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The XXI International Grassland Congress / VIII International Rangeland Congress took place in Hohhot, China from June 29 through July 5, 2008.

Proceedings edited by Organizing Committee of 2008 IGC/IRC Conference

Published by Guangdong People's Publishing House

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## Studies on formation classification and composing characteristic of helophyte in Maqu meadow , China

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**Key words :** swamp , plant formation , type , composing characteristic , Maqu

**Introduction** Swamp vegetation is a kind of plant vegetation , which is mainly made up of helophyte grown under soil moisture saturated . Because this ecological environment occurs in each zone , helophyte belongs to azonal type ( Wu 1980 ) . Maqu Meadow is famous swamp distribution and has large acreage . To do this study has any importance to utilization of swamp vegetation resources .

**Materials and methods** Maqu Meadow locates in southwest of Gannan Plateau , altitude is 3300 m , the annual rainfall is 650 mm and the annual average temperature is 1-2 °C . It has 2000 ha swamp and swamp meadow , which accounts for 10.12% of the whole country's pasture . North from Horse Farm of Hequ and through Manrima Town , and south to Cairima Town , it has very large acreage of swamp and rich vegetation resources .

**Results** Maqu meadow could be divided into two kinds and four formations .

### Cyperus rotundus swamp

*Blysmocarex nudicarpa* mainly distributed in the altitude of 3000 m waterlogged area such as Huanghe old way , river-along zone and low land area of the first tributary . In this area , *C . melanostachya* was constructive species , *Ophiopogon bodinieri* , *Kobresia kansunensis* were sub-constructive species , and *Triglochin palustre* , *Triglochin maritimum* , *Halerpestes sarmentose* and *Ranunculus hirtellus* were companion species . Coverage was 70% to 90% and forage yield was 1500 kg/ha .

*Carex brunnescens* mainly distributed in the altitude of 3400 m to 3800 m , which included beaches such as Oulazgaxi , Manermaqiao , Caiermawenbao and so on . In this area , *Carex atro-fusca* was constructive species , *Blysmus sinocompressus* was sub-constructive species , and *H . palustris* , *Carex scaposa* , *Sanguisorba filiformis* , *Cremanthodium plantagineum* and *Triglochin palustre* was companion species . Total coverage was 70% to 80% and forage yield was 7785 kg/ha .

*Eleocharis valliculosa* *F . setosa* mainly distributed in seasonal or year-around waterlogged area , which was 21 km from Maqu county . *H . palustris* was constructive species , *Polygonum amphibium* and *Leontopodium leontopodioides* were sub-constructive species , and *Leymus angustum* , *Potentilla anserina* and *Potentilla bifurca* were companion species . Total coverage was 5% to 65% .

### Grass swamp

*Polygonum amphibium* distributed in waterlogged area of Maqu Dashui . Plant vegetation was mainly Polygonaceae grasses . Total coverage was about 5% .

**Conclusions** Because Maqu meadow belonged to moist area of Qinghai-Xizang Plateau , it similar to Ruergai Swamp in formation , classification and plant composition . Soil was mostly swamp or slugh , and plant vegetation was those widely distributed species all over the world .

### Reference

Wu Z . Y . , (1980) . China Vegetation , Beijing : Science press .