**UK pest status report[[1]](#footnote-1) for** *Radopholus similis*

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| --- | --- |
| Field | Detail |
| Pest species name | *Radopholus similis* (Cobb, 1893) Thorne, 1949  Sub-species:  *Radopholus similis similis* (Cobb, 1893) Thorne, 1949 (Siddiqi, 1986)  *Radopholus similis citrophilus* Huettel, Dickson & Kaplan, 1984 (Siddiqi, 1986) (= citrus race of *R. similis*) |
| Pest taxon (order, family) | Tylenchida: Pratylenchidae |
| Synonyms | *Tylenchus similis* Cobb, 1893  *Anguillulina similis* (Cobb) Goodey, 1932  *Rotylenchus similis* (Cobb) Filipjev, 1936  *Tylenchus granulosus* Cobb, 1893 (= senior synonym)  *Anguillulina granulosa* (Cobb) Goodey, 1932  *Tetylenchus granulosus* (Cobb) Filipjev, 1936  *Radopholus granulosus* (Cobb) Siddiqi, 1986  *Tylenchus acutocaudatus* Zimmermann, 1898  *Anguillulina acutocaudata* (Zimmermann) Goodey, 1932  *Tylenchorhynchus acutocaudatus* (Zimmermann) Filipjev, 1934  *Radopholus acutocaudatus* (Zimmermann) Siddiqi, 1986  *Tylenchus biformis* Cobb, 1909  *Anguillulina biformis* (Cobb) Goodey, 1932  *Radopholus biformis* (Cobb) Siddiqi, 1986  *Radopholus similis similis* Cobb, 1893 (Siddiqi, 1986)  *Radopholus citrophilus* Huettel, Dickson & Kaplan, 1984  *Radopholus similis citrophilus* Huettel, Dickson & Kaplan, 1984 (Siddiqi, 1986) |
| Pest common name | Burrowing nematode  Banana root nematode  Banana toppling disease nematode  Black head disease of banana  Citrus burrowing nematode  Nematode root rot  Spreading decline of citrus |
| Regulatory status | Unregulated |
| Pest status in UK (as per ISPM 8) | Absent, intercepted only.  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. |
| Global distribution | 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.  *Radopholus similis* has two recognised sub-species *Radophilus* *similis citrophilus* and *Radophilus similis similis* (Siddiqi, 2000). *Radophilus similis citrophilus* has a much narrower distribution than *R. similis similis* and is not present in Europe. *R. similis similis* has been recorded in four EU member states (Belgium, France, Italy and the Netherlands), and only under protected cultivation on ornamental plants.  In Europe, *R. similis* 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).  For full distribution see EPPO Global database (2021) <https://gd.eppo.int/taxon/RADOSI/distribution> |
| Main hosts | *Radopholus similis* has two recognised sub-species *Radophilus* *similis citrophilus* and *Radophilus similis similis* (Siddiqi, 2000), which have as their main hosts *Citrus* and *Musa* respectively, although both subspecies can be associated with a range of ornamentals (EFSA, 2017). |
| Likelihood for establishment in UK | *Radopholus similis* has a temperature dependant reproductive rate with an optimal range for multiplication of 24–32°C (EFSA, 2017). *R. similis* 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 *R. similis* in the EU or the UK. Due to unsuitable environmental conditions (too low temperatures), establishment of *R. similis* 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 *R. similis* 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 *et al.* (1995) concluded that the winter temperatures on the Canary Islands between December and April have prevented the establishment of *R. similis* 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. |
| Report files | None (link to this report pdf) |
| Website(s) | <https://planthealthportal.defra.gov.uk/>  <https://www.ippc.int/en/countries/united-kingdom/eventreporting>  <https://gd.eppo.int/taxon/RADOSI/distribution>  <http://nematodesuk.fera.defra.gov.uk/searchListResult.cfm> |
| Report author | T. Prior, Fera Science Ltd., October 2021 |
| *Sharepoint link (to be completed by Defra)* |  |

**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>

***Useful resources:***

* *UK pest status reports are uploaded on our* [*country profile page*](https://www.ippc.int/en/countries/united-kingdom/pestreports/) *on the International Phytosanitary Portal (IPP)*
* [*The IPPC Pest Status Guide*](https://www.fao.org/3/cb6103en/cb6103en.pdf): Understanding the principal requirements for pest status determination

***Before uploading the report:*** *Delete sections and text which are in italics (other than species and host names) and footnotes. The report will be uploaded by Defra.*

1. [International Standard for Phytosanitary Measures (ISPM) 8 Determination of pest status in an area](https://www.fao.org/3/x2968e/x2968e.pdf) [↑](#footnote-ref-1)