Plant communities of a savanna in northern Bolivia
I. Seasonally flooded grassland and gallery forest

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with 5 photos, 4 figures, and 6 tables

Abstract. Seasonally flooded savanna in northern Bolivia was studied to present a phyto-
sociological classification of the vegetation using the Braun-Blanquet approach. However,
syntaxa were not named according to the Braun-Blanquet nomenclature, because the
method has been applied too rarely on savanna vegetation in South America. Five commu-
nity clusters, syntaxa of the highest level of a hierarchical system, were distinguished.
1. The *Eleocharis peruviana* community cluster comprises communities of mostly aquatic
vascular plants colonizing small ponds and streams.
2. The *Rhynchospora-Aeschynomene pratensis* community cluster represents the vegetation
of floodplains of whitewater rivers.
3. Other floodplain communities that grow on mudflats of small clearwater streams are
found in the *Eleocharis-Rhynchospora corymbosa* community cluster.
4. The *Echinodorus grisebachii-Cyperus luzulae* community cluster was divided into two
subdivisions which either include communities of swamps and backwaters (4.1 *Eichhornia-
Elodea granatensis* subdivision) or communities of a pasture covering most of the clearwater
river floodplains (4.2 *Paratheria prostrata* subdivision).
5. Some examples of low gallery forest communities that fringe the clearwater rivers were
combined to the *Licania-Vochysia divergens* community cluster.

Several of the 24 communities which form the five community clusters were further
divided into two or more subtypes. The differences in floristic composition of the syntaxa
can be related to soil types and to the depth and duration of the flooding.

Introduction

In the tropical lowlands of northern and northeastern Bolivia, more than
100,000 km² are covered by seasonally flooded savannas (Fig. 1). The Llanos de
Moxos, by far the largest part of these grasslands, extend east of the Río Beni
and across the Río Mamoré. Only about one tenth of the savannas lies west of
the Río Beni.

Herzog (1909, 1910, 1923), White (1922), and Rusby (1922, 1927) were
among the first visitors of the Bolivian lowlands who collected plant specimens.
Denevan (1966) published a detailed map of the Bolivian savannas in his
comprehensive geographical and archaeological studies of the Llanos de Moxos.
However, he and all of the early plant collectors did not cross the Río Beni to
the West. The first plant collection in the savannas west of the Río Beni was