

DOMESTIC DUCKS PREFER MOSQUITO LARVAE AS THEIR DIET

Pages with reference to book, From 42 To 43

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Abstract

Domestic ducks were experimentally tried to see their effect in controlling mosquito vector and it was observed that ducks prefer mosquito larvae as their diet (JPMA 40 : 42, 1990).

INTRODUCTION

Domestic ducks, *Anas platyrhynchos*, well known aquatic birds, belonging to a family anatidae and subfamily anatinae, are kept for egg and meat production in the villages in our country. In U.K and the Netherlands, these are commercially used for egg production and, in U.S.A., for meat production. They feed on small molluscs, crustaceans, frog tadpoles, water insects and other small animals. Considering the indiscriminate use of chemical insecticides and their toxic effects to biotic flora and fauna and the man himself, the WHO suggested the counter measures including the use of biological agents for disease vector control¹. As far as present available literature is concerned, the ducks have not yet been tried to see their larvivorous habits. Therefore considering the aquatic feeding habits of domestic ducks, these aquatic birds were tried to see if they feed on mosquito larvae and if these animals could be of any help in reducing the mosquito populations in the country.

METHODOLOGY

Two domestic ducks, purchased from local market, were kept in a closed room and provided with bread pieces in a container nearly half filled with water. Approximately 1600 to 2000 mosquito larvae were collected from the field with the help of a cup and a strainer. Most of these larvae were culicines. These were transferred into a tin having small quantity of water and brought into the room where ducks were kept. Other parasitic fauna was also present along with mosquito larvae. Larvae were approximately divided into two lots. Half of these larvae were then transferred into a pan having water in it. Another container having bread and water was also provided to the ducks. A separate container having almost half number of larvae were kept in the laboratory as a control comparison. Observations were made if the ducks were reducing larvae. These observations were made after every 30 minutes upto four hours. After 4 to 6 hours ducks were slaughtered to see the presence of larvae in the gut. The experiment was replicated thrice.

RESULTS AND DISCUSSION

In one replicate ducks devoured all mosquito larvae and other parasitic fauna within two hours. The ducks were seen as picking larvae from and under water surface with the help of its bill. The water became comparatively cleaner after duck feeding. They did not even touch the container having bread. The intestines, upon opening, revealed dead larvae. Gizzard revealed only sand particles. The idea for confirming if the ducks had eaten larvae or not was to see the presence of larvae in the container and then to slaughter the ducks but after about 4 hours when the larvae were eaten up, ducks started expelling larvae in their droppings. Droppings were seen as containing lots of dead larvae. In second

Eplicate the ducks were slaughtered after four and a half hours. About 50 larvae were still present in the container. Bread feed in other container was also eaten up by the ducks. Dead larvae were seen in the droppings and upon opening the intestines, dead larvae were seen in them. Gizzard revealed sand and other food particles but no mosquito larvae. In third replicate the ducks had eaten larvae within three hours and the bread container was untouched. Dead larvae were again seen in the droppings and in the opened intestines. Domestic ducks were thus found preferring mosquito larvae and other small parasitic animals to bread pieces in water whereas on other occasions they regularly ate bread pieces dropped in water. Since they feed on water insects and other small animals in water and are also a good source for egg and meat production, these animals should be tried in malaria control programmes initially as small projects separately in all the four provinces including Azad Kashmir to see the results and then practice large scale rearing of ducks on Government farms and then provide at comparatively cheaper price to the low income dwellers at the peripheries of the cities and in the villages. World Health Organization considered the worldwide increase in insecticide resistance and other related hazards to biotic flora and fauna and thus the expert committee on vector biology and control also discussed and suggested that counter measures should be further investigated and encouraged. From the present studies it appears that the domestic ducks, if kept in rural areas and at the peripheries of the cities, will contribute their role in reducing mosquito vectors. It is, therefore, concluded that if the people are once encouraged and motivated for keeping ducks for the control of mosquitoes, this will not only help in reducing mosquito borne diseases and in increasing egg and meat production but this will certainly aid in reducing other vector diseases as well, in the country.

REFERENCE

1. World Health Organization Resistance of vectors of disease to pesticides. WHO Tech. Rep. Ser., 1980; 655: 63.