American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 03 ISSUE 05 Pages: 17-23
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 7. 471)
OCLC – 1290679216
Publisher: Oscar Publishing Services

Journal Website: https://theusajournals.com/index.php/ajahi

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Research Article

ECONOMIC SIGNIFICANCE OF "DEROCERAS RETICULATUM MULLER" AND "1774 CANDAHARIA LEVANDERI SIMROTH, 1901" SPECIES

Submission Date: May 08, 2023, Accepted Date: May 13, 2023,
Published Date: May 18, 2023
Crossref doi: https://doi.org/10.37547/ajahi/Volume03Issue05-04

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ABSTRACT

The article provides information about the economic importance of the species "Deroceras reticulatum Muller" and "1774 Candaharia levanderi Simroth, 1901" found in the village of Machai, Boysun district.

KEYWORDS

Boysun District, Machai Village, land molluscs, Deroceras reticulatum, Candaharia lavender, economic importance.

INTRODUCTION

Considering the economic importance of land molluscs from an economic point of view, firstly, according to the literature [5, 6], most land molluscs act as intermediate hosts in the spread of various helminthic diseases, and secondly, molluscs are herbivorous polyphagous animals, and one species can cover a wide range of plants, especially which is a source of human food: strawberries, cabbage, tomatoes, cucumbers,

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sprouts of all legumes and vegetables, leguminous crops, especially winter wheat and barley from grain crops.

In general, when talking about the economic importance of land molluscs, it should be noted that their economic damage can be different in different regions. For example, if the fodder plants of Boisun mountain range are severely damaged by "C. lavender", this species is infected with helminth larvae in Kohitang mountain range and acts as an intermediate host.

In general, all terrestrial molluscs are herbivorous polyphagous animals, but slime worms cause more damage to plants than shell molluscs, and a number of species are considered plant pests.

For example, "D. reticulatum" lives mainly in open biotopes. In more anthropogenic biotopes, they live under branches, rocks, in earth cracks, and the damage caused by them differs from the damage caused by other pests. They damage different types of plants in different ways.

"D. reticulatum" species is one of the most voracious slimes, and their intensive feeding on plant leaves or fruits depends on the air temperature. It was determined that this species fed on cucumbers planted in the open fields in Machai village, Boisun district, and caused damage to cucumber seedlings (Table 1).

Table 1

Damage caused to cucumber seedlings by Dinoceras reticulate species (on 10 m² area)

Research line	The number and condition of seedlings (two ears)	The number of cucumbers			Total infected cucumber seedlings in %
		Undamaged seedlings	Damaged		
			part of the leaf plate is eaten (pictures 5.2-1.2)	two leaves completely eaten (Fig. 5.2-3)	
1-raw	35	17	7	11	51,4
2- raw	35	19	7	9	45,7
3- raw	35	21	8	6	40
4- raw	35	23	5	7	34,3

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5- raw	35	25	6	4	30,3
6- raw	35	25	6	4	28,6
7- raw	35	20	8	7	42,8
8- raw	35	18	8	9	48,5
9- raw	35	17	12	6	51,4
10- raw	35	16	10	9	54,2
Total	350	201	77	72	42,57

Table 1 data analysis shows that there are a total of 350 cucumber seedlings in a 10 m2 area, of which a total of 149 seedlings are affected to varying degrees. The damage rate is higher in the outer lanes and decreases as you move towards the middle lanes. This is due to the fact that the place where the slugs live is close to the outer rows and the population density is high, so the level of damage to the seedlings is also high. As you go to the middle rows, the number of slugs decreases, and accordingly, cucumber seedlings are less damaged.

D. reticulatum also damages cucumber fruit to varying degrees from the end of May to the beginning of June. It mainly starts eating the cucumber fruit by first carving the skin part from a certain place and ends up eating 30-40% of the fruit completely. Also, D. reticulatum species is common in biotopes in the hilly region, and feeds on the soft part of the leaves of various plants. For example, 4 maggots eat a plant leaf 15 times larger in 1.5 hours.

Another economic importance of land molluscs is that they act as intermediate hosts in the transmission of dangerous helminth diseases in many mammals and birds.

According to the literature [1, 4, 5, 6], all 8 types of nudibranchs distributed in the studied area act as intermediate hosts to one degree or another.

Currently, the taxonomic composition of terrestrial molluscs that participate as intermediate hosts of helminths in Uzbekistan A. Pazilov, A. Kuchbaev [5], the taxonomic composition of helminth larvae found in terrestrial molluscs A. Kuchbaev [2], A.E. Kuchbaev, M. Egamberdiev and others. is being studied by [3].

However, the study of the degree of contamination of land mollusks with helminth larvae, which are common in the Surkhan-Sherabad valley and its surrounding mountains, is currently fragmentary. This problem remains open in the rest of the regions, while it was partially studied by [3].

Therefore, we have studied the level of helminth larvae infection of some species common in the study area.

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Among the common land molluscs that participate as an intermediate host in the study area, C. lavenderi species is the dominant species in terms of population density compared to other species. This species is common in all altitude regions.

The degree of infection of C. lavenderi species with helminth larvae was studied in the southeastern part of the Kohitang mountain range from the village of Aktash to the village of Vandob and from there in the north-west direction, in the areas of the Vandob section of the Surkhan state reserve.

According to the results of the conducted research, the species C. lavenderi is unevenly distributed by altitude regions and biotopes. For example, in the desert region: among the grass on the banks of streams, under the trees in gardens, among the plant cover in the undeveloped areas of the land near water bodies, in the hill region: on the slopes where semi-shrub plants grow and among the stone piles, in the stone piles between the grass in the land near the water bodies, in the mountain in the region, among shrubs and trees, living under stones between grass plants, the population density and level of helminth infestation are as follows (Table 2).

According to the data in the table, the dynamics of invasion of C. lavenderi species by helminth larvae differ by biotopes and altitude regions. For example, in the desert region, 1 out of 60 molluscs distributed among plants under trees in gardens is infected with larvae, and the infestation is equal to 1.66%, while in those living among vegetation in undeveloped areas near water bodies, the infestation is equal to 12.30%, in the hilly region, the same and in such a biotope, this indicator is 13.33%. In the mountain region, 1 out of 60-65 molluscs is affected, equal to 1.53%, 1.66%.

Table 2

Distribution of the species C. lavenderi by altitude regions and biotopes and infestation level by helminth larvae

Researched biotopes and the population density of molluscs in them	Altitude regions								
	Desert			Hill			Mountain		
	Total studied	Damaged	IE %	Total studied	Damaged	IE %	Total studied	Damaged	IE %
Between the grass on the banks of the ditch (7-8 per 1m2)	55	3	5,45	-	-	-	-		-

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Between plants under trees in gardens (5-6 per 1m2)	60	1	1,66	-	-	-	-		-
Vegetation cover in undeveloped areas near water bodies (10-12 per 1m2)	65	8	12,3	-	-	-	-		-
Slopes with semi-shrub plants (8-9 per 1m2)	-	-	-	60	4	6,66	-		-
Between grasses and under piles of stones in lands near water bodies (13-15 per 1m2)	-	-	-	60	8	13,33	-		-
Between shrubs and trees (12-14 per 1m2)	-	-	-	-	-	-	65	1	1,53

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Under stones between grasses (10-12 per 1m2)	-	-	-	-	-	-	60	1	1,66

According to the results of the research, the high level of invasion of land molluscs distributed in biotopes with helminth larvae depends on the density of the mollusc population based on the characteristics of the biotope and its microclimate. For example, in the desert region under the vegetation cover of undeveloped areas near water bodies or in such a biotope in the hilly region, the population density of molluscs is high (12-15 molluscs per 1 m2), and the level of infestation with helminth larvae is 12.30% to 13.33%. constitutes

Therefore, the higher the density of molluscs in the population, the higher the level of infestation with helminth larvae.

However, in the mountain region of the Kohitang mountain range, the population density of molluscs is high, but the invasion rate is low (Table 2). This is due to the fact that the research area in the mountain region is in the Vandob section of the Surkhan State Reserve, and the use of these lands as pasture is prohibited. This situation results in less contact between the mollusc and the larva, and accordingly infestation may be lower.

According to the results of the conducted research, slugs cause great damage to strawberries, cabbage, tomatoes, cucumbers, sprouts of all polys and vegetable crops, legumes, grain crops, winter wheat and barley, including D. reticulatum species to a significant extent to cucumber sprouts and fruits. will cause damage.

It was found that the level of mollusk damage to plants is directly related to air temperature, humidity and their density in the population.

The high level of infestation of land molluscs with helminth larvae depends on the density of the mollusk in the population based on the nature of the biotope and its microclimate, that is, the higher the density in the population, the higher the level of infestation of the mollusk with helminth larvae.

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