

BROOMRAPE IN SERBIA

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INTRODUCTION

Broomrape (*Orobanche cumana*) is a continuous threat to sunflower production. Widely used method to control this parasitic plant is development of resistant hybrids. The control method requires knowledge of parasite virulence present in particular region.

MATERIAL METHODS

In this research over 200 sunflower fields was survey for the presence of parasite. Broomrape plants were collected, air dried and labeled. Parasite virulence was determined using inbred lines AD-66, LC1002, LC1003, LC1093, NR5 and P96, to identify race type based on the reaction of sunflower to broomrape. Experiments were conducted in semicontrolled greenhouse conditions by growing differential lines in pots containing substrate with broomrape seeds. Reaction of each line was determined based on broomrape presence on host root.

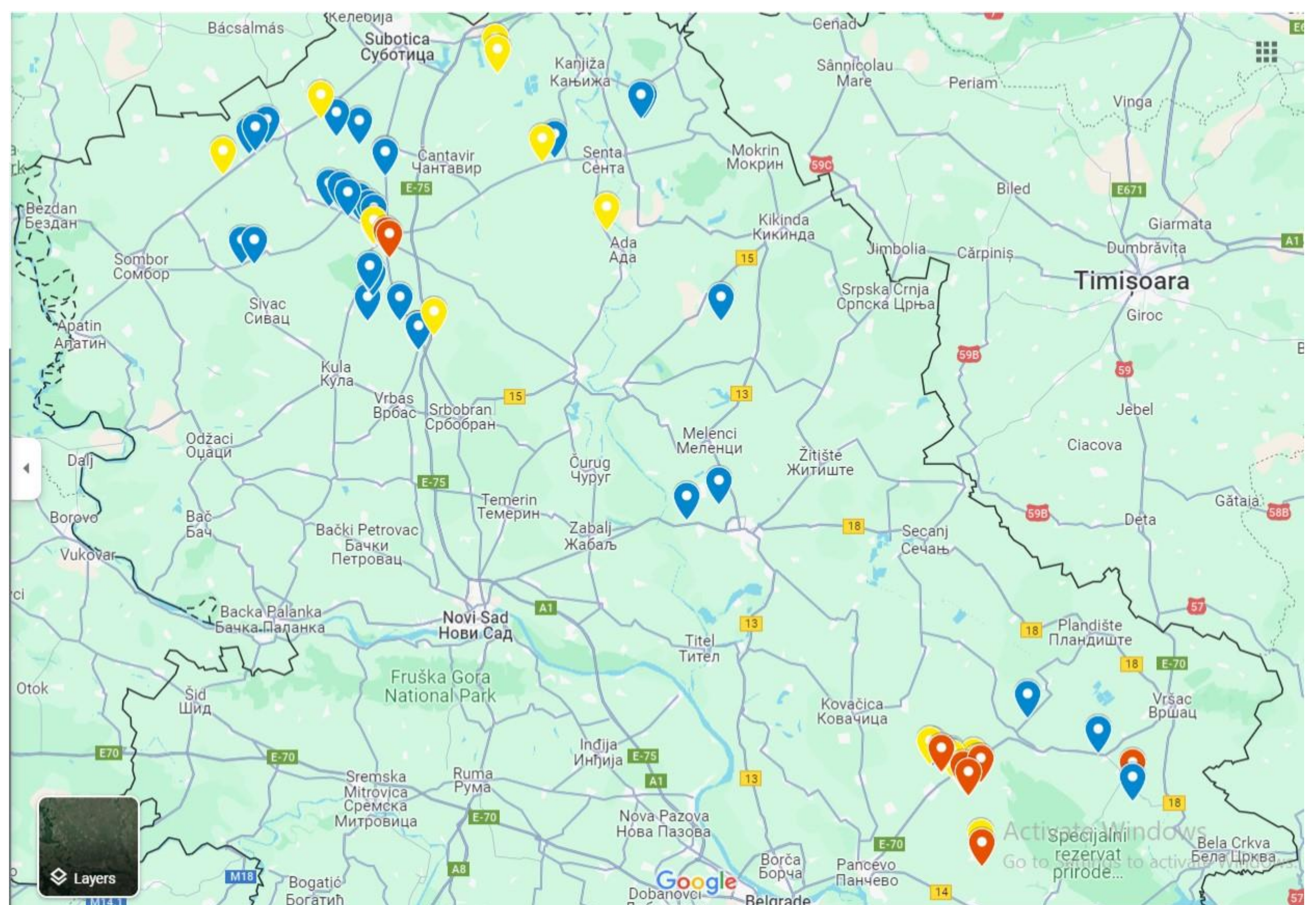


Fig 1. Distribution of sunflower broomrape virulence with race E or less (blue mark), race F (yellow mark) and race G (red mark), in Serbia, Vojvodina province.

RESULTS AND DISCUSSION

Broomrape was found in 88 sunflower fields. In majority of surveyed fields, parasite was found sparsely ranging from few individuals to small patches of infested sunflower plants. Results have confirmed presence of race F based on susceptibility of line NR5 and indicated presence of race G based on susceptibility of line P96. Majority of samples with highest virulence are grouped in one location and two samples were identified as race G on other locations. More than half samples were identified as race E or virulence lower than race E.

Based on this research broomrape in Serbia is concentrated in two sunflower growing regions with virulence structure dominated with races E or lower. Further research will include increased number of genotypes to assess variability in broomrape virulence and confirm the race G presence, and experiments for genetic diversity determination of parasitic populations of various geographical origin.