



## *Paraxenylla norvegica* sp. nov., the most northern species of the genus (Collembola, Hypogastruridae)

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The genus *Paraxenylla* so far has nine described species (Queroz & Deharveng 2008). All the species, except one, live in marine littoral environments and probably feed on algae and diatoms (Palacios-Vargas & Janssens 2006). One species is cosmopolitan, the others are living in warm parts of the world (Peru, Cuba, Mexico, New Caledonia, Gambia, Japan). *P. sooretamensis* Queiroz & Deharveng, 2008 was described from an inland forest in Brazil. The cosmopolitan species, *P. affiniformis* (Stach, 1930), is found north to the German coast. A new Norwegian species breaks both the southern distributional pattern and the morphological conformity of the genus.

**Abbreviations.** Abd I–VI: abdominal segments, Ant I–IV: antennal segments, Cx: coxa, Fe: femur, Lam 1–5: lamellae 1–5, Tib: tibia, Tr: trochanter, Scx 1–2: subsegments of subcoxa.

### *Paraxenylla norvegica* sp. nov.

Figs 1–14, Tab. 1

**Type locality.** Norway, Rogaland County, W of Brusand, N 58.53644°, E 05.70024°.

**Type material.** Holotype, male (slide), labelled "Norway. Rogaland: W Brusand, N 58.53644°, E 05.70024°, *Ammophila* roots on sandy foreshore, 10.ix.2009. A. Fjellberg 9.320". Paratypes: 2 (slide), 10 (alc.) from the holotype sample. All types deposited at Museum of Natural History (Entomology), Oslo. Additional material: 15 specimens collected in cow dung on the sandy foreshore at the type locality, 13.x.2009. A. Fjellberg leg.

**Description.** Body length 0.45 mm. Colour bluish grey. Eyes 5+5, of which 2+2 are smaller than others (Figs 1, 7). Antennae 0.8–0.9 as long as width of head measured from above. Ant I with 7 setae, Ant II with 11 setae. Ant III organ with two exposed short sensilla flanked on each side by guard sensillum, slightly longer than the short sensilla. Spine-shaped sensillum present in ventroapical position (Fig. 8). Ant IV with four enlarged sensilla A–D, of which A and B blunt and cylindrical, C and D egg-shaped (Fig. 2). In addition five slender, curved and pointed sensilla. Short microsensillum and subapical organite (buried peg) present between sensilla A, B, C. Apical bulb large and unlobed.

Labrum with 5,3,4 setae, apical four particularly long (Fig. 4). Clypeal field with four setae, prelabrals absent. Basal fields of labium with 4+5 setae. Labial palps with papillae A–E distinct, five guard setae present. Two small accessory papillae (transformed guards) found between papillae B–D and D–E. Six proximal setae present (Fig. 3). Hypostomal group with 3 subequal setae (H straight, h1–h2 curved). Ventral side of head with 2+2 setae along *linea ventralis*. Mandibles unmodified, with granulated molar plate and four apical teeth (Fig. 6). Maxillary capitulum narrowed at tip, but the three primary cusps are distinct (Fig. 5). Two long ciliated lamellae (Lam 1, Lam 2) surpass tip of capitulum. A short ciliated Lam 3 present at base of Lam 2. Lam 4 distinct, ciliated. Lam 5 present at base of Lam 4 (proximal extension of Lam 4?). Maxillary outer lobe with simple palp and one sublobal hair.

Body with short setae, macrochaetae hardly distinguished. Integument with uniform small sharp granules. Sensilla only slightly longer than ordinary setae except on Abd IV–V where distinctly prolonged. Chaetotaxy as Figs 1, 9, 10. Thorax with sensilla in position p4, seta m1 present, m2 absent. Abd I–II with a pair of dorsolateral integumental tubercles outside sensilla = p5. Setae of p-row unstable (missing or extra added). Abd IV with m1 and m3 present. Sensilla on Abd V in position p2. Abd VI without anal spines. Anus subterminal with ventral lobes separated only apically. No ventral setae on thorax. Ventral tube with 4+4 setae (Fig. 14). Retinaculum with 3+3 teeth, no seta. *Linea ventralis* distinct, reaching the ventral tube.

Chaetotaxy of legs as in Tab 1. Tibiotarsi with A1 enlarged, acuminate (Fig. 11). Claws without unguiculus, unguis without teeth (Fig. 15). Furca fully developed, dens 2.5 as long as mucro, with two dorsal setae. Mucro separated from dens, curved, with very distinct dorsal lamella. Ventral side of dens smooth, without primary granules. Similar smooth fields distally on manubrium (Figs. 12, 13).