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KOMMISSIONEN FOR VIDENSKABELIGE UNDERSØGELSER I GRØNLAND

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ON METOPA GROENLANDICA H. J. HANSEN
(CRUST. AMPHIP.)

BY

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WITH 3 FIGURES IN THE TEXT

KØBENHAVN

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INTRODUCTION

The large material of *Metopa groenlandica* available for the investigation of its possible commensalism in *Pandora glacialis* Leach (see G. THORSON and K. STEPHENSEN, in: Meddel. om Grøn., vol. 118, no. 4, 1936) makes it desirable to discuss this species more in detail, more particularly as the description of the species as well as the problem of nomenclature need a revision as far as this form is concerned.

Metopa groenlandica H. J. HANSEN.

- ?*Stenothoë clypeata* Stimpson, in: Smithson. Contrib. to Knowledge, vol. 6, nr. 5, Washington D. C. 1853, p. 51 (no fig.).
? — Sp. Bate, Catalogue... specimens of Amphip. Crust. in the Collect. of British Museum, London 1862, p. 61, pl. 9, fig. 5.
Metopa groenlandica H. J. Hansen, in: Vid. Meddel. Naturh. Foren. Kjøbenhavn 1887, p. 94, pl. 3, figs. 7—7e.
?*Stenothoë clypeata* + *Metopa groenlandica* Della Valle, in: Fauna u. Flora Neapel, vol. 20, 1893, p. 569, p. 640, pl. 59, fig. 55.
Metopa groenlandica S. J. Holmes, in: Bull. Bureau Fisheries, vol. 24, 1904, Washington D. C. 1905, p. 482, fig.
Proboloides groenlandicus Stebbing, Amphip. I Gammaridea, in: Das Tierreich, vol. 21, 1906, p. 190.
?*Stenothoë (Proboloides) clypeata* Stebbing, l. c. 1906, p. 195, p. 725.
Proboloides clypeatus K. Stephensen, Crust. Malac. VII, in: Danish In-golf-Exped., vol. III, pt. 11, 1931, p. 194.
Metopa hirsutumana Chas. H. Blake, Crustacea, in: Will. Procter: Biol. Survey of the Mount Desert Region, pt. 3, Philadelphia 1929, p. 20, figs.
Metopa groenlandica K. Stephensen and G. Thorson, in: Meddel. om Grøn., vol. 118, no. 4, 1936, with 2 figures.
non *Leucothoë clypeata* Krøyer, in: Naturh. Tidsskrift, vol. 4, 1842, p. 157, and *ibid.*, ser. 2, vol. 1, 1845, p. 545, pl. 6, fig. 2 a-f.
non — Krøyer, in: Voyages... du Nord en Scandinavie, en Lapponie... publiés... sous la direction de PAUL GAIMARD, Paris 1846(?), pl. 22, fig. 2 a-o.
non *Metopa clypeata* Stebbing, Amphip. I Gammaridea, in: Das Tierreich, vol. 21, 1906, p. 175 (lit., etc.).

On the literature and the synonymy. The first description with figures, on basis of which the species can be recognised with certainty, is H. J. HANSEN l. c. 1887; the description is rather brief, but very exact;

unfortunately the drawings are, however, too few and reproduced in a too small scale. HOLMES (l. c. 1905) has delivered a description of the female and a few drawings of limbs of both sexes; but also his drawings are reproduced in a rather small scale. DELLA VALLE (l. c. 1893, p. 640) has only a short review of HANSEN'S description; and l. c., p. 569 he lists *Stenothoë clypeata* Stimpson among other "uncertain species".

STEBBING 1906, p. 190 has transferred H. J. HANSEN'S species to the genus *Proboloides*, but without giving reasons; but 1906, p. 725 he has noted it as synonymous with *Stenothoë clypeata* Stimps. 1853. That the two said species should be synonymous, is possible, but it cannot be proved with certainty, for STIMPSON'S description (without drawings) is so brief, that nothing can be stated on basis of it. BATE'S description with very few drawings (based on a specimen "forwarded to me by the author of the species") is, however, much more elaborate, and specially his drawing (pl. 9, fig. 7 i) of the very characteristic pereopod 2 of the male renders STEBBING'S hypothesis on the synonymy of the two species rather probable. K. STEPHENSEN 1931 has reported HANSEN'S species (under the name of *Proboloides clypeatus* (Stimps.)) from some places in Greenland waters; the determination of the specimens is correct, but the remark on pereopod 1 is wrong, and is due to confusion with *M. clypeata* (Krøyer).

Remarks to H. J. HANSEN'S and HOLMES' descriptions (1887 and 1905). As several of H. J. HANSEN'S type-specimens are still kept in the Zool. Museum of Copenhagen, I have dissected a ♂ and a ♀ of them and have made drawings of all the appendages, incl. the oral parts (with exception of the lower lip only, which was lost during the dissection). Upon the whole they have proved to agree excellently with the two descriptions cited above, but a few remarks and additions should be made here.

The male. Antenna 1 is not much longer than the head + the 4 anterior mesosome segments (HANSEN writes "capite et segmentis quinque anterioribus paulo breviores"). The two first joints of the peduncle are of about equal length; 3rd joint only about $\frac{1}{3}$ the length of the preceding joint. There is no accessory flagellum; the flagellum is a trifle shorter than 2nd + 3rd joints of the peduncle, and consists of 10 joints. Antenna 2 is a trifle longer than ant. 1; the two last joints of the peduncle are of equal length, and the last joint covers more than the proximal half of the flagellum of ant. 1; the flagellum is not more than half as long as the last joint of the peduncle and consists of 5 joints, the first of which being as long as the four others together.

The oral parts have not been examined or mentioned by HANSEN; HOLMES l. c. has a few remarks only on the mandibles and the maxillipeds. Therefore I have dissected out all the oral parts, and they agree fairly well with SAR'S drawings of those of *Metopa (alderi)*; G. O. SARS, Crust.

of Norway, vol. 1, Amphip., 1895, pl. 86); the most important characters are: the palp of maxilla 1 has only one joint; the maxillipeds have the inner plates coalesced almost to the apices, and the outer plates are wanting¹). These characters clearly show that the species belongs to the genus *Metopa* and not any of the other genera under which it has been listed.

Pereiopods 1—2 are well described by HANSEN (l. c., with figs.)

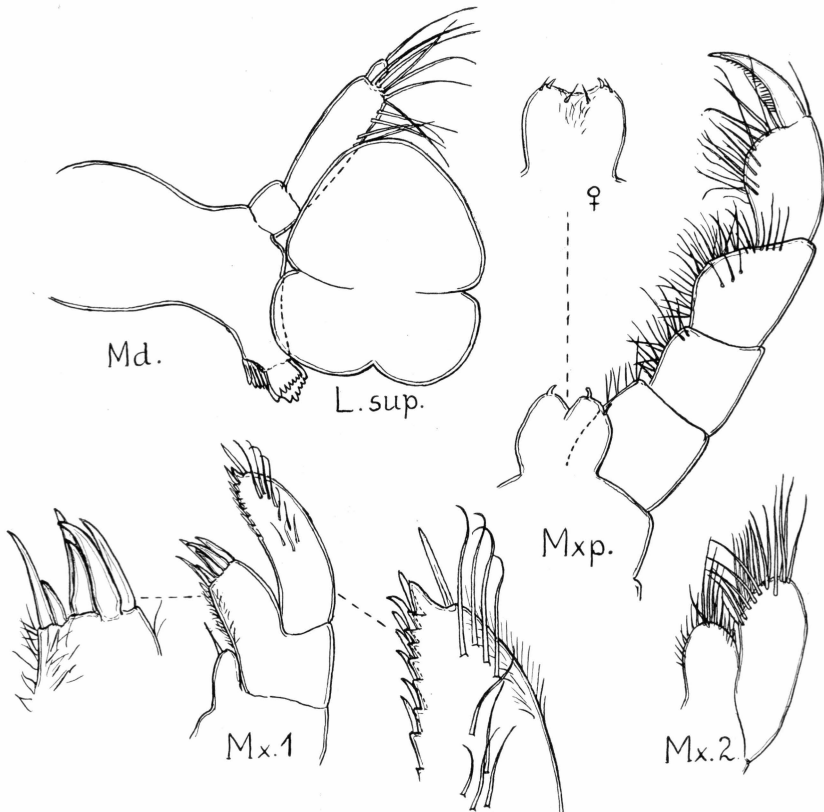


Fig. 1. *Metopa groenlandica* ♂.

(One of H. J. HANSEN'S type-specimens, from Greenland, Holbøll leg.) (and the inner plates of the maxillipeds of a ♀.) Oral parts: *L. sup.* = upper lip. — *Md.* = mandible.

Mx. 1—2 = maxilla 1—2. — *Mxp.* = maxillipeds.

Pereiopod 3 is (as usual in the genus) a trifle more slender than per. 4. Pereiopod 5 has 2nd joint narrow; in per. 6—7 the same joint is lamellar (broadest in per. 7), with a few spines on the fore margin, but even on the hind margin. In per. 3—7 the 4th joint is somewhat longer but not essentially broader than the next joint; the distal end is only very little produced.

¹) HOLMES l. c. writes that 1st joint of the palp "is slightly produced at distal inner angle into a rudimentary outer plate"; such a prominence is however not present in any of the specimens dissected by the author.

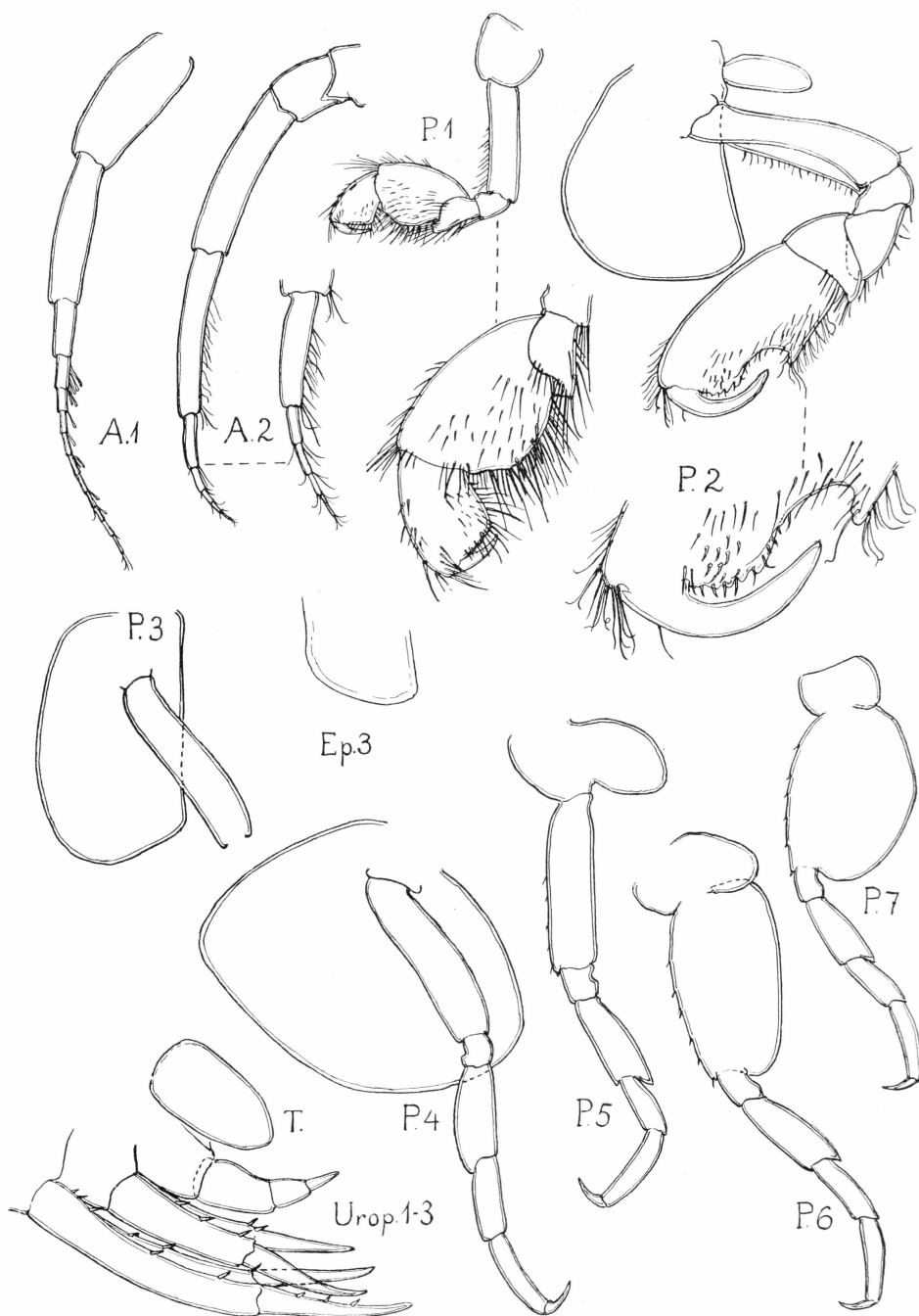


Fig. 2. *Metopa groenlandica* ♂.

(One of H. J. HANSEN's type-specimens from Greenland, Holbøll leg.) A. 1—2. = antenna 1—2. — Ep. 3. = epimeral part of 3rd metasome segment. — P. 1—7. = pereopods 1—7. — T. = telson. — Urop. 1—3. = uropods 1—3.

The lower hind corner of 3rd metasome segment is rounded, quadrangular, not produced. There is no marked sexual difference in the shape of the uropods and the telson, and these (in the ♀) are described by HOLMES l. c. 1905.

Length abt. 6 mm (H. J. HANSEN: 8.4 mm).

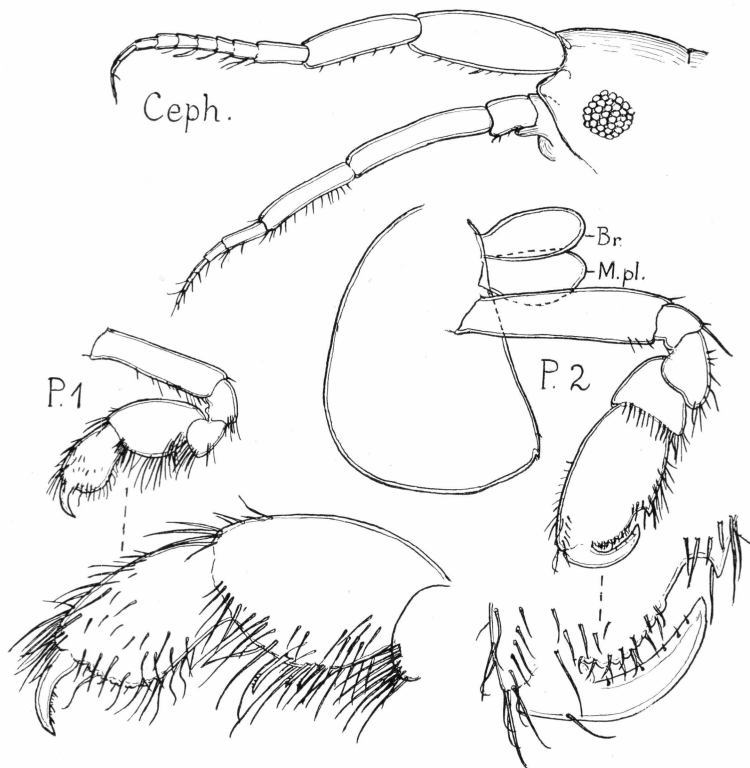


Fig. 3. *Metopa groenlandica* ♀.

(One of H. J. HANSEN's type-specimens from W. Greenland, in *Boltenia bolteni*.)
Some appendages: *Ceph.* = the head with antennæ 1—2. — *P. 1—2.* = pereopods.

The female. This sex is rather elaborately described by HOLMES l. c. 1905, and only in a few essentials it differs from the male. Unfortunately, there is in the material in the Zool. Museum of Copenhagen no female with fully developed marsupial plates with marginal setæ¹⁾; my remarks and drawings are worked out on basis of a specimen with the marsupial plates not larger than the branchiæ. The antennæ 1—2

¹⁾ Among some specimens found in *Pandora* (from Hurry Inlet, Scoresby Sound, 6—9 m, 4-VII-1932) there is a single ♀, length abt. 5 mm, with 5 embryos (length abt. 1 mm). This specimen was not dissected, but there does not seem to be any disagreement between this ♀ and the ♀ described above, except in the marsupial plates which have marginal setæ, but are not essentially longer or broader than the branchiæ.

are well described by HOLMES; ant. 1 is a little shorter than in the male, but otherwise there is no marked sexual difference (the flagellum has 10 joints). In antenna 2 the ultimate joint of the peduncle is somewhat shorter than the penultimate, but in length fairly equal to the flagellum which consists of 6 joints.

Periopods 1—2 are well described (with drawings) by H. J. HANSEN 1887 and HOLMES 1905, but none of these authors has emphasized that in per. 1 of ♀ the 5th joint is not essentially longer than the next joint; thus there is a marked sexual difference not only in pereopod 2, but also in pereopod 1.

Length about 6 mm or a trifle more (H. J. HANSEN: 7.5 mm, HOLMES: 7 mm).

On the name of species. If *Metopa groenlandica* H. J. Hansen 1887 is synonymous with *Stenothoë clypeata* Stimpson 1853 (which is probable), the name should be *Metopa clypeata* (Stimpson 1853). But already in 1842 (l. c.) KRÖYER established a species which he called *Leucothoë clypeata*, and also this is a true *Metopa*. KRÖYER has l. c. 1845 with a few drawings (and l. c. 1846 with drawings of all the oral parts) described the species; for comparison I have dissected out the oral parts of one of his types and compared them with his drawings. These are rather exact: maxilla 1 has only one joint in the palp, but the inner lobes of the maxillipeds are coalesced almost to the tip (not cleft to the base), and there is only a very slight trace of outer lobes.

Thus KRÖYER's species belongs to the genus *Metopa*, but then the specific name *clypeata* should be kept for this species. And then STIMPSON's and HANSEN's species ought to be called *M. groenlandica* (H. J. HANSEN 1887).

Distribution. H. J. HANSEN's type-specimens were from "Greenland" and from 3 places off W. Greenland abt. 64°—70° N; STIMPSON's types were from the Hake Bay, Grand Manan.

Previously, it has been recorded from W. Greenland, abt. 62°—76° N, depths (when noted) 6—50 m (6 finds), E. Greenland 69³/₄° N, 6 m (1 find), and E. America abt. 42°—44° N, depths (when noted) abt. 170—300 m (5 finds). A detailed list of all the localities is given in my paper l. c. 1931 p. 195, except the two stations of the "Albatross" which are: (stat. 2057) 42°01' N, 68°0'30" W, abt. 170 m, and (stat. 2062) 42°17' N, 66°47'45" W, abt. 300 m. Hereto come the find of the species living in the Lamellibranchiate *Pandora glacialis* Leach at E. Greenland 70°30'—74°30' N, depths 6—15 m (see K. STEPHENSEN and G. THORSON 1936) and the find in the Mount Desert Region (*M. hirsutimana*, BLAKE 1929).