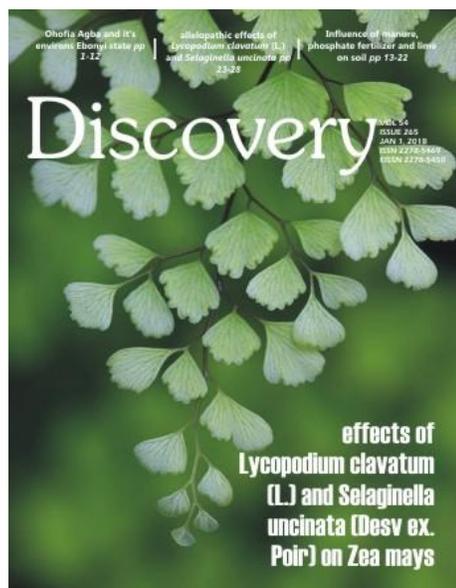


Discovery

About the Cover



ABOUT THE COVER

Allelopathic effects of aqueous extracts of *Lycopodium clavatum* and *Selaginella uncinata* were studied on the seedling growth of *Zea mays*. To investigate the effects of the extracts on seedling growth, greenhouse experiment was conducted. The plumule length and radicle length were measured for both extracts using a ruler. The result showed that the two extracts had both inhibitory and stimulatory effect on *Zea mays* radicle growth at different concentrations. *Selaginella uncinata* extract showed stimulatory effect at 25% and 50% concentrations and inhibitory effect at 75% and 100% concentrations. *Lycopodium clavatum* on the other hand showed stimulatory effect at 25% concentration only and inhibitory effect at 50%, 75% and 100% concentrations. Radicle length decreased in both extracts with increase in concentration whereas the plumule length increased over the measurement period and also decreased with increase in concentration. The extracts had strong inhibitory effect on radical elongation of seedling than on plumule elongation (Ref: Akpan EN, Denise EM, Ezendiokwelu EL, Anyadike MC. Comparative study of allelopathic effects of aqueous extract of *Lycopodium clavatum* (L.) and *Selaginella uncinata* (Desv ex. Poir) on the seedling growth of *Zea mays*. *Discovery*, 2018, 54(265), 23-28).

ANALYSIS

Delineation of fracture in Ohofia Agba and it's environs Ebonyi state, southeastern Nigeria using geographic information system (GIS)

Eyankware MO, Okeke GC

Groundwater study in an area requires the detail knowledge structure and geology. This can be well understood with the help of Geographic Information System (GIS). As groundwater exploration is greater controlled by structure, hence GIS and DEM was used in geospatial and hydrological modelling including drainage and watershed delineation, groundwater investigation studies, while elevation data and planimetric features extracted from Google Earth maps and ASTER server was used to derive digital elevation models (DEMs) of the study area in GIS environment. It was observed that the SW part of the study area tends to be more fracture than the other part of the area.

Discovery, 2018, 54(265), 1-12

RESEARCH

Influence of manure, phosphate fertilizer and lime on soil available NPK and uptake of NP by soybean in Embu county, Kenya

Benvindo Verde, Benjamin Danga, Jayne Mugwe

Soybean (*Glycine max* (L.) Merrill) is one of the most important legume crops being introduced into the smallholder farming systems of the Central Highlands of Kenya (CHK) for soil health improvement, income and improved household nutrition. However, phosphorus fixation, depletion of soil nutrients and soil acidity are major causes of low crop nutrition and yields. In order to study the effects of organic and inorganic soil amendments on soil available phosphorus (P) and its uptake by soybean a study was conducted at Embu County. The study consisted of 8 treatments: manure (0, 5 and 10 ton.ha⁻¹), lime (0 and 2 t.ha⁻¹) and P fertilizer (0, 30 and 60 kg P₂O₅ ha⁻¹). The experiment was laid out in a Randomized Complete Block Design (RCBD) with 4 replicates in plots of 4x4.5m. Lime contributed significantly to increase soil available P relative to preseason. Manure combined with P fertilizer and both P fertilizer plus lime mostly increased P uptake by 153.2 % and 148.4% respectively. These results showed the potential role of lime, manure and P fertilizer in improving soil available P and increase its uptake. Therefore, it is recommended to farmers in the CHK to adopt the integrated use of phosphatic fertilizers along with lime to enhance nutrient availability, uptake and yields.

Discovery, 2018, 54(265), 13-22

Comparative study of allelopathic effects of aqueous extract of *Lycopodium clavatum* (L.) and *Selaginella uncinata* (Desv ex. Poir) on the seedling growth of *Zea mays*

Akpan EN, Denise EM, Ezendiokwelu EL, Anyadike MC

Allelopathic effects of aqueous extracts of *Lycopodium clavatum* and *Selaginella uncinata* were studied on the seedling growth of *Zea mays*. To investigate the effects of the extracts on seedling growth, greenhouse experiment was conducted. The plumule length and radicle length were measured for both extracts using a ruler. The result showed that the two extracts had both inhibitory and stimulatory effect on *Zea mays* radicle growth at different concentrations. *Selaginella uncinata* extract showed stimulatory effect at 25% and 50% concentrations and inhibitory effect at 75% and 100% concentrations. *Lycopodium clavatum* on the other hand showed stimulatory effect at 25% concentration only and inhibitory effect at 50%, 75% and 100% concentrations. Radicle length decreased in both extracts with increase in concentration whereas the plumule length increased over the measurement period and also decreased with increase in concentration. The extracts had strong inhibitory effect on radical elongation of seedling than on plumule elongation.

Discovery, 2018, 54(265), 23-28

PERSPECTIVE

Intricacies and paradoxes: federalism and secessionism in Nigeria, the case of Biafra agitation

Akinyetun TS

This paper is a critical exploration of the current challenges bedeviling the Nigerian state, capable of heating up the polity and disintegrating the Nigerian project. As a heterogeneous state, Nigeria operates a federal structure which accommodates a Central government and sub-national, otherwise, state governments with several other municipal administrations; local government, therefore enabling a tripartite level of governance. Nigeria thus consists of various ethnic groups and sub-national states, all of which are at the mercy of the Central government. This duplicity of government is not alien to a federal structure as identified, except that in the Nigerian case, there is ineffable strife for dominance. As a result, issues relating to marginalization, economic imbalance, social alienation, ethnic suspicion and superior-subordination contestation are recurring malaises in the system. These maladies have led to a renewal of the call for secession by the South-Eastern ethnic group of Nigeria for a Republic of Biafra, on the basis that they are being short-changed in the political cum socio-economic largess accumulating from the Centre. The logic for this

call, nay, agitation for self-determination by this group is not faulty in itself except that the laws of the land; Nigeria 1999 Constitution (as amended) does not guarantee self-determination or secession by any group of the Nigerian political environment. This paper consequently argues that the anxiety as well as angst attributable to this agitation has the tendencies of not only disrupting the relative-peace presently enjoyed by the various groups, but is also, if not controlled, capable of plunging the country into a state of economic comatose and perpetual fragility.

Discovery, 2018, 54(265), 29-45