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Beatogordius chinensis (Nematomorpha, Gordiida), a new species from China

Abstract The genus *Beatogordius* is currently known to occur in South America, Africa and Australia. Characteristic for the species are longitudinal rows of areoles, which are cuticular surface structures. A new species, *B. chinensis*, is reported from China. It is characterized by the presence of single bristles between the rows of areoles. The location China is far outside the previously known range of the genus, which was thought to reflect a typical Gondwana distribution.

Keywords Nematomorpha, Gordiida, new record, China, *Beatogordius*

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Introduction

Species of the nematomorph genus *Beatogordius* are well characterized by the longitudinal arrangement of cuticular structures, the so-called areoles (Schmidt-Rhaesa 2002). Isolated or fused areoles create a pattern of longitudinal stripes, further structures such as cuticular bristles can be present between the areoles. To date, 19 species have been described within the genus, nine from Africa (Schmidt-Rhaesa & De Villalobos 2002, Schmidt-Rhaesa & Bryant 2004), eight from South America (De Villalobos et al. 2003) and two from Australia (Schmidt-Rhaesa & Bryant 2004). This distribution on the Southern continents appears typical for an origin of the genus on the Gondwana continent, as has been suspected by Schmidt-Rhaesa & Bryant (2004). However, I here report a specimen belonging to the genus *Beatogordius* which was collected in China.

Material and Methods

Specimens reported were fixed in ethanol (70%). Specimens were investigated under a dissecting scope (Leica MZ 9 5) concerning general characters and colour. Measurement of the length was taken with outstretched worms using a ruler, diameter was measured under the dissecting scope using a digital ruler. A 1 mm long piece of the worm in midbody region and the posterior end were prepared for Scanning Electron Microscopy (SEM). Pieces were dehydrated in an increasing ethanol series, critically point dried and coated with gold in a sputter coater. Observation took place using a LEO SEM 1524 under 10 kV. Digital images were taken.

Results and Discussion

Beatogordius chinensis new species

Material investigated 1♀. China, Yunnan province, 2 km south of Haba, Haba Xueshan Mountains (27°21.9'N/100°08.3'E), 2870 m. Collected in a small pool in a dry valley of a brook. Coll. 17.–20. June 2007 by J. Hájek & J. Růžička. Deposited in the Zoological Museum Hamburg (accession number V13294).

Description The specimen is 95 mm long and has a diameter of 0.8 mm. The body colour is medium brown, the anterior tip is white, but a dark brown collar (as present in many gordiids) is not present.

The cuticle is structured into longitudinal cords of elevations. Under low magnifications they create a longitudinally striated pattern of the cuticle (Fig. 1A). Higher mag-

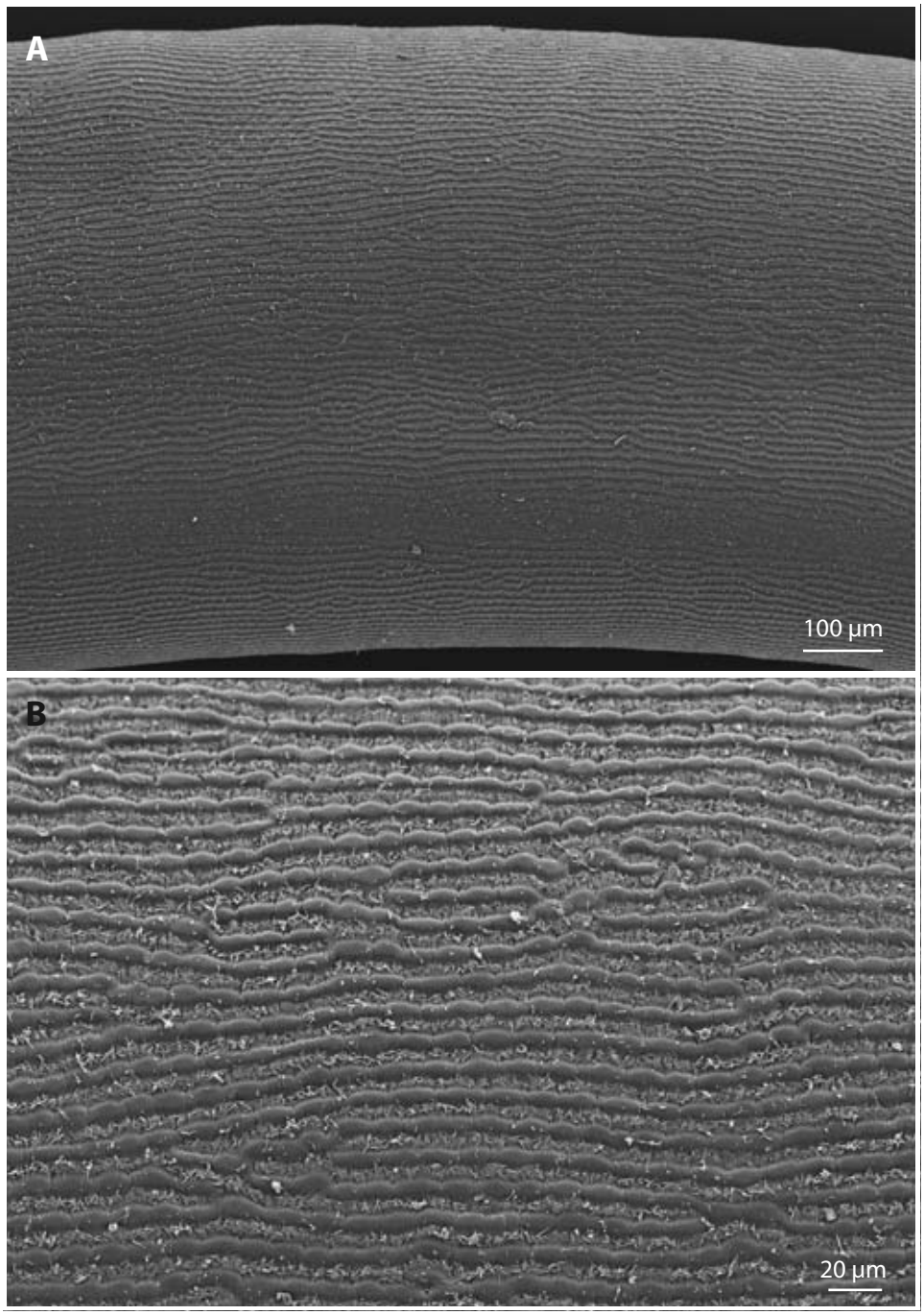

Fig. 1 *Beatogordius chinensis*. **A**,**B**, Cuticle under different magnifications showing the longitudinal striation and the pattern of branching, fusing and terminating cords. All images by SEM.

nification shows that the cords sometimes branch, terminate or fuse with other cords (Fig. 1B). The cords slightly resemble a chain of perls in having broader and narrower regions (Fig. 1B) which probably indicates that thet cords originated by fusion of individual areoles. Under further magnification the cords show a smooth surface and fine fissures perpendicular to their longitudinal axis (Fig. 2A,B). Between the cords numerous unbranched bristles of up to 3 µm length are present (Fig. 2A,B).

Comments The genus *Beatogordius* is well characterized by the longitudinal arrangement of individual areoles or the fusion of areoles into longitudinal cords (SCHMIDT-RHAESA 2002). Interareolar structures such as bristles are present in a number of species. The new species resembles *B. sankurensis* and *B. wilsoni*, which both have cords of fused areoles, but interareolar structures are not present (see SCHMIDT-RHAESA & DE VILLALOBOS 2002). Both species were described on the basis of microscopical investigations, making it possible, that some fine interareolar structures have been overlooked. However, the dense presence of bristles as present in the new species should have been visible if it were present in *B. sankurensis* and *B. wilsoni.* Therefore, *B. chinensis* is regarded as a new species.

Species of the genus *Beatogordius* were originally described from Africa (SCHMIDT-RHAESA & DE VILLALOBOS 2001) and South America (DE VILLALOBOS et al. 2003). New species were later described also from Madagascar and Australia, which made a distribution of this genus on Gondwana very likely (SCHMIDT-RHAESA & BRYANT 2004). The finding of a species from the genus *Beatogordius* in China extends the range of the genus over the Gondwana continents. It appears likely that the collection of hairworm specimens is still very patchy and that further records of the genus *Beatogordius* can be expected, probably in India and Southeast Asia, which bridge the currently known distribution between Australia, Africa and China.

Acknowledgements

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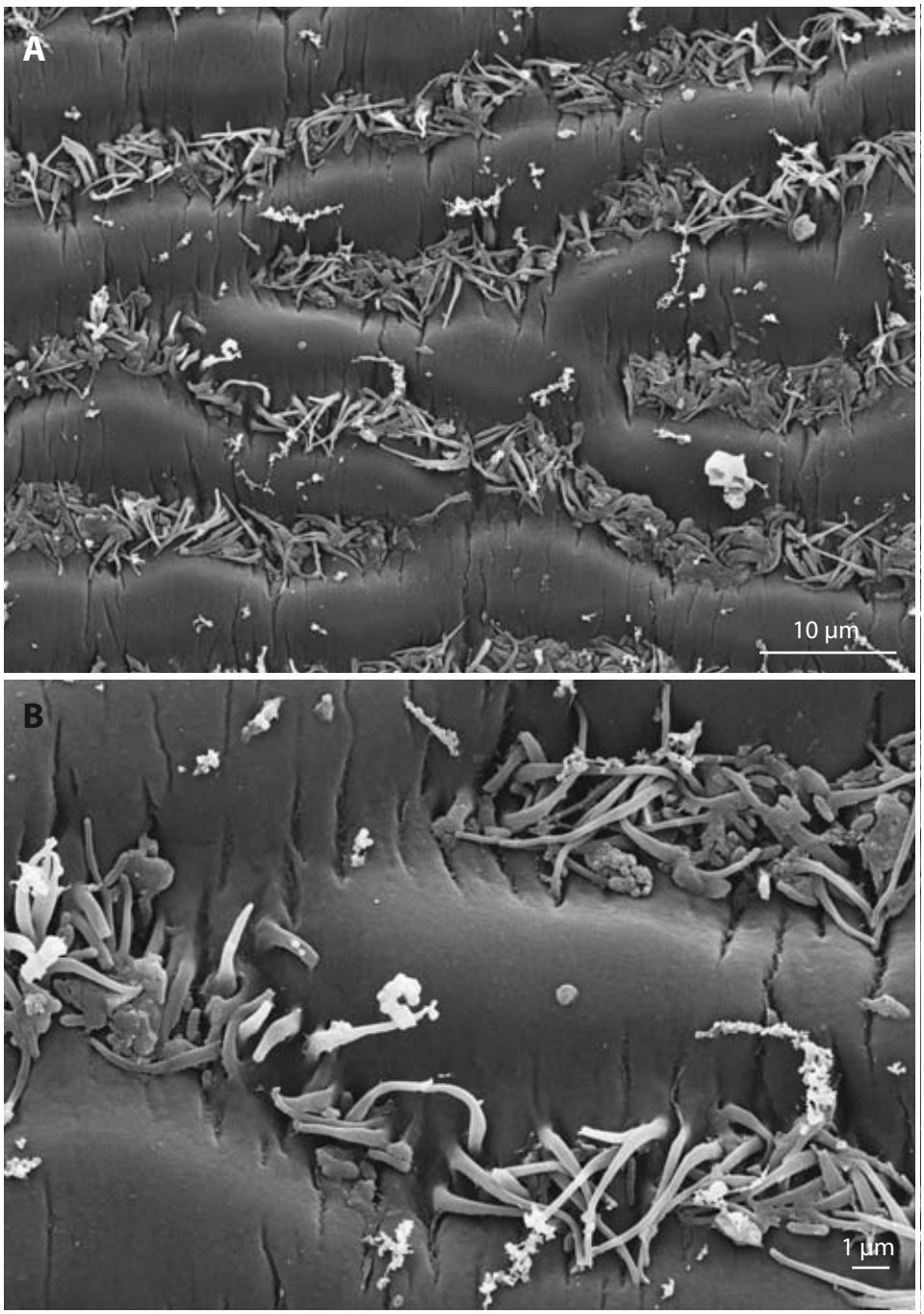

Fig. 2 *Beatogordius chinensis*. **A,B**, Cuticle under higher magnifications showing the fine structure of the cords and bristles between cords. All images by SEM.

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