

Communication

Note on the ecology and distribution of fresh water snails in the Bauchi and Plateau States, Nigeria

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Au Nigeria, les informations sont rares en ce qui concerne la distribution et les relations avec l'écologie des mollusques d'eau douce en tant que vecteurs de certaines helminthoses. Au cours de leur enquête, les auteurs ont dénombré cinq espèces dont la présence et la distribution ne semblent pas affectées par le milieu. Les recherches se poursuivent afin de mieux connaître l'interaction des différents composants de l'environnement. *Mots clés* : Mollusque nuisible - Helminthe - Distribution naturelle - Écologie - Nigeria.

There is an increasing awareness of the incidence and intensity of snail borne helminths worldwide (7), but there is paucity of literature on most rural areas of tropical West Africa.

In Nigeria, information on the distribution and ecology of such snail vectors is available especially in some parts of Southern Nigeria (1, 4, 6) and only sparsely in Northern Nigeria. The few notable reports include NDIFON *et al.* (5) in the Kano area and BETTERTON (3) in the Chad Basin area with an information on the Bauchi State and the adjoining part of the Jos Plateau area. The present investigation was therefore undertaken to collect base-line data on the epidemiology of schistosomiasis and fascioliasis in Bauchi and Plateau States which have undergone tremendous environmental changes due to activities associated with mining road and highway construction, irrigation and associated activities in recent times.

Investigations into the distribution of fresh water snails in the study area started after a preliminary survey was carried out. Subsequently, 30 sites were selected on the basis of high snail density, accessibility, a permanent or semi-permanent (but priority to permanent) high human/animal water contact. Ten other sites which gave a good coverage were selected from the Gubi reservoir (the main domestic water source in Bauchi).

Snails were searched for in all 40 sites. In addition some physico-chemical parameters which included pH, temperature, dissolved oxygen tension, electrical conductivity, dissolved organic matter and alkalinity were determined.

Five snail species were encountered during the study. The frequency of occurrence is shown in table I.

Bulinus (Ph.) bulinus and *Biomphalaria pfeifferia* were the most frequently occurring snails while *Bulinus forskalii* was the least frequent. The distribution of these snails appeared to be widespread over the entire study area. Thus, it became clear that human activity such as road and drainage construction and mining had given rise to numerous habitats suitable for colonization and breeding of snails serving as intermediate hosts for *Schistosoma* and *Fasciola* in Bauchi and Plateau States. It was further observed that no physico-chemical environmental factor seemed to be a limiting factor of snail distribution. This appears to agree with BERRIE (2) and WILLIAM (8) who also showed that no environmental factor seemed to affect the distribution of snails.

TABLE I Frequency of occurrence of snail species in the study area.

Snail species	Jos-Bauchi Road n. = 14	Bauchi Township n. = 16	Gubi Reservoir n. = 10	Total n. = 40
<i>Biomphalaria pfeifferia</i>	10 (71.4)	9 (56.3)	7 (70.0)	26 (65.0)
<i>Bulinus forskalii</i>	1 (7.1)	0 (0.0)	0 (0.0)	1 (2.5)
<i>Bulinus (Bulinus) truncatus</i>	8 (57.1)	4 (25.0)	7 (70.0)	19 (47.5)
<i>Bulinus (Physopsis) globosus</i>	9 (64.3)	13 (81.3)	7 (70.0)	29 (72.5)
<i>Lymnaea natalensis</i>	6 (42.9)	4 (25.0)	6 (60.0)	16 (40.0)

Figures between parentheses are percentages.

But such factors rather interacted and produced a collective effect.

Meanwhile, investigations are still continuing to determine the precise effect of other environmental factors such as organic matter and soil chemistry on snail distribution, as well as to establish the population dynamics of such snails and their roles in the transmission of schistosomiasis and fascioliasis diseases.

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In Nigeria, little information is available on the distribution and ecology of fresh water snails as vectors of helminths. The authors have enumerated five species, the frequency of occurrence of which is exposed and discussed. No environmental factors seem to affect their distribution. Investigations are still continuing. *Key words* : Fresh water snail - Helminth - Distribution - Ecology - Nigeria.

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