

UK pest status report¹ for *Radopholus similis*

Field	Detail
Pest species name	<p><i>Radopholus similis</i> (Cobb, 1893) Thorne, 1949</p> <p>Sub-species:</p> <p><i>Radopholus similis similis</i> (Cobb, 1893) Thorne, 1949 (Siddiqi, 1986)</p> <p><i>Radopholus similis citrophilus</i> Huettel, Dickson & Kaplan, 1984 (Siddiqi, 1986) (= citrus race of <i>R. similis</i>)</p>
Pest taxon (order, family)	Tylenchida: Pratylenchidae
Synonyms	<p><i>Tylenchus similis</i> Cobb, 1893</p> <p><i>Anguillulina similis</i> (Cobb) Goodey, 1932</p> <p><i>Rotylenchus similis</i> (Cobb) Filipjev, 1936</p> <p><i>Tylenchus granulosus</i> Cobb, 1893 (= senior synonym)</p> <p><i>Anguillulina granulosa</i> (Cobb) Goodey, 1932</p> <p><i>Tetylenchus granulosus</i> (Cobb) Filipjev, 1936</p> <p><i>Radopholus granulosus</i> (Cobb) Siddiqi, 1986</p> <p><i>Tylenchus acutocaudatus</i> Zimmermann, 1898</p> <p><i>Anguillulina acutocaudata</i> (Zimmermann) Goodey, 1932</p> <p><i>Tylenchorhynchus acutocaudatus</i> (Zimmermann) Filipjev, 1934</p> <p><i>Radopholus acutocaudatus</i> (Zimmermann) Siddiqi, 1986</p> <p><i>Tylenchus biformis</i> Cobb, 1909</p> <p><i>Anguillulina biformis</i> (Cobb) Goodey, 1932</p> <p><i>Radopholus biformis</i> (Cobb) Siddiqi, 1986</p> <p><i>Radopholus similis similis</i> Cobb, 1893 (Siddiqi, 1986)</p> <p><i>Radopholus citrophilus</i> Huettel, Dickson & Kaplan, 1984</p> <p><i>Radopholus similis citrophilus</i> Huettel, Dickson & Kaplan, 1984 (Siddiqi, 1986)</p>
Pest common name	<p>Burrowing nematode</p> <p>Banana root nematode</p> <p>Banana toppling disease nematode</p> <p>Black head disease of banana</p>

¹ International Standard for Phytosanitary Measures (ISPM) 8 Determination of pest status in an area

	<p>Citrus burrowing nematode Nematode root rot Spreading decline of citrus</p>
Regulatory status	Unregulated
Pest status in UK (as per ISPM 8)	<p>Absent, intercepted only.</p> <p>Note: there is a single eradication record from the UK due to a glasshouse finding in a botanical garden, in association with an imported banana plant. Action was taken on this finding, and both the container grown plant and soil were removed and destroyed.</p>
Global distribution	<p>Native to Australasia, however, this species is found worldwide in tropical and subtropical regions of Africa, Asia, Australia, North and South America, and many island regions.</p> <p><i>Radopholus similis</i> has two recognised sub-species <i>Radophilus similis citrophilus</i> and <i>Radophilus similis similis</i> (Siddiqi, 2000). <i>Radophilus similis citrophilus</i> has a much narrower distribution than <i>R. similis similis</i> and is not present in Europe. <i>R. similis similis</i> has been recorded in four EU member states (Belgium, France, Italy and the Netherlands), and only under protected cultivation on ornamental plants.</p> <p>In Europe, <i>R. similis</i> is reported as present, restricted distribution in France, Italy and the Netherlands. This species is reported as absent, eradicated in Belgium and Germany (CPC, 2021).</p> <p>For full distribution see EPPO Global database (2021) https://gd.eppo.int/taxon/RADOSI/distribution</p>
Main hosts	<p><i>Radopholus similis</i> has two recognised sub-species <i>Radophilus similis citrophilus</i> and <i>Radophilus similis similis</i> (Siddiqi, 2000), which have as their main hosts <i>Citrus</i> and <i>Musa</i> respectively, although both subspecies can be associated with a range of ornamentals (EFSA, 2017).</p>
Likelihood for establishment in UK	<p><i>Radopholus similis</i> has a temperature dependant reproductive rate with an optimal range for multiplication of 24–32°C (EFSA, 2017). <i>R. similis</i> is sensitive to low temperatures and generally does not reproduce below 16–17°C (EFSA, 2017). There have been no reports of outdoor populations of <i>R. similis</i> in the EU or the UK. Due to unsuitable environmental conditions (too low temperatures),</p>

	<p>establishment of <i>R. similis</i> outdoors in the EU temperate regions (including the UK) is deemed to be unlikely (EFSA, 2017). EFSA (2017) considered that locations such as A Coruña in northern Spain would not be warm enough for <i>R. similis</i> to establish. A Coruña is warmer (mean annual temp 15°C) than the warmest locations in the UK (the mean annual temp in London is reported to be 11°C). Pinochet <i>et al.</i> (1995) concluded that the winter temperatures on the Canary Islands between December and April have prevented the establishment of <i>R. similis</i> in banana crops. The mean monthly minimum temperature in the coldest month in the Canary Islands is around 12°C higher than that of the warmest location in the UK (15°C in Tenerife vs 3°C in London – UK Met Office data) (EFSA, 2017). The climate in the UK is therefore considered to be unsuitable for outdoor establishment of this nematode.</p>
Report files	None (link to this report pdf)
Website(s)	<p>https://planthealthportal.defra.gov.uk/</p> <p>https://www.ippc.int/en/countries/united-kingdom/eventreporting/2021/12/uk-pest-status-report-for-radopholus-similis/</p> <p>https://gd.eppo.int/taxon/RADOSI/distribution</p> <p>http://nematodesuk.fera.defra.gov.uk/searchListResult.cfm</p>

References

CABI CPC (2021) Accessed 26/10/2021 <https://www.cabi.org/cpc/datasheet/46685>

EFSA Plant Health Panel (2017)

<https://efsa.onlinelibrary.wiley.com/doi/full/10.2903/j.efsa.2017.4879>

EPPO Global database (2021) Accessed 26/10/2021

<https://gd.eppo.int/taxon/RADOSI/distribution>

Nematode checklist (2017) Accessed 26/10/2021

<http://nematodesuk.fera.defra.gov.uk/searchListResult.cfm>

Nickle, W.R. (ed.), 2020. *Manual of agricultural nematology*. CRC Press.

Perry, R.N. and Moens, M. (eds.), 2006. *Plant nematology*. CABI

Pinochet, J., C. Fernandez, and J. L. Sarah. 1995. "Influence of temperature on in-vitro reproduction of *Pratylenchus coffeae*, *P. goodeyi*, and *Radopholus-similis*." *Fundamental and applied nematology* 18 (4):391-392.

Siddiqi, M.R., 2000. *Tylenchida: parasites of plants and insects*. CABI.

UK Plant Health Risk Register (2021) Accessed 26/10/2021

<https://secure.fera.defra.gov.uk/phiw/riskRegister/viewPestRisks.cfm?cslref=21766&riskId=21766>