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THE METEOROLOGICAL ROLE ON THE SURVIVAL OF BIRDS IN LIMBE BOTANIC GARDEN, SOUTHWEST REGION, CAMEROON

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ABSTRACT

The association of atmosphere and wildlife population is prominent in ecological management strategies. Meteorological changes do not only determine the behavioral activity of wildlife, rather also play a major role in surviving them in their habitats. Many bird species survive climatic conditions, such as extreme temperature situations through migratory movements to other areas with conducive climate. The coastal region of Cameroon is rich in bird population and species, but very little studies have been carried out on their inventory, social organization, and ecological impact on their behavior. Hence, the aim of this study was to assess the impact of meteorological conditions on the behavioral activity of birds in Limbe Botanic Garden. Research data was collected each day from 8:00 am – 5:00 pm, for three months. Both behavioral activity and atmospheric environmental factors were collected simultaneously. In the study meteorological conditions showed a significant association, $X^2 = 23.352$ $df=6$ $P=0.001$, $X^2 = 5.751$ $df=6$ $P<0.05$, and $X^2 = 43.227$ $df=45$ $P<0.05$ on automobile traffic noise, food type, and bird type respectively. More so, meteorological conditions recorded 59% on sunshine, 24% on rainfall, 11% on cloud, and 6% on wind respectively. The most observed birds were African thrush (*Turdus pelios*) 18%, common bulbul (*Pycnonotus barbatus*) 13%, and grey-backed camaroptera (*Camaroptera brevicaudata*) 11%, while the least observed were grey-crowned negrofinch (*Nigrita canicapillus*) 2%, black-and-white mannikin (*Lonchura bicolor*) 2%, and african palm swift (*Cypsiurus parvus*) 2% respectively. Also, bird type showed a positive significance $X^2 = 19.682$ $df=15$ $P<0.05$ on landscape. Furthermore, landscape revealed a positive correlation significance $r = 0.102$ $P<0.05$, and $r = 0.308$ $P=0.023$ on meteorological conditions and food type respectively. The study examined three key birds' activity, feeding 39%, movement 37%, and roosting 24% respectively. However, the rich floral vegetation with many bird species is a key attraction to research and tourism in the garden. Most of the bird species in this garden are sea birds, since the garden is adjacent to the sea. Finally, the study recommends an inventory on the population of birds in the garden in order to enhance their conservation. Understanding the number of bird species, their population and ecology is important to wildlife conservation management plan.

Keywords: Atmosphere, wildlife, birds, Garden, Activity, Inventory, Population.

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ACTIVITY OF THE MICROBIOCENOSE OF THE ROOT ZONE OF CORN PLANTS UNDER THE ACTION OF PLANT PROTECTION AGENTS

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ABSTRACT

The vast majority of modern chemical poisons solve the problem of diseases and pests on agricultural plants. However, their use causes deterioration of the ecological condition of agrocenoses. The biological activity of the soil of the root zone of corn was studied during the pre-sowing treatment of seeds with a complex of microorganisms No.1 + No.2. It was found that the use of a complex of microorganisms No. 1 + No. 2 reduced the number of micromycetes by 1.8–2.5 times. The level of antifungal activity increased 4–7 times compared to the control, and 1.5 times compared to the options where chemical preparations were used. Therefore, bioagents of complex No. 1 and No. 2, being introduced into the root zone of corn plants, initiate changes in the functioning of the microbiocenosis and protect plants during the growing season. We believe that the complex of microorganisms No. 1 and No. 2 is promising for further biotechnological developments.

Key words: carbon dioxide emission, biomass of microorganisms, antifungal activity, phytotoxicity, number of micromycetes, maize, biological products, microorganisms, biofungicide.

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PHYTOCOENOSES UNDER DIFFERENT PHYSICAL-GEOGRAPHIC CONDITIONS: INTERZONAL, INTERHEIGHT BELTS, EXTRAZONAL ONES, ECOTONES AND PARAGENESE (LAKE BAIKAL REGION)

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ABSTRACT

This paper presents information on the vegetation of concrete environments - zonal, interzonal, interheight belts and extrazonal ones as a result of studies done by numerous vegetation researchers for different regions during many years. As this information is separate statistics in the characteristics of the vegetation cover for environmental zones and height belts, it is necessary to take it into account while characterizing the heterogeneity of vegetation structure under different physical-geographic conditions of the vast Baikal Region: this is an important aspect of such studies. Taking into account of opinions of different researchers concerning the characteristics of the structure of different territories favors the understanding of structural peculiarities of the coenoses under concrete physical-geographic conditions at a concrete territory. Stating of typological diversity of phytocoenoses as of proxies of vegetation modern state and formation trends allows to perform in a more concrete way assessments and forecasts of the development of different environments at a regional-topologic level of their spatial and temporal organization.

Key words: phytocoenoses, physical-geographic conditions, interzonal, interheight belts, extrazonal, ecotones, paragenese, Lake Baikal region.

