

The spiracles are very large and conspicuous, black. In some specimens there are two black dots just above each spiracle and two somewhat similar dots below the spiracles and on the ventral lobes; of these markings the ventral dots are the most constant. Anal gills, four in number, blunt, fleshy.

PREP. Male: Length, 18-23 mm.; dorso-ventral depth, 3.8-4 mm.; dextro-sinistral width, 3.2 mm. Female: Length, 23 mm.; depth and width 4 mm.

MALE. (Pl. V, fig. 50): Colouration brown, the abdomen more yellowish brown; the pleural membrane paler; the breathing-horns, appendages, and sheaths dark brown; spines on the abdomen black.

Antennal bases situated on a high crest, elevated above the level of the breathing-horns. Pronotal breathing horns not conspicuous, short, directed slightly forwards and slightly divergent. On the pronotum a small knob just before the breathing horns; on the praescutum two widely separated tubercles and just behind these but nearer the median line, two smaller tubercles, the space between these tubercles connected by a row of crenulations. Leg-sheaths reaching to the middle of the third abdominal segment; wing-sheaths reaching the base of the second abdominal segment.

Abdominal tergites: segments 1 and 2 with a small tubercle on the caudal ring on either side of the median line; segment 3 with two tubercles on either side, the inner one largest; segments 4 to 6 with three or four tubercles on either side, the inner one largest; segment 7 narrowed, with two lateral spines and two separated blunt tubercles; segment 8 narrowed, the lateral angles ending in powerful tubercles with sharp points. Pleural integument coarsely punctured, on the edge nearest the sternites with a single sharp spine on the caudal ring of segment 1 and on segment 7 and two, one on each ring of segments 2 to 6. Sternites armed with circlets of powerful spines on the caudal ring, on segment 3 there being two, small and widely separated; on segments 4 to 7 there are four such spines, larger and rather approximated. Segment 9 rounded, indistinctly bifid, each side with a small, acute spine at the tip.

FEMALE. (Pl. V, fig. 51) similar to the male above described, the sexual differences being as follows: Sheaths of the tergal valves of the ovipositor elongate, powerful, lying parallel to one another, transversely wrinkled; sheaths of the sternal valves of the ovipositor tiny, located at the apex of the eighth segment.

Mr. Johansen has recently called my attention to the description and figures of the immature stages of this species by Dr. T. C. Nielsen.¹ As there are some discrepancies between the descriptions and figures of the material from northeast Greenland and that from the Canadian Northwest, it is possible that more than one species is involved under the name of *Tipula arctica*.

Stygeropsis, possibly *parril* (Kirby).

Locality: Melted ponds in the tundra at Demarcation point, Alaska, May 1914 (E. Johansen).

Two smaller specimens measure as follows: length, 20 to 24 mm.; diameter, 2.2 to 2.5 mm.

A larger larva (No. 5a), length, 38 mm.; diameter, 3.7 mm.

Form cylindrical, moderately elongated. Head-capsule with the antennae long and slender, from three to four times as long as thick, cylindrical, yellowish.

Charotaxy: Setae very weak and delicate, on the thoracic segments being tiny lateral hairs. Abdominal tergites (Pl. V, fig. 58) with no setae on the anterior ring; on the posterior ring with the following bristles: a small lateral bristle nearest the false suture; just before the caudal margin of the segment a more or less impressed line, at its outer end with two or three bristles arising from individual punctures, on either side of the reddish dorso-median vitta a prominent

¹The Insects of the "Danmark" Expedition: Meddelelser om Grønland, vol. xliii, Copenhagen, 1910 pp. 57-9, Pl. vii, figs. 1-7.