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*Istituto di Nematologia Agraria, C.N.R. - 70126 Bari, Italy*
*and*
*Plant Pathology Division M.A.F.N.R., Reduit, Mauritius*

# *PARALONGIDORUS BUCHAE*, A NEW LONGIDORIDAE SPECIES ASSOCIATED WITH DECLINING CHILLI IN MAURITIUS

by
F. LAMBERTI, F. ROCA and M. CHINAPPEN

During a survey of plant parasitic nematodes in Mauritius an undescribed species of *Paralongidorus* Siddiqi, Hooper and Khan, 1964 was found. As it was present in large numbers (300-400 specimens/0.5 l of soil) in association with declining chilli (*Capsicum annuum* L.) (Fig. 1) and other vegetable crops and is the first *Para-*

Fig. 1 - Declining chilli plants associated with *Paralongidorus buchae*.

*longidorus* species reported from Mauritius, it is described here as *P. buchae*, in honour of the Acting-Head of the Plant Pathology Division (Mr. J. Bucha).

Nematodes were extracted from soil samples by the Cobb wet sieve technique, killed and fixed in 2% hot formalin and mounted in glycerin on nematology slides by the slow method. Specimens were measured with the aid of a camera lucida.

## *PARALONGIDORUS BUCHAE* sp. n. (Fig. 2 - Tab. I)

*Holotype female*: L = 5.8 mm; a = 127; b = 11.6; c = 189; c' = 0.9; V = 43; odontostyle = 122 μm; odontophore = 75 μm; oral aperture to guiding ring = 33 μm; tail = 30 μm; J = 11 μm; body diam at lip region = 17 μm; body diam at guiding ring = 26 μm; body diam at base of oesophagus = 41 μm; body diam at vulva = 45 μm; body diam at anus = 33 μm; body diam at beginning of J = 23 μm.

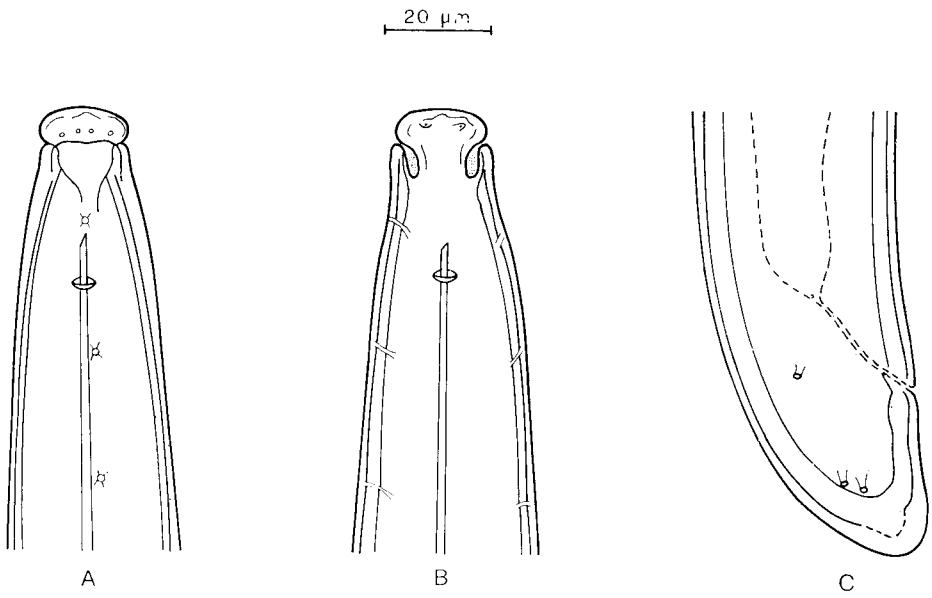


Fig. 2 - *Paralongidorus buchae* sp. n.: A, anterior region in lateral view; B, anterior region in dorso-ventral view; C, posterior region.

Table I - *Morphometrics of* Paralongidorus buchae *sp. n. (paratypes).*

| | Range (means ± standard deviation) |
|---|---|
| n | 30 ♀♀ |
| L mm | 4.8– 7.0 (5.9± 0.49) |
| a | 109 –143 (125 ± 7.52) |
| b | 10.8– 15.0 (12.7± 0.98) |
| c | 149 –249 (214 ±23.63) |
| c' | 0.7– 1.0 (0.9± 0.057) |
| V | 41 – 45 (43 ± 1.07) |
| Odontostyle μm | 114 –124 (118 ± 2.47) |
| Odontophore μm | 51 – 77 (68 ± 6.2) |
| Oral aperture to guiding ring μm | 29 – 35 (32 ± 1.21) |
| Tail μm | 24 – 36 (28 ± 2.23) |
| J μm | 8 – 12 (10 ± 0.83) |
| Body diam at lip region μm | 15 – 18 (16 ± 0.63) |
| Body diam at guiding ring μm | 23 – 27 (25 ± 1.01) |
| Body diam at base of oesophagus μm | 37 – 45 (41 ± 1.75) |
| Body diam at vulva μm | 43 – 51 (47 ± 2.23) |
| Body diam at anus μm | 29 – 36 (31 ± 1.44) |
| Body diam at beginning of J μm | 17 – 23 (20 ± 1.46) |

*Description*: female habitus when dead coiled in a more or less open C; body moderately robust, cylindrical, tapering very gradually toward the extremities; lateral pores numerous along the body; cuticle smooth 1.5-2 μm thick along body, more thickened just behind the lip region and in the vulval region, 3-3.5 μm, and in the caudal region where it is 4-5 μm in the post-anal portion; labial region 7 μm high, clearly offset from rest of body by a deep incisure, slightly expanded, compared with the post labial region, and broadly rounded anteriorly; amphidial pouches stirrup shaped with wide apertures; odontostyle, odontophore and guiding sheath typical of the genus; oesophagus dorylaimoid with basal bulb occupying between one third and one fourth of the oesophagus total length, measuring 110-120 μm long and 24-28 μm wide; oesophago-intestinal valve conspicuous, heart shaped; vulva slit-like, slightly anterior to mid body (43%); vagina occupying between one half and two thirds of the corresponding body diameter; gonads amphidelphic, reflexed, with 110-150 μm long uteri, separated from the oviduct by a robust sphincter; prerectum over 400 μm long, rectum extending almost two thirds body width at anus; tail conoid, dorsally convex, with rounded terminus, bearing three pairs of caudal pores.

*Male*: not found.

*Type habitat and locality*: rhizosphere of chilli, *Caspicum annuum* L., on the sands of Belle Mare, Mauritius, East Africa.

*Type material*: holotype, and 24 paratype females, in the collection of the Istituto di Nematologia Agraria del Consiglio Nazionale delle Ricerche, Bari, Italy; 3 paratype females, Nematology Department Rothamsted Experimental Station, Harpenden, Herts, U. K.; 3 paratype females, Plant Nematology Laboratory Collection, United States Department of Agriculture, Beltsville, Maryland, U.S.A.

*Differential diagnosis*: *Paralongidorus buchae* sp. n. is similar to *P. citri* (Siddiqi, 1959) Siddiqi, Hooper and Khan, 1964, *P. georgensis* (Tulaganov, 1937) Siddiqi, 1965 and *P. indicus* Phukan *et* Sanwal, 1982. It differs from the first in having a shorter (L = 6.7-7.4 μm in *P. citri*) and less robust (a = 183-197 in *P. citri*) body, a shorter odontostyle (128-139 μm in *P. citri*) and a lower labial region; from *P. georgensis* in having a more slender body, a shorter odontostyle (128-134 μm in *P. georgensis*), a more anteriorly located guiding ring (35 μm in *P. georgensis*) and a more pointed tail (Aboul-Eid, 1970) and from *P. indicus* for having a longer odontostyle (103-105 μm in *P. indicus*) and an anterior vulva (48-49 in *P. indicus*).


## SUMMARY

*Paralongidorus buchae* sp. n. found associated with declining chilli and other vegetable crops in Mauritius is described. This species is similar to *P. citri* (Siddiqi, 1959) Siddiqi, Hooper and Khan, 1964 from which it differs in its smaller size, shorter odontostyle and lower labial region, to *P. georgensis* (Tulaganov, 1937) Siddiqi, 1965 from which it differs in its more slender body, shorter odontostyle and anteriorly located guiding ring and more pointed tail, and to *P. indicus* Phukan *et* Sanwal, 1982 from which it differs in its longer odontostyle and anterior vulva. This is the first species within the genus reported from Mauritius.


## LITERATURE CITED


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