FAMILY NYGOLAIMELLIDAE CLARK, 1961

Diagnosis: Cuticle moderately thick with distinct lateral pores. Lip region continuous or distinctly set off by a constriction, often wider than adjoining body. Mural tooth deltoid, located on left sub-ventral wall of pharynx. Stoma simple. Pharynx eversible, in three sections and with thickened walls, rarely with rasp-like area. Basal expanded part of pharynx comparatively longer, may be bibulbar, enclosed in thin or moderately developed sheath. Cardiac disc present; cardia rounded or bluntly conoid. Female reproductive system amphidelphic. Vulva transverse. Males with well-developed spicules, lateral guiding pieces and ventromedian supplements. Gubernaculums absent. Tail short, conoid; similar in sexes.

Type subfamily: Nygolaimellinae Clark, 1961

Other subfamily:

Nygolaimiinae Andrássy, 1976

Key to subfamilies of Nygolaimellidae

Pharynx with rasp-like area of minute denticles............................ Nygolaimiinae
Pharynx without rasp-like area.............................................. Nygolaimellinae
Genus *Nygolaimium* Thorne, 1930

Thorne (1930) proposed the subgenus *Nygolaimium* under the genus *Nygolaimus* Cobb, 1913 to accommodate *Nygolaimus denticulatus* (Cobb, 1922) and *N. menzeli* (Micoletzky, 1925). Heyns (1968) raised it to generic rank. The genus exhibits a combination of characters of Nygolaimidae and Aporcenaaimidae. The presence of a mural tooth relates the genus to Nygolaimina, while the absence of cardiac glands and exceptionally thick cuticle is reminiscent of Aporcelaimidae. The two species included under this genus were described way back in early 20th century and never recollected.

Heyns (1968) while revising the group, could examine the single juvenile specimen of *Nygolaimus denticulatus*, on which the original description of the species is based. The type specimens of *N. menzeli* on the other hand are no more in existence (Heyns, 1968).

In the material received from Costa Rica, a single female and a male specimen were found, which completely fits the original description of *N. menzeli*. Since the type specimens of the species is no more in existence, the female is here designated as neotype.

**Diagnosis** (emended): Nygolaimiinae. Large sized nematodes. Cuticle thick, with or without distinct lateral pores. Lip region set off or continuous with body. Tooth situated in left or right sub-ventral wall of pharyngeal chamber. Stoma with rasp-like area with minute denticles. Cardiac glands apparently absent, and possibly with a pharyngeo-intestinal disc. Female reproductive system amphidelphic. Vulva transverse. Males with dorylaimoid spicules, lateral guiding pieces and four regularly spaced ventromedian supplements. Tail short, bluntly rounded.
**Type species:** *Nygolaimium denticulatum* (Cobb, 1922) Heyns, 1968

**Other species:**

*Nygolaimium menzeli* (Micoletzky, 1925) Heyns, 1968

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*Nygolaimium menzeli* (Micoletzky, 1925) Heyns, 1968

(Fig. 35)

**Measurements:** See table 34

**Description:**

**Female:** Body slightly curved ventrad upon fixation. Cuticle thick 4 μm in the anterior region, 3 μm at mid body and 10-11 μm on tail. Lateral chords about one-seventh of body width at mid body. Lateral, dorsal and ventral body pores indistinct.

Lip region narrow, continuous with body, one-fifth to one-fourth as wide as body width at neck base. Amphids with cup-shaped fovea, their apertures 0.65 times the corresponding body width. Mural tooth deltoid attached to subventral wall of pharynx, 0.65 times lip region width long. Stoma with rasp-like area and minute denticles. Guiding ring single, at 1.70 times lip region width from anterior end. Nerve ring at 25% of neck length from anterior end. Expanded part of pharynx occupying about 59% of total neck length. Cardia conoid, 16.5 % of corresponding body width. Pharyngeal gland nuclei and their orifices are located as follows:

\[
DO = 47 \quad S_1N_1 = 64 \quad S_2N = 88 \\
DN = 47.5 \quad S_1N_2 = 69 \quad S_2O = 91
\]
Reproductive system amphidelphic; both the sexual branches almost equally developed. Ovaries reflexed, 61 µm (anterior); 74 µm (posterior) long; oocytes arranged in multiple rows. Oviduct joining the ovary subterminally, 98 µm (anterior); 122 µm (posterior). Uterus with very wide lumen filled with sperms, 196 µm (anterior), 192 µm (posterior) long. Sphincter present at oviduct-uterus junction. Vulva transverse. Vagina extending inwards about 50% of corresponding body width. Vaginal sclerotization present. *Pars proximalis vaginae* measuring 34 x 17 µm with straight walls supported by strong muscles. *Pars refringens vaginae* trapezoid, measuring 10x 5 µm with a combined width of 21 µm. *Pars distalis vaginae* measuring 7 µm with curved walls. Prerectum about 1.6 anal body widths long. Rectum 1.1 anal body widths long. Tail short rounded, 0.59 anal body widths long.

**Male:** Supplements, an adanal pair and four regularly spaced ventromedians. Spicules massive, dorylaimoid, 1.4 anal body widths long. Lateral guiding pieces about 1/5th of spicule length. 48 bands of strong copulatory muscles present. Prerectum about 1.6 anal body widths long. Rectum 1.5 anal body widths long. Tail short rounded, 0.61 anal body widths long.

**Remarks:**

Micoletzky (1925) described *Nygolaimium menzeli* from Surinam, Dutch Guiana, South America, based on three females. Thorne (1930) and Heyns (1968) in their review on nygolains provided descriptions of the species taken from original decription. The type specimens of *Nygolaimium menzeli*, originally deposited in the Zoological Museum
of the Humboldt University, Berlin is no more in existence (Heyns, 1968) and the species has never been redescribed or recollected from any part of the world.

The present female and male specimens completely fits the original description and figures and also that the material has been collected from the same region of the world, it is identified as *Nygolaimium menzeli* (Micoletzky, 1925) Heyns, 1968.