THREE NEW SPECIES OF PRATYLENCHUS WITH A REDESCRIPTION OF P. ANDINUS LORDELLO, ZAMITH & BOOCK, 1961 (NEMATODA: PRATYLENCHIDAE)

BY

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P. andinus is redescribed from one of two species found at the type locality. It has a head with 3 annules, 4 incisures in the lateral field, vulva at 78-81% and a broadly rounded smooth tail. P. bolivianus n.sp. found on oats and potatoes in Bolivia is a unisexual species with 3 head annules, V at 80-82%, stylet 17-20µm and a subacute, smooth rounded tail. P. wescolagricus n.sp. is described from Cordyline sp. from glasshouses in Scotland. It usually has 4 head annules, V at 79-82%, stylet 17-19µm and a subacute, smooth rounded tail tip; males were not found. P. mediterraneus n.sp. from Israel commonly has males, 3 head annules, vulva at 77-80% and stylet 14-16µm: female tail tip is smooth and broadly rounded to truncate, sometimes notched.

Keywords: taxonomy, descriptions, root-lesion nematodes.

Pratylenchus andinus was originally described by Lordello et al. (1961). None of the material used in preparing the description was mounted permanently, and although some material from which the original description of P. andinus was made had been preserved, no recognisable Pratylenchus species was recovered from it. Potato roots, the type host, and soil I collected from the type locality of P. andinus (Koari Farm, Cochabamba Valley, Bolivia) contained two species of Pratylenchus. One of the species has a broadly rounded tail similar to the 'blunt' tail of Lordello et al.'s description and illustration of P. andinus; the other species has a conical, more narrowly rounded tail unlike the illustration.

No scale was given on the drawings by Lordello et al., so a scale was derived from the spear and the tail, and a range of measurements calculated and compared with those given in the published description. The calculated measurements differ from those given in Lordello et al. (1961) (Table 1). However, one of the two species is closer than the other to the measurements given or calculated for P. andinus, and as it also has the same, broadly rounded or blunt tail it is identified as P. andinus. The second, undescribed, species is named P. bolivianus and was also found at another locality in Bolivia which is chosen as the type locality to avoid confusion. A third species is described from diseased plant material sent by Mr. R. M. Stewart of the West of Scotland

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Table I

Measurements of P. andinus Lordello et al., 1961 compared with those of 2 species found at type locality

<table>
<thead>
<tr>
<th>Author's measurements</th>
<th>Calculated from drawing</th>
<th>P. sp. 1</th>
<th>P. sp. 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (μm)</td>
<td></td>
<td>Blunt tail</td>
<td>Narrow tail</td>
</tr>
<tr>
<td>Lordello et al., 1961</td>
<td>535-558</td>
<td>481-596</td>
<td>531-629</td>
</tr>
<tr>
<td></td>
<td>(535-558)</td>
<td>15.2-17.3</td>
<td>17.4-20.1</td>
</tr>
<tr>
<td>Stylet (μm)</td>
<td>16.8-18.3</td>
<td>23.0-30.3</td>
<td>27.5-38.0</td>
</tr>
<tr>
<td></td>
<td>(16.8-18.3)</td>
<td>71.8-89.4</td>
<td>76.4-88.4</td>
</tr>
</tbody>
</table>
| Tail (μm)             | 19.2-20.0               | 21.2-23.2 | 24-33
|                       | (19.2-20.0)             |           | 26-29
| V-anus (μm)           | 75.0-79.5               | 21.2-23.2 | 24-33
|                       | (77.2-84.2)             |           | 26-29
| a                     | 21.5-22.0               | 21.2-23.2 | 24-33
|                       | (18.5-21.1)             |           | 26-29
| b                     | 7.0-7.4                 |           | 5.7-8.0
|                       | (6.7-7.0)               |           | 3.9-5.9
| c                     | 27.0-28.3               |           | 17.0-21.5
|                       | (23.3-26.4)             |           | 16.2-20.9
| V                     | 81.4-85.4               |           | 17.6-23.4
| max width (μm)        | 24.5-26.0               | 21.2-23.2 | 18.8-23.4
|                       | (26.5-28.9)             |           | 18.8-23.4

Calculated from author's measurements and derived data

| Head-vulva (μm)       | 436-464                 | 446-465   | 436-516  |
|                       | 437-451                 | 385-457   | 436-516  |
| V                     | 78-86                   | 78-84     | 78-81    |
| Vulva-tail (μm)       | 94-99                   | 89-93     | 72-89    |
| V-anus/tail           | 3.7-4.1                 | 3.5-3.8   | 2.5-3.4  |

College of Agriculture, Auchincruive, Ayr and is named P. wescolagricus. A fourth species, P. mediterraneus is described from material of Trifolium alexandrinum sent by Dr. D. Orion of the Volcani Centre, Israel.

Materials and Methods

All nematodes described in this study were cultured on lucerne callus agar (Krusberg & Blickenstaff, 1964) or excised maize roots in agar (Mountain, 1955). They were killed by gentle heat then fixed in TAF (Courtney et al., 1955) or 4% formalin, stained in lactophenol-cotton blue and processed to glycerine by Baker's method (Baker, 1953). Techniques used for the SEM photographs are described in Corbett & Clark, 1983.

Descriptions

Pratylenchus andinus Lordello, Zamith & Boock, 1961
(Fig. 1 A-G: 5 A, B)

Neotype ♂ L = 525μm; a = 22; b = 7.0; b1 = 4.6; c = 15; V = 78; stylet = 16μm; excretory pore from head = 78μm.

Neoparatypes 15 ♂ Q L = 521 (481-596)μm; a = 26 (24-33); b = 6.7 (5.7-8.0); b1 = 4.4 (3.5-5.1); c = 19 (17-22); V = 79 (78-81); stylet = 16 (15-17)μm; excretory pore to head = 80 (65-93)μm.