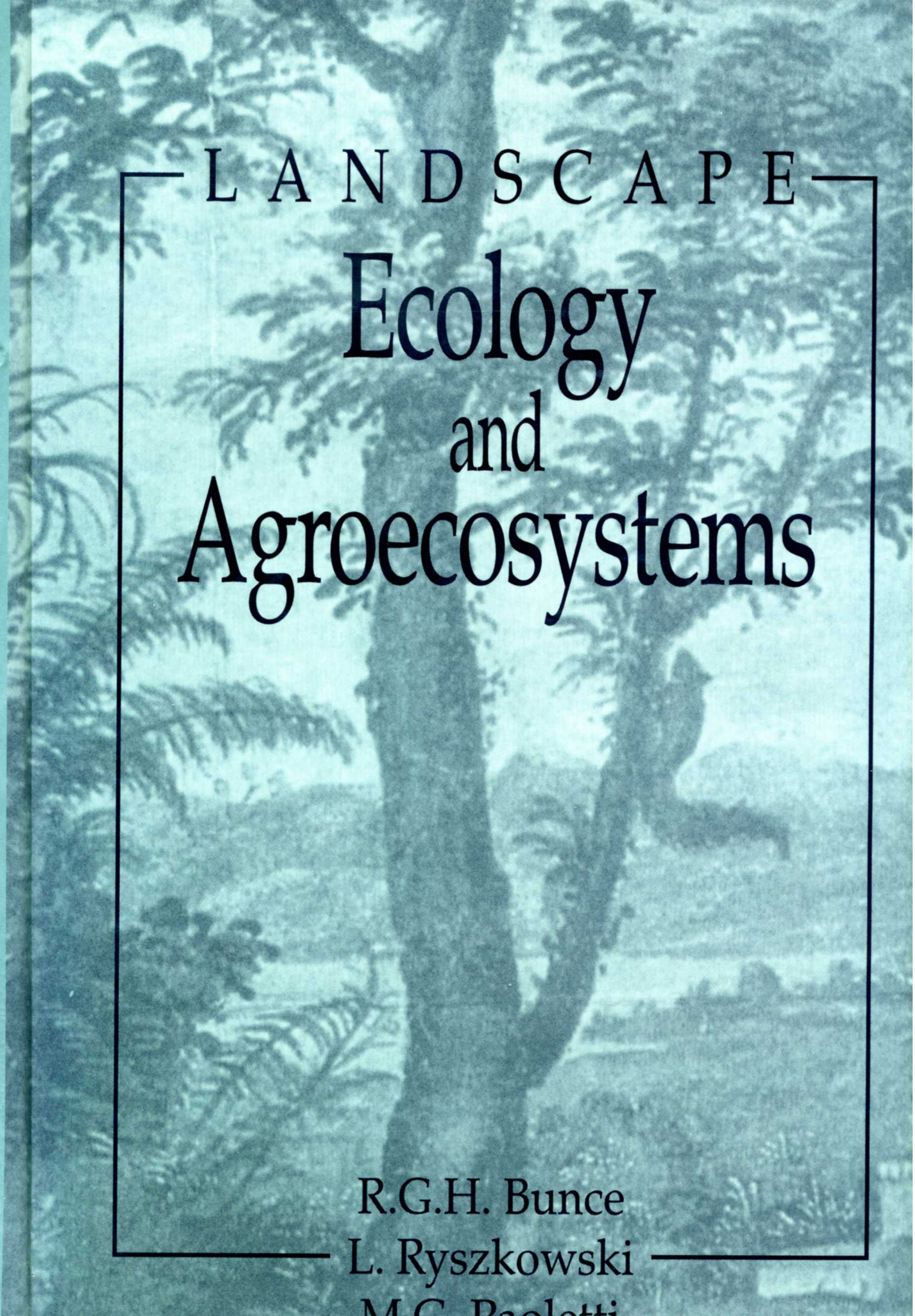

LANDSCAPE

Ecology and Agroecosystems

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20 Ecological Aspects of Production in the Canary Islands: Traditional Agrosystems

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Abstract: *Three different areas representative of traditional agricultural systems in the Canary Islands were studied in order to find the ecological basis governing their productivity. Traditional agricultural techniques could bring solutions to problems of great importance in Mediterranean and mountain environments, such as desertification and pollution. These phenomena progress rapidly in island areas of volcanic origin that are fragile and under pressure from tourism, and where the complementary nature of agricultural systems has not been taken into account in land management.*

Aridity and moisture were the basic factors for choosing the agricultural systems studied. Agrosystems in arid environments have been studied in southern Tenerife and Lanzarote. They can be distinguished by the volcanic material that is used to prevent aridity (''jable'' and ''lapilli'', respectively). Agricultural systems in a humid environment are studied in northern Tenerife, which is under the influence of trade winds. The study was carried out by two coordinated teams. The first did the spatial analysis of the agricultural systems in order to find the key processes governing them and the second was concerned with the ecological basis for interpreting these processes. Results have enabled the identification of a series of cultural techniques which are the keys to environmental pest and disease control, combatting the wind, aridity, and erosion, and maintaining soil fertility without pollution. Such measures give rise to agricultural patterns with quality products, environmental conservation, and landscapes of great aesthetic value, as well as encouraging the maintenace of a cultural asset of great interest in searching for solutions to the struggle against aridity and desertification.

INTRODUCTION

The growing importance of research on the ecology of agricultural systems is no accident. Terms such as ''limits of economic growth'', ''sustainable development'', or ''ecological economics'' stress the management of natural resources

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