

THE PRESENCE OF SNAKES IN CROPLANDS: A SERIOUS CONFLICT THREAT TO THE LOCAL FARMERS IN BERTOUA MUNICIPALITY, EASTERN REGION, CAMEROON

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The presence of snakes in farmlands in Bertoua might be partly due to a high snake population or increase in rodents, birds, and amphibians preyed upon by snakes. The wildlife conservationists need to educate crop-farmers on wildlife conflict management.

Abstract Reference

PP06

BACKGROUND

Habitat loss and fragmentation are the greatest general threats to conserving biodiversity (Meffe and Carroll 1997; Wilcove et al.1998) and there is every reason to expect these to be the major threats for snakes as well (Shine 1991; Gibbons et al. 2000). As habitat is lost, ecological studies could be relevant in evaluating the value of the habitat that is left, particularly if only some of it can be saved. Furthermore, understanding snake ecology could help us evaluate the effects of fragmentation of the remaining habitat. The essence of behavioral thermoregulation is that snakes can move between habitats or microhabitats to find appropriate temperatures.

Human historical experience with venomous snakes has probably shaped our responses to them. In Africa, where hominids evolved, venomous snakes are common and there are no simple rules for visually discriminating harmless from truly dangerous species. Thus, detecting and indiscriminately avoiding all snakes was probably favored by natural selection. Snakes possess several attributes characterized with fear, unfamiliarity, movement, abruptness, rapidity of change and visual (chromatic) intensity.

An Australian study indicated that, although the diversity and abundance of reptiles (mostly lizards) was low on recently burned plots, these patches were likely to serve as fire-breaks, benefiting the integrity and resilience of the reptile community as a whole (Masters 1996). Semi-aquatic snakes may benefit from created wetlands or the creation of a mosaic of wetland and upland habitats. In an Ohio study, snakes were frequently associated with mine-reclamation wetlands (Lacki et al. 1992). Constructed wetlands were used readily by the state-recognized endangered Copper-bellied Watersnake (*Nerodia erythrogaster neglecta*) in Indiana (Lacki et al. 2005). In central California, wetlands were created on former agricultural land to benefit the giant garter snake (*Thamnophis gigas*); although giant gartersnakes have used the created wetlands, population-level management success has not yet been demonstrated (Wylie et al. 2002).

The historical hostile conflict humans have had with snakes especially in croplands attracts research whenever the snake population is found to increase. The study of snakes in Bertoua municipality was to examine the ecological factors favoring the presence of snake population increase in croplands.

METHODS

Description of the study area

Bertoua is the capital of Eastern Region of Cameroon, with a land surface area of 100km² and a human population of about 95000, it is well known in timber wood and mining exploitations. Geographically, Bertoua is located on latitude 4°35'0" north and longitude 13°41'0", east (fig.1). The climate is described as wet equatorial climate (also known as a Guinea type climate), meaning that it experiences high temperatures (24°C on average).



Figure 1: The map of Bertoua Municipality (Source: SEBC, 2002)

The data collection started with a brief pilot study to test the methods in the study area. The research team comprised of 10 local farmers who took interest in the research topic and decided to volunteer in its field data collection program. This team was divided into five groups, deployed to different bush areas of the municipality for snake observation. The observation of snakes in the study area was done for one month from 7:30 am – 5:30 pm each day. Additionally, all the observers were dressed in protective shoes and clothes to avoid snakebites. Random spot observations were done on forest, grassland, streams, and farmlands (Crump & Scott, 1994). Every snake or snake sign encountered during this process was recorded in the check-sheet by each observer. This survey recorded 444 snake encounters, and the species encountered black cobras (*Naja melanoleuca*), green mambas (*Dendroaspis viridis*), vipers (*Bitis gabonica*), green-tree snakes (*Dendrelaphis punctulatus*), small brown snakes (*Dendrelaphis shokan*), and python (*Python regius*).

Data analysis

The research data was analyzed by the use of SPSS statistical tool. Variables such as snake species, vegetation, weather condition, location, day-period were statistically tested to have a comprehensive knowledge on their degree of association. The results obtained from this statistics were hence displayed on figures and pie-charts.

RESULTS

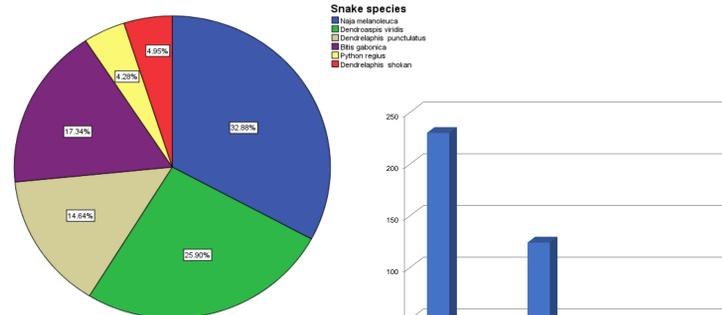


Figure 2: Snake species

Figure 3: Vegetation and weather conditions

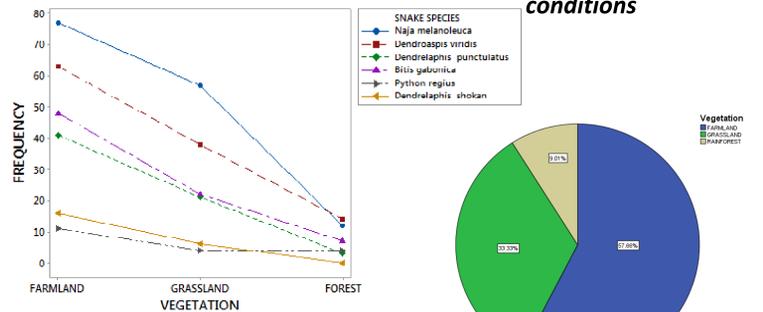


Figure 4: Vegetation and snake species

Figure 5: Vegetation

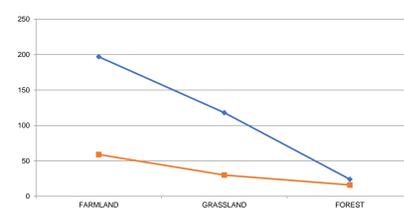


Figure 6: The snake location and vegetation type

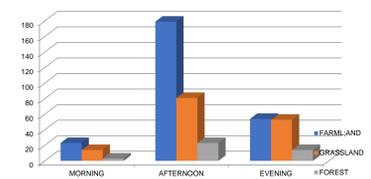


Figure 7: The day-periods and vegetation

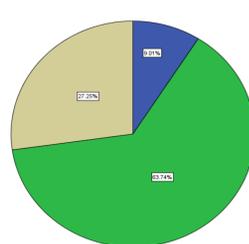


Figure 8: The day-period

CONCLUSIONS

Humans are hardly friendly to snakes, due to their venom, a defensive mechanism used in killing enemies and preys. This lethal power possessed by most snakes has been the main reason for the uncontrollable phobia manifested in human behavior whenever a snake of any species is spotted nearby in Cameroon. The snake-hate relationship in humans has an aged history, right from the genesis chapter of the bible; the snake has been described as a deceptive organism, for the reason which humans are suffering till date. Nonetheless, some human traditions still consider these wild animals as gods to be worshipped, while to others they are a source of spiritual power in sorceration and other related organizations. Any story generated on snakes might be rooted into their potent lethal venom, hence, the presence of a high number of snakes as discovered by this study in the peripheral zone of Bertoua municipality, especially in croplands needs an urgent wildlife conservation attention. Secondly, cobra species, found to have the highest encounter rate in the survey are known to be shy to human sight, but the neurotoxic, hemotoxic, and cardiotoxic venomous chemistry possessed by some cobras and vipers could create a more deadly conflict with the local farmers in the farming areas, resorting to carrying out snake-hunting drives to reduce their population.

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MORE INFORMATION / REFERENCES

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