

Morphology of *Paratylenchus projectus* and its host plant spectrum in widely cultivated crops of Germany

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Paratylenchus projectus did achieve little attention in the past due to their minor economical importance. However, the high numbers of *P. projectus* reported recently initiated further research on this species. *P. projectus* was reported as an ecto-parasite of pasture grasses, cereals, soybean etc., but little is known about its host status on other crops. In this study we described the morphological characteristics of *P. projectus* and its host spectrum among widely cultivated crops in Germany. This work will provide information on the different developmental stages within a suspension and its possible role in parasitizing process. Besides, the host spectrum test will improve our understanding on the damage potential of *P. projectus*.

P. projectus was originally isolated from a potato field in Neu-Eichenberg near Witzenhausen, Germany, and maintained on ryegrass (*Lolium annuum*) in the greenhouse. Nematodes were extracted by the modified Baermann technique. The nematode suspension was examined under the microscope distinguishing among second-stage (J2), third-stage (J3), and fourth-stage juveniles (J4) plus female. Twelve crops were selected for the host spectrum test: potato (*Solanum tuberosum* cv. Desiree); tomato (*Solanum lycopersicum* cv. Moneymaker); bell pepper (*Capsicum annuum* cv. Yolo wonder); wheat (*Triticum aestivum*

cv. Ozon); maize (*Zea mays* cv. Ronaldino); celery (*Apium graveolens* cv. Balena); carrot (*Daucus carota* cv. Bole-ro); soybean (*Glycine max* cv. Custer); pea (*Pisum sativum* cv. Grandera); parsley (*Petroselinum crispum* cv. Halblange); *Beta maritima* and cucumber (*Cucumis sativus* cv. Centrido). Each crop had 10 replicates and each pot was inoculated with 100 *P. projectus*/100 ml soil. After 9 weeks, the experiment was terminated and number of *P. projectus* determined.

P. projectus is a small nematode with a long stylet. The vulva is located in the posterior, head conical, tail broadly conoid. The J2 and J3 of *P. projectus* differ from the female by their smaller body size and the absence of vulva. The J4 is strikingly different with other stages, i.e. the stylet is reduced, short and slender, and the valve of median bulb is much less refractive.

The host spectrum test showed that only soybean is a good host for *P. projectus* with a multiplication rate of 2.76. *Beta maritima* and cucumber also allowed reproduction of *P. projectus* with multiplication rate of 1.58 and 1.38, respectively. All other crops caused a reduction in *P. projectus* numbers, which makes them non-hosts for *P. projectus*.