

## FIRST RECORD OF *HIRSCHMANNIELLA CARIBBEANA* (NEMATODA, PRATYLENCHIDAE) IN CHINA AND A NEW HOST

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**Summary.** In a survey of nematodes parasitic on rice in China, specimens of *Hirschmanniella caribbeana* Berg et Quénéhervé, 2000 were collected for the first time in China. Rice (*Oryza sativa* L.) is reported as a new host for *H. caribbeana*.

China is one of the main rice producers in the world. In China, rice root nematodes belonging to the genus *Hirschmanniella* often occur in numbers well above the damaging threshold and cause yield reduction of 7 to 15 per cent (Feng, 2000). Sixteen species of *Hirschmanniella* have been reported on rice in 17 provinces (Liao *et al.*, 2000).

In 2001-2003, a survey of nematodes parasitic on rice was carried out in the Guangdong province. A sample collected in October 2001 from rice (*Oryza sativa* L.) roots, in Lechang county, contained a few specimens of a *Hirschmanniella* species that was identified as *H. caribbeana* Berg et Quénéhervé, 2000.

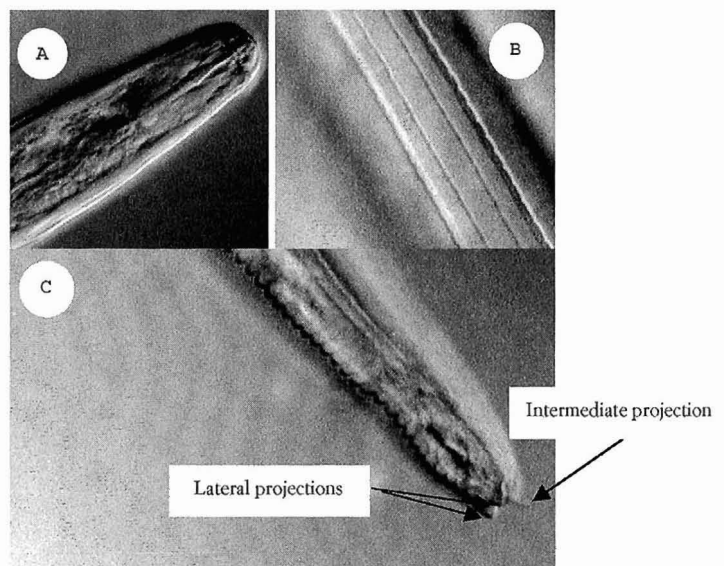
*Hirschmanniella* specimens were extracted with the Baermann funnel method from comminuted rice roots. Nematodes were killed by gentle heat, fixed in TAF for about 24 h, processed to anhydrous glycerol and then measured and photographed with a light microscope. Morphological observations were made on both living and fixed material.

Only three females, which were in good condition, were measured (Table I). They averaged 1,520 µm long, with a 20.2 µm long stylet. The lip region (Fig. 1A) was rounded, not set off, with six annuli. Stylet knobs (Fig. 1A) were rounded, slightly sloping towards the posterior. Excretory pore anterior to level of esophago-intestinal valve. Lateral field with four lines, bands not areolated near mid-body (Fig. 1B). Genital branches paired, outstretched, spermatheca oval with sperm. Intestine not overlapping rectum. Tail tapering gradually, with two lateral peg-like projections and a thinner intermediate projection (Fig. 1C). Phasmids indistinct, situated posterior to mid-tail.

*Hirschmanniella caribbeana* was originally described from Guadeloupe, French West Indies (Berg and Quénéhervé, 2000). This is the first record after its original description and rice is reported as a new host. In the sample, *H. caribbeana* was found to occur along with *H. oryzae*, *H. gracilis*, *H. mucronata* and *H. shanmi*. The percentage of specimens of *Hirschmanniella*

belonging to *H. caribbeana* was the lowest in the sample (only 1.5%). Apart from the fact that they were detected in rice root cortex, nothing is known about their biology.

Compared with Guadeloupe populations, *H. caribbeana* from China is generally similar in most characters except for a smaller *b'* value (4.8-6 *vs* 7) and different lateral field areolation near mid-body (not areolated *vs* areolated). Males were not found during the survey. Moreover, Guadeloupe populations were extracted from mangrove vegetation while our specimens were extracted from rice roots.



**Fig. 1.** Photomicrographs of a female *Hirschmanniella caribbeana* from China: A, anterior region; B, lateral field near mid-body; C, posterior region.

**Table I.** Biometrics of *Hirschmanniella caribbeana* from China compared with those of type material from Guadeloupe.

Character	China population	Guadeloupe population (from Berg et Quénéhervé, 2000)	
	3 ♀♀	9 ♀♀	11 ♂♂
L (µm)	1520±19.8 (1490-1560)	1426±194.7 (1126-1661)	1450±108.2 (1318-1588)
a	53.2±1.8 (50.3-56.6)	50±4.7 (46-60)	57±7.5 (47-69)
b	11.4±0.1 (11.1-11.6)	11.0±1.1 (10-12)	10±0.4 (10-11)
b'	5.4±0.3 (4.8-6.0)	7	7±1 (5-7)
c	20.4±0.5 (15.0-18.0)	16±1.6 (14-20)	17±3.4 (15-19)
c'	4.1±0.1 (4.0-4.3)	4±0.8 (3-6)	5.0
V%	53.6±0.8 (52.2-55.0)	54±2.3 (52-58)	-
Stylet µm	20.2±0.2 (20.0-20.5)	17.8±0.9 (17-20)	18±0.6 (17-19)
Spicule µm	-	-	29±0.6 (29-30)
Gubernaculum µm	-	-	10±1.0 (9-11)

#### ACKNOWLEDGEMENT

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