

# SOIL NEMATODE FAUNA OF MOUNTAINS AGROECOSYSTEMS OF KHULO (AJARA, GEORGIA)

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## Introduction

Potato growing has always been the subject of great importance for settlement of food supply problems in Georgia.

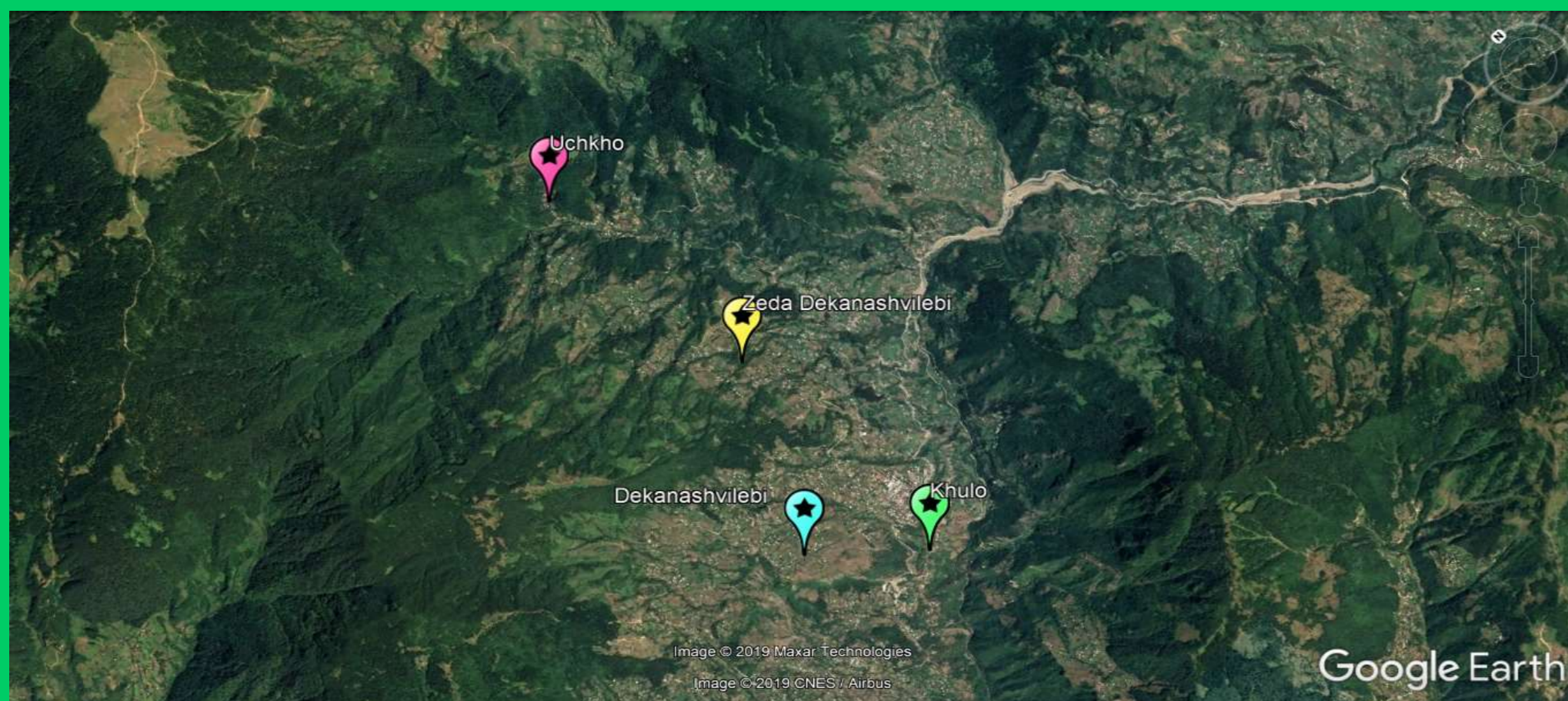
The aim of this study was to determine the prevalence of plant parasitic nematodes in Khulo, which are largest potato growing area in Ajara.

Such researches are conducted for the first time in this territory.

Khulo municipality is located in south-west Georgia, in A/R of Adjara, 88 km east of the regional capital Batumi. The Khulo municipality is bordered by Turkey on the South, Shuakhevi on the West, the Ozurgeti municipality on the Northwest, the Chokhatauri municipality on the North and the Adigeni municipality on the East. The territory of the municipality is mountainous and is spread 400-3007 m. above the sea level

## Materials and Method

Most of the farmers in Khulo municipality have agriculture land plot of in size range of 0.5-1ha. Average land size cultivated in Khulo is 0.19<sup>11</sup> ha. Seven agroecosis in the villages **Okropiridzeebi, Dekanashvilebi and Uchkho** were selected, each of 5a.



The 3 composite sample collected from each field (weighing 300-500g) consisted of 50 individual sub-samples of soil and roots. Extraction of nematodes from soil and root sample was done using modified extraction tray method and modified maceration extraction technique respectively. Extracted nematodes were enumerated, identified to species level and their frequencies of occurrence and abundance determined

Uchkho (site1)



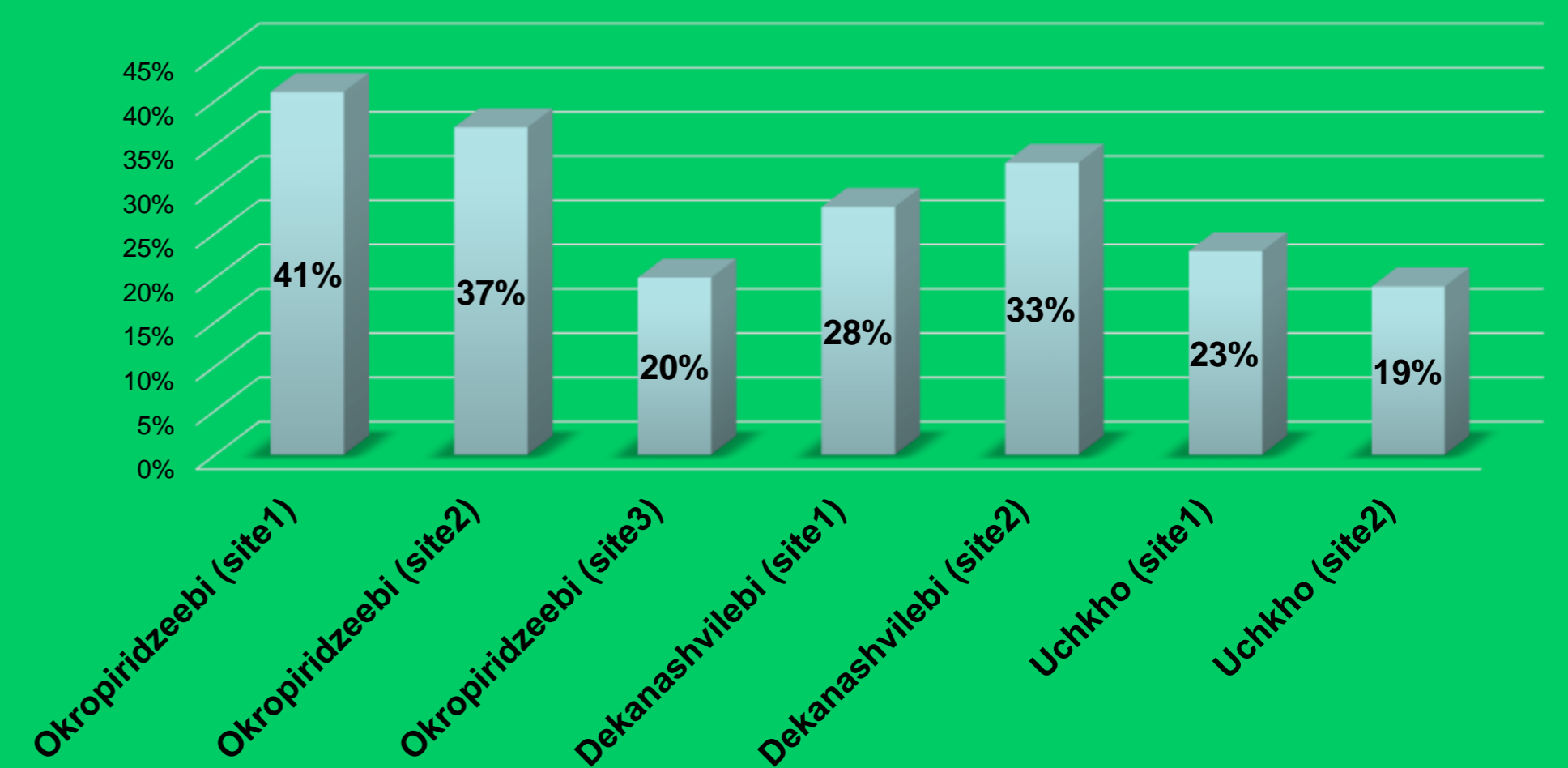
Okropiridzeebi (site 3)



## Results

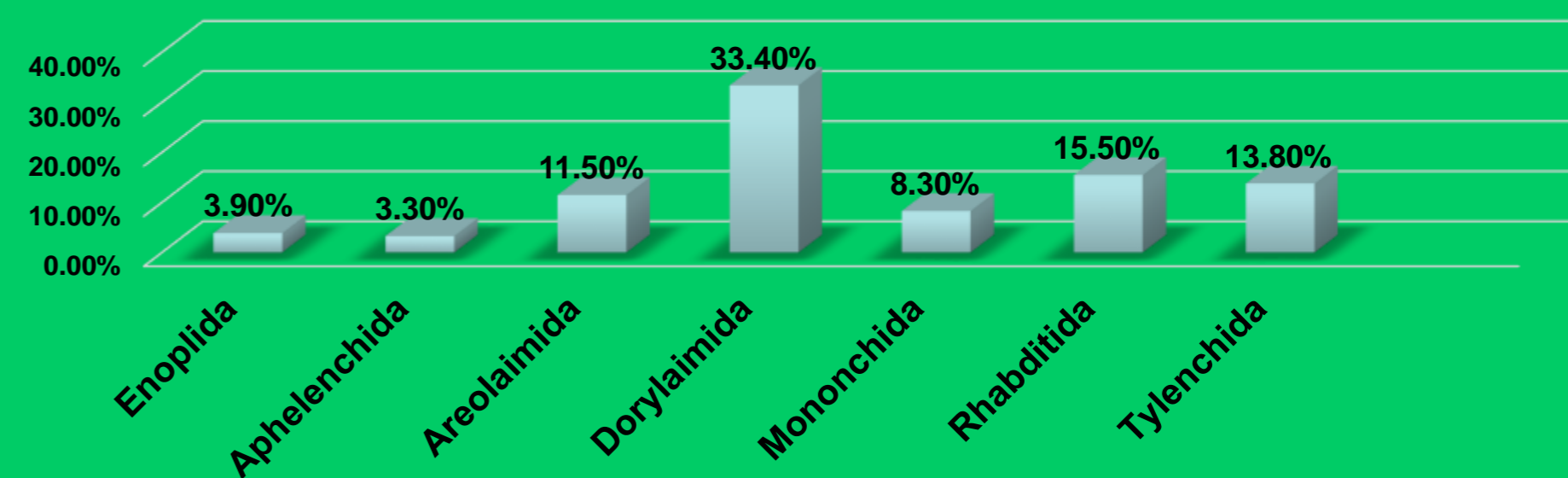
Plant-parasitic nematodes from 6 genera (*Helicotylenchus*, *Xiphinema*, *Ditylenchus*, *Tylenchorinchus*, *Tylenchus* and *Aphelenchus*) were found in soil and (or) potato root samples. Invasive species *Ditylenchus destructor* was the most prevalent and abundant plant-parasitic nematode in studied ecosystems. The highest rate of its number 41% is established in village **Okropiridzeebi** (sites I) and the lowest 19% in village **Uchkho**.

ABUDANCE OF DITYLENCHUS DESTRUCTOR ON SITES



During the research process in the studied ecosystems there were registered 97 forms of free-living and phyto-parasitic nematodes, from which 62 forms are determined as species. The registered nematodes belong to 2 subclasses, 7 orders (*Enoplida*, *Areolaimida*, *Dorylaimida*, *Mononchida*, *Rhabditida*, *Tylenchida*, *Aphelenchida*) 51 genus and 29 families.

SPECIES NUMBER, %



The largest abundance of nematodes was observed in village Okropiridzeebi (N41.3856; E42.827) – 115 specimens/ 50g soil and the smallest was in Dekanashvilebi (N41.3906, E42.1757) - 37 specimens/50g

Dekanashvilebi (site2)



The results of this survey revealed the significant prevalence of plant parasitic nematodes in Khulo potato growing areas. It is necessary to give more attention to agrotechnical actions, reducing danger of infection of a potato

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