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On a New Species of *Chordodes* (Gordiacea) from Japan

With 5 Text-figures

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(Communicated by T. KABURAKI)

Infesting such Mantid-species as *Tenodera sinensis* Saussure and *T. angustipennis* Saussure are not infrequently found hair worms, which have hitherto been identified as *Gordius aquaticus* L. On examination of 86 specimens (♂ 49, ♀ 37) collected in certain central prefectures of Honsyu, it has been found that this hair worm represents a new species referable to the genus *Chordodes*. In the present account a record is given of this species, naming *Chordodes japonensis*, n. sp.

The specimens at hand vary in size, measuring 97–380 mm long by 0.7–1.3 mm broad at the thickest portion in the male, and 165–411 mm long by 1–1.7 mm broad in the female. The colour of the body is subject to variation according to individuals in the preserved condition, being brown, blackish brown, reddish brown and yellowish orange.

Characteristic of this species is the possession of 5 kinds of cuticular papillae, as in the following account.

First type of papillae (Figs. 1a and 2a). Sparsely scattered, largest of all, composed of two papillae which stand in close contact with each other so as to exhibit in surface view an oval disc consisting of two semicircular or reniform components, and in side view a barrel-shaped appearance, giving off some hyaline hairs from the upper margin. The hairs vary in number, length and thickness according to the papilla. So far as the present observations go, some specimens are entirely destitute of any trace of such hairs. The papillae measure 12–23 μ in height and 12~20 μ in the major diameter of the above-mentioned reniform component, which has a tendency to extend parallel to the longitudinal axis of the body. Occasionally a slender process can be demonstrated between the paired components, as in Fig. 2.

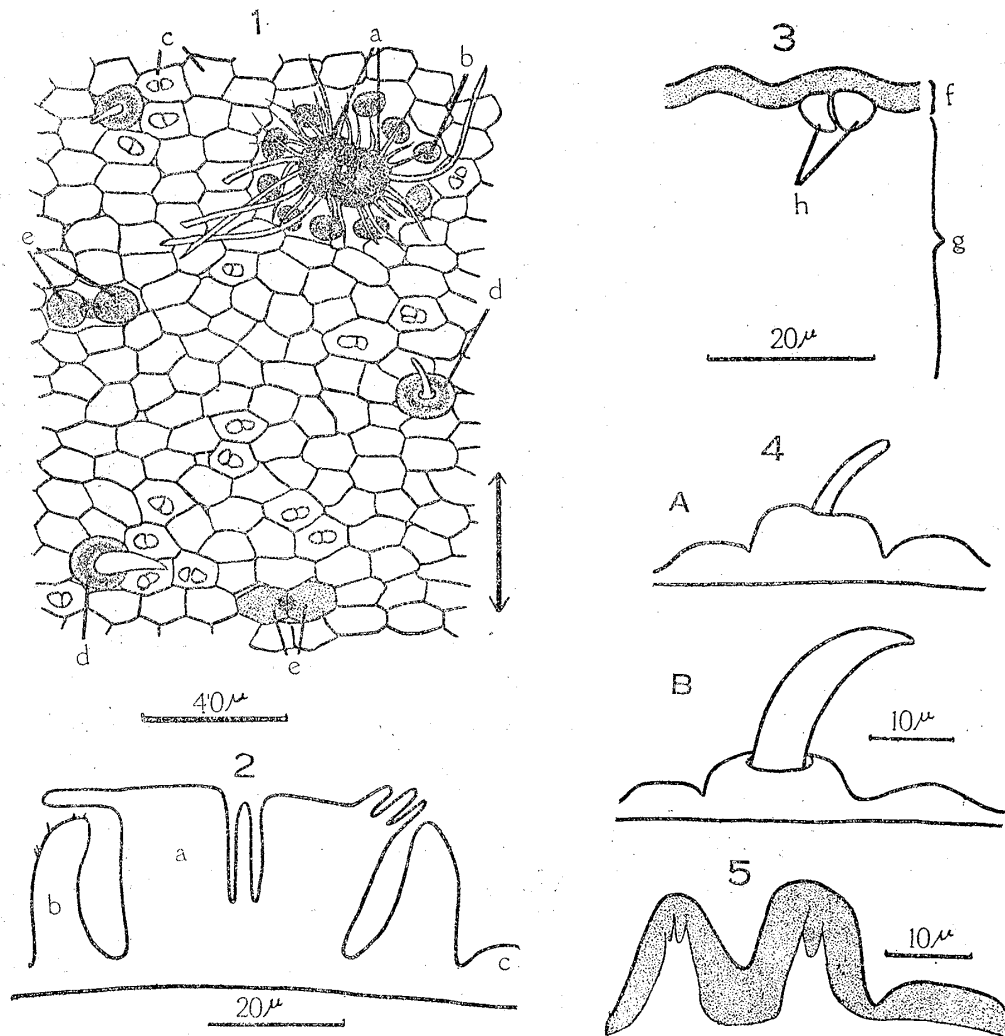


Fig. 1. Surface view of cuticle in glycerin, showing the arrangement of papillae in different types.

Fig. 2. Transverse section of cuticle, showing the papillae of the 1st, 2nd and 3rd types.

Fig. 3. Transverse section of cuticle through the papillae of the 3rd type.

Fig. 4. Side views of two papillae of the 4th type, bearing respectively a finger-like (A) and a spine-like (B) hyaline process at the center.

Fig. 5. Transverse section of cuticle through papillae of the 5th type: a, b, c, d, e papillae of the 1st, 2nd, 3rd, 4th and 5th type, respectively; f, g outer non-fibrous and inner fibrous layer of cuticle respectively; h transparent granule.

Second type of papillae (Figs. 1b and 2b). Arranged in a circle around the preceding type, numbering 7–21, oval or roundish in surface view, two-thirds or half the diameter of the first type, finger-like or conical in side view, rounded or flattened at the apex, $8\text{--}23\mu$ in height, provided with a few short, fine hairs in some specimens. Some of the papillae situated on the dorsal and ventral portions are depressed or transformed in some specimens.

Third type of papillae (Figs. 1c and 3). Around the above-mentioned papillae are arranged a vast number of smaller ones, which are the lowest of all and squarish, irregularly polygonal or oval in surface view, and the major axis of which is found to be nearly perpendicular to the longitudinal axis of the body. The papillae measure $11-20\mu$ in the largest width and $2-7\mu$ in height. Discernible through some of the papillae are two transparent granules, which occupy a position just below the outer layer of cuticle (Figs. 1c and 3h).

Fourth type of papillae (Fig. 1d and 4). Singly scattered among the just described papillae, oval or roundish in surface view, measuring $11-20\mu$ in major diameter and $5-8\mu$ in height. The papilla is generally provided with a slender hyaline process at the center which exhibits an aspect either finger-like or spine-like, the latter variety being scarce in number. However, some specimens are found to be entirely devoid of any process, presenting a slight depression at the center, which is paler than the periphery. Further, no trace of any spine-like process at all could be found in some specimens collected in Prefecture Nara.

Fifth type of papillae (Figs. 1e and 5). Usually occurring paired among the papillae of the third type, though occasionally forming a cluster of 3 or 4 papillae; in surface view oval or roundish in the lateral region of the body, but polygonal in the others, the former being higher than the latter; conical in side view, rounded or pointed at the apex, occasionally beset with a few delicate hairs. Discernible between the paired components of the papillae is a dark spot, which seems to be attributable to a thickening of the outer layer of cuticle.

Remarks. This new species has some resemblances to the following species¹⁾: *Ch. madagascariensis* Cam., *Ch. siamensis* Cam., *Ch. albi-barbatus* Montg., *Ch. moutoni* Cam., *Ch. timorensis* Cam., *Ch. puncticulatus* Cam. and *Ch. hawkeri* Cam. However, it is distinguished from them by the possession of cuticular papillae different in form, height, arrangement and number, as well as by the absence of interpapillar processes, "festinato" papillae, "moriformi" papillae, etc.

1) Beauchamp, P. de, '23, Rev. Zool. Africaine, 11, 1; Camerano, L., '93, Compt. Rend. Ac. Sc. Paris, 8, 148; _____ '97, Mem. R. Accad. Sc. Torino, 2, 47; _____ '15, ibid. 2, 66; _____ '02, Boll. Mus. Zool. Anat. Comp. Torino 17; _____ '03, ibid. 18; Montgomery, Th., '98, Zool. Jahrb., Syst., 11.