Phytosociology of northwestern KwaZulu-Natal

by

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In die begin het God die hemel en aarde geskep.

(Gen. 1:1)

Toe het God gesê: "Laat daar uit die aarde groenigheid voortkom, groen plante wat saad gee en vrugtebome op die aarde, wat elkeen na sy aard vrugte dra en waarvan die saad in sy vrug sit."

(Gen. 1:11)

Toe het God gesê: "Kom Ons maak die mens as Ons verteenwoordiger, Ons beeld."

(Gen. 1:26)

Verder het God gesê: "Let op! Ek gee aan julle al die plante wat saad gee op die hele aarde; ook al die bome wat vrugte dra en saad gee. Dit sal julle kos wees."

(Gen. 1:29)

Toe het God gekyk na alles wat Hy gemaak het en dit was baie goed.

(Gen. 1:31)

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To the Lord.

Abstract

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In depth studies of the vegetation of large parts of southern Africa, including detailed maps and descriptions of vegetation units are mainly limited to small areas. Meanwhile, various agricultural practises have led to destruction or deterioration of the quality of natural grassland ecosystems. The agricultural sector in developed and rapidly developing areas of southern Africa is confronted with problems like veld deterioration and the loss of natural areas that effectively contribute to the depopulation of rural areas.

The necessity to identify, classify and describe the vegetation types and communities within the Grassland Biome was stressed by Mentis and Huntley (1982). The aim of the Grassland Biome Project is to integrate knowledge, comprehension and expertise, which will enable scientists to forecast the results of the available options of grassland management programmes. The phytosociological classification of northwestern KwaZulu-Natal forms part of this project.

Known previous vegetation studies of this area were conducted on a large scale and a considerable time ago, which underlines the necessity for a more comprehensive and

phytosociologically refined investigation of this area.

The study area lies in the northern part of KwaZulu-Natal and comprises the Drakensberg mountains and slopes in the west and undulating plains and bushveld valleys in the east and south. Relevès were compiled in 526 stratified random sample plots over an area of 9300 km², comprising the northwestern part of KwaZulu-Natal. The vegetation was classified by means of TWINSPAN and Braun-Blanquet procedures.

A phytosociological investigation of this vegetation revealed great variation in floristic composition. Further refinement of the data disclosed five major vegetation types containing nine plant communities. The topography and geology of the study area contributes greatly to the diversity of the vegetation, but poor agricultural practises have caused deterioration of the vegetation.

Uittreksel

Fitososiologie van die Noordwestelike KwaZulu-Natal

deur

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Plantegroei studies van groot gedeeltes van Suid-Afrika, wat gedetaileerde kaarte en akkurate beskrywings van die plantegroei eenhede insluit, is meestal beperk tot klein areas. Die grasveld ekosisteme van Suid-Afrika word tans bedreig en vernietig deur verskeie landboupraktyke terwyl die landbou sektor in ontwikkelende areas van suidelike Afrika gekonfronteer word deur probleme soos agteruitgang van die veld en verlies van natuurlike areas. Hierdie faktore dra by tot die ontvolking van die platteland.

Mentis en Huntley (1982) het die noodsaaklikheid van die klassifikasie en beskrywing van plantegroeitipes en gemeenskappe in die Grasveldbioom van Suid-Afrika beklemtoon. Die doel van die Grasveld Bioom Projek is om kennis en kundigheid aangaande die doeltreffendheid van bestaande bestuursprogramme te versamel en te verwerk om sodoende akkurate voorspellings moontlik te maak. Die fitososiologiese klassifikasie van die noordwestelike KwaZulu-Natal vorm deel van hierdie projek. Bekende plantegroeistudies wat hierdie area insluit, is lank terug en op 'n groot skaal gedoen wat die noodsaaklikheid van 'n resente, fitososiologies verfynde klassifikasie beklemtoon.

Die studie area is geleë in die noordwestelike KwaZulu-Natal en sluit die Drakensberge en hange in die weste, sowel as golwende vlaktes en bosveld koppies in die ooste en suide in. 'n Totaal van 526 relevès is saamgestel in 'n area van ongeveer 9 300 km². Die data is geklassifiseer deur middel van TWINSPAN en Braun-Blanquet prosedures.

'n Ondersoek van die data het op groot variasies in die floristiese samestelling van die plantegroei gedui. By verdere ondersoek is vyf hoof plantegroei tipes met nege plantgemeenskappe geïdentifiseer. Die topografie en geologie van die studie area dra grootliks by tot die diversiteit in die plantegroei, maar swak boerdery praktyke het agteruitgang van die plantegroei tot gevolg gehad.

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