

X.—*Notes on the Marine Crustacea Ostracoda of Norway.*

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F.R.S., &c.

DURING a dredging-expedition undertaken this last summer in East Finmark I explored the Varanger Fiord, and especially the fiords which run inland on its southern side close to the Russian frontier. Several arctic Ostracoda were here added to the Norwegian fauna, and the range of many species extended northwards. In noticing the species of this district I have thought it well to bring together the results of my former expeditions in 1878, 1879, and 1882 to the Norwegian coast, though most of the localities of the species belonging to the section Podocopa have been previously published in Professor Brady's and my recent monograph*. Since the publication of that work Prof. G. O. Sars has published † a revised list of the Norwegian species of this order, with descriptions of new species; but these latter do not embrace any marine forms. At the end of this paper I have added a list of twenty-three species which have been found by him and not by myself, and these, added to the ninety-five which I here record, give us one hundred and eighteen marine Ostracoda at present known in the Norwegian seas.

As it appears to me that we have now sufficient knowledge respecting the distribution of most of the species to enable us to approximately divide them into arctic, boreal, and abyssal forms, I have attempted to do this at the close of the paper. At the same time it cannot be doubted that more extended investigation in the future will lead to much modification of the assigned origin here given of species, though upon the whole it will, I think, as far as it goes, prove to be fairly correct.

The synonyms I have added are not the names now employed by Prof. G. O. Sars, but those under which he described the species in his monograph 'Oversigt af Norges marine Ostracoder,' published in 1865.

* Brady and Norman, "Monograph of the Marine and Freshwater Ostracoda of the North Atlantic and of North-western Europe" (Trans. Royal Dublin Soc. 1889).

† G. O. Sars, "Oversigt af Norges Crustaceer, II. Branchiopoda, Ostracoda, Cirripedia," 1890.

CRUSTACEA.

Order OSTRACODA.

Section I. PODOCOPA.

Fam. I. Cyprididæ.

Genus 1. PARACYPRIS, G. O. Sars.

Paracypris polita, G. O. Sars.

Off Sartoro, Bergen Fiord, 15-40 fath.; Hardanger Fiord, off Lervig, 20-100 fath., and Lervig Bay, 5-25 fath.; off Batalden, 200 fath.

Genus 2. PONTOCYPRIS, G. O. Sars.

Pontocypris mytiloides (Norman).

Off Børnæstangen, in Oster Fiord, 100-200 fath.; south of Bukken, Bergen Fiord, 15-40 fath.; Haakelsund, Kors Fiord, 3-10 fath.; Lervig Bay, 3-25 fath.; Floro Bay.

Pontocypris hispida, G. O. Sars.

Hardanger Fiord, off Lervig, 210 fath., and in Lervig Bay.

Pontocypris acupunctata, G. S. Brady.

Batalden, near Floro.

Pontocypris trigonella, G. O. Sars.

Off Sartoro, Bergen Fiord, 15-40 fath.; Haakelsund, Kors Fiord, 3-10 fath.; Lervig Bay, 3-25 fath.

Genus 3. ARGILLÆCIA, G. O. Sars.

Argillæcia cylindrica, G. O. Sars.

Oster Fiord, 375 fath.; off Sartoro, Bergen Fiord, 15-40 fath.; Lervig Bay, 10-25 fath.; Stoksund, 80-100 fath.; off Dröbak, Christiania Fiord, 30-100 fath.; Hardanger Fiord, 210 fath.; Vadsö, 10 fath.; Klosterelv Fiord, Sydvaranger, tide-marks.

Fam. II. Bairdiidæ.

Genus 1. BAIRDIA, M'Coy.

Bairdia inflata, Norman, = *B. obliquata*, G. O. Sars.

Kors Fiord, 180 fath.; off Sartoro, Bergen Fiord, 15-40 fath.; Hardanger Fiord, off Midso Lighthouse, 50-100 fath.

Bairdia (*Bythocypris*?) *complanata*, G. S. Brady.

Off Sartoro, Bergen Fiord, 15-40 fath.; very abundant off Midso

Lighthouse, Hardanger Fiord, 50-100 fath.; south side of Kors Fiord, 180 fath.

Bairdia (Bythocypris?) obtusata, G. O. Sars.

Off Midso Lighthouse, in Hardanger Fiord, 50-210 fath.; Stok-sund, 126 fath.; Solems Fiord, Floro, 30-60 fath.

Genus 2. MACROCYPRIS, G. S. Brady.

Macrocypris minna (Baird).

Dröbak, Christiania Fiord, 30-100 fath.; Oster Fiord, 50-375 fath.; Hardanger Fiord, 25-210 fath.; Bergen Fiord, south of Bukken, 150-200 fath.

Macrocypris angusta (G. O. Sars).

Dröbak, Christiania Fiord, 100 fath.; Hardanger Fiord, off Midso Lighthouse, 50-100 fath.; Bergen Fiord to the south of Bukken, 100-150 fath.

Fam. III. Cytheridæ.

Genus 1. CYTHERE, Müller.

Cythere lutea, Müller.

I have found this commonly between tide-marks and very shallow water throughout the entire length of Norway from Christiania Fiord to Tromsö, Varanger Fiord, and Klosterelv Fiord; and with it *Cythere viridis*, G. O. Sars, which appears to be its young.

Cythere pellucida, Baird, = *C. castanea*, G. O. Sars.

Hollingspollen, near Christiania; Lungegaards-vandet, Bergen, and off Sartoro; Vadsö and Lang and Klosterelv Fiords, Finmark.

Cythere confusa, Brady and Norm. = *C. pellucida*, auct. (non Baird).

Hollingspollen, near Christiania; Lungegaards-vandet, Bergen; Haakelsund, in Kors Fiord; Lervig Bay; Floro; Vadsö, Finmark.

Cythere porcellanea, G. S. Brady, = *C. propinqua*, G. O. Sars.

With the last two species in the first two localities given; and in Lervig Bay.

Cythere tenera, G. S. Brady.

Oster Fiord, 50-100 fath.; Lervig Bay, 25 fath.; Dröbak, 3-120 fath.; off Batalden, 200 fath.

Cythere semipunctata, G. S. Brady.

Lervig Bay, Stordöer, 3-25 fath.

Cythere corpulenta, Brady and Norm.

This is only known as yet from Oster Fiord, near Bergen, where it occurred to me in four different dredgings, ranging from 100 to 375 fathoms; but only a single specimen was taken in each case.

Cythere gibbosa, Brady & Rob.

Klosterelv Fiord, Finmark, tide-marks. This minute species, only previously known in Britain and Greenland, I have this summer met with in the above fiord, which is close to the Russian frontier.

Cythere oblonga, G. S. Brady.

Only two specimens found off Dröbak, in 30-120 fath.

Cythere leioderma, Norman.

A single specimen found in 50-60 fath. in Solems Fiord, Florø.

Cythere Robertsoni, G. S. Brady.

Dröbak, in 30-120 fath.; and Stoksund, in Hardanger Fiord, 126 fath.

Cythere convexa, Baird.

A single specimen taken in Lervig Bay, Stordöer, in 1882. This is not *Cytheropteron convexum*, G. O. Sars, which is *C. latissimum*, Norman.

Cythere marginata, Norman.

Lervig Bay, Hardanger Fiord.

Cythere limicola, Norman, = *C. nodosa*, G. O. Sars.

This species I had not succeeded in finding on former dredging-expeditions in the south and west of Norway; but in the past summer I have met with it in several localities in East Finmark, namely Vadsö, in 15-25 fath., Lang Fiord, 5-25 fath., and Bog Fiord, 20-30 fath.

Cythere cuneiformis, Brady, = *C. ventricosa*, G. O. Sars.

Lervig Bay, Stordöer, 3-25 fath.

Cythere navicula (Norman).

A single specimen in 15 fathoms off Sartoro, in Bergen Fiord.

Cythere globulifera, Brady.

Stoksund, in the Hardanger Fiord, in 126 fath.

Cythere complexa, G. S. Brady.

In the same dredging as the last, two specimens.

Cythere cluthæ, B., C., & R.

Dredged living in 125-150 fath. in the Varanger Fiord, and in 20-30 fath. on the east side of Bog Fiord, East Finmark. It is rare in the British seas, and was taken in the Greenland seas by the Nares Arctic Expedition. It is fossil in Scotch deposits. New to the Norwegian fauna.

Cythere albomaculata, Baird.

Lervig Bay, Stordöer, 5 fath. ; only very few specimens.

The following species belong to the genus *Cythereis* as defined by Prof. G. O. Sars :—

Cythere villosa (G. O. Sars).

In 0-180 fath. at Bergen, and off Sartoro, in Bergen Fiord ; Lervig Bay ; Stoksund ; and this year I have found it living between tide-marks in East Finmark at Vadsö and in Klosterelv Fiord. It is essentially a shore and shallow-water species ; the specimens in deep water were dead and had no doubt been washed into the localities where they occurred.

Cythere echinata (G. O. Sars).

Dröbak, 30-100 fath. ; Hardanger Fiord, off Midso Lighthouse, 210 fath. ; Bergen Fiord, south of Bukken, 150-200 fath. ; Oster Fiord, 375 fath.

Cythere latimarginata, Speyer, = *C. abyssicola*, G. O. Sars.

Oster Fiord, 100-200 fath. ; Bergen Fiord to the south of Bukken, 150-200 fath. ; Lervig Bay, 20 fath. ; Stoksund, Hardanger Fiord, 125 fath. ; Christiania Fiord, 30-100 fath.

Cythere crenulata (G. O. Sars).

Oster Fiord, 100-200 fath. ; off Sartoro, in Bergen Fiord, 15-40 fath. ; south side of Kors Fiord, 180 fath. ; Lervig Bay, 10-25 fath. ; Stoksund, 80-126 fath.

Cythere quadridentata, Baird.

Lervig Bay, Stordöer, 10-25 fath.

Cythere tuberculata (G. O. Sars).

Found throughout the whole length of Norway from Dröbak to East Finmark, where I have this year taken it at Vadsö in shallow water, and between tide-marks in Klosterelv Fiord.

Cythere concinna, Rupert Jones, = *Cythereis clavata*, G. O. Sars.

With similar extensive range in Norway to the last. In former years I have found it in South and West Norway, and now in East Finmark, tide-marks, living, and shallow water at Vadsö, Bog Fiord, and Klosterelv Fiord.

Cythere emarginata (G. O. Sars).

Lervig Bay, 3-24 fath.; and off Lervig, 50-100 fath., Stoksund, 80-100 fath., Haakelsund, Kors Fiord, 3-10 fath.; off Batalden, and in East Finmark, living, between tide-marks, and in shallow water, Vadsö and Klosterelv Fiord.

Cythere finmarchica (G. O. Sars).

Haakelsund, in Kors Fiord, 3-10 fath.; and in East Finmark, living, tide-marks, and shallow water at Vadsö, and in Lang Fiord, Sydvaranger.

Cythere angulata (G. O. Sars).

Hollingspollen, Dröbak, 3-10 fath.; Lervig Bay, 3-25 fath.; Haakelsund, Kors Fiord, 3-10 fath.; Lungegaards-vandet, Bergen, 0-3 fath.; off Batalden: and in East Finmark, living between tide-marks and in shallow water, Vadsö, and in the Klosterelv Fiord.

Cythere mucronata (G. O. Sars).

Stoksund, which is near the mouth of the Hardanger Fiord, in 126 fath.

Cythere mirabilis, G. S. Brady.

A fine living series from very young to adult of this beautifully sculptured species was dredged in the Varanger Fiord in 125-150 fath., and in Bog Fiord, East Finmark, in 20-30 fath. Only a single dead valve has been procured in British seas from Admiralty soundings off Lumpan Head, Lewis. Prof. Brady found it in Mr. Lamont's Spitzbergen dredgings, and it is not rare as a fossil in the glacial deposits of Scotland. New to the Norwegian fauna.

Cythere dunelmensis (Norman), = *C. horrida*, G. O. Sars.

Floro; Stoksund, 126 fath., and in East Finmark, from tide-marks, living, to 100 fath., Vadsö, and Bog and Klosterelv Fiords.

Cythere Jonesii (Baird), = *Cythereis spectabilis*, G. O. Sars.

Apparently rare on the Norwegian coast; dredged in Solems Fiord, Floro, in 50-60 fath.; off Sartoro, in Bergen Fiord, in 15 fath.; and Floro Bay.

Genus 2. CYTHERIDEA, Jones.

Cytheridea papillosa, Rupert Jones, = *Cyprideis Bairdii*, G. O. Sars.

Always on soft muddy ground, Dröbak, Lervig, Stoksund, Bergen, Floro, &c.; and in East Finmark at Vadsö, and in Lang, Bog, and Klosterelv Fiords.

Cytheridea punctillata, G. S. Brady, = *Cyprideis proxima*, G. O. Sars

Dröbak, and in East Finmark, in 5-100 fathoms, Vadsö, Lang, Bog, and Klosterelv Fiords.

Cytheridea Sorbyana, Rupert Jones, = *Cytheridea dentata* and *inermis*, G. O. Sars.

Single valves only in Stoksund, 80-100 fath. ; fine living examples in East Finmark, 5 fath., Klosterelv Fiord.

Genus 3. EUCY THERE, G. S. Brady.

Eucythere declivis (Norman), = *Cytheropsis tenuitesta*, G. O. Sars.

Christiania, Hardanger, and Oster Fiords, and in East Finmark, in 0-25 fath., at Vadsö, and in Klosterelv Fiord.

Var. *argus*, G. O. Sars, = *Eucythere argus*, G. O. Sars.

Vadsö, East Finmark, 5-10 fath.

Genus 4. KRITHE, B., C., & R.

Krithe bartonensis (Rupert Jones), = *Ilyobates pratexta*, G. O. Sars.

Dröbak, 30-100 fath. ; Hardanger Fiord, 210 fath. ; Oster Fiord, 100-200 fath. ; and in East Finmark, at Vadsö, in 5-15 fath.

Krithe angusta, Brady and Norman.

This very distinct species is only as yet known in the Norwegian seas, where I took it at Dröbak, in 100 fath. ; Hardanger Fiord, off Lervig, 210 fath. ; Bergen Fiord, off Sartoro, 15-40 fath. ; and Oster Fiord, 100-375 fath.

Genus 5. LOXOCO NCHA, G. O. Sars.

Loxoconcha impressa, Baird, = *L. rhomboidea*, G. O. Sars.

Dröbak, Lervig, Stoksund, Bergen, Kors Fiord, and Floro ; but I did not meet with it in East Finmark.

Loxoconcha multifora (Norman).

Lervig Bay, 10-20 fath. ; off Sartoro, in Bergen Fiord, 15-40 fath. ; Floro Bay.

Loxoconcha tamarindus (Rupert Jones), = *L. longipes*, G. O. Sars.

Lungegaards-vandet, Bergen ; off Sartoro, 15-40 fath., and other places in the Bergen district ; at Floro ; and in East Finmark, living, between tide-marks and in shallow water, at Vadsö and Klosterelv Fiord.

Loxoconcha fragilis, G. O. Sars.

Lungegaards-vandet, Bergen ; and in East Finmark a single specimen, living, between tide-marks in Klosterelv Fiord.

Genus 6. XESTOLEBERIS, G. O. Sars.

Xestoleberis aurantia (Baird), = *X. nitida* (Lillj.), G. O. Sars.

In the Hardanger and Bergen Fiords.

Xestoleberis depressa, G. O. Sars.

In many places at Dröbak and in the Hardanger, Kors, and Bergen Fiords. On our own coast it is usually dredged, while *C. aurantia* occurs between tide-marks; but in East Finmark, where I did not meet with *C. aurantia*, the present species was living between tide-marks as well as found in 0-15 fath. at Vadsö and in Klosterelv Fiord.

Genus 7. CYTHERURA, G. O. Sars.

Cytherura affinis, G. O. Sars.

Dröbak, 120 fath., and off Midso Lighthouse, in the Hardanger Fiord, in 50-100 fath. In East Finmark I met with it in shallow water at Vadsö and living between tide-marks in Klosterelv Fiord.

Cytherura sella, G. O. Sars.

Lervig Bay and Stoksund, in 126 fath.; Vadsö, 20-30 fath.

Cytherura acuticostata, G. O. Sars.

Lervig Bay, Bergen and Oster Fiords, and Batalden, near Floro.

Cytherura striata, G. O. Sars.

Dröbak, 30-120 fath.; Haakelsund, in Kors Fiord, 3-10 fath.; Lervig Bay, 10-25 fath.

Cytherura exserta, Brady and Norm.

The types of this species were dredged by me in Stoksund.

Cytherura undata, G. O. Sars.

Dröbak, 120 fath.; Lervig Bay, 10-25 fath.; Stoksund, 126 fath.; Bukken, in Bergen Fiord, 40 fath.; off Batalden, 200 fath.; in East Finmark, living between tide-marks in Klosterelv Fiord, and dredged in 5-25 fath. at Vadsö.

Cytherura producta, G. S. Brady.

Lervig Bay and off Sartoro, in Bergen Fiord, 15-40 fath.

Cytherura grønlandica, Brady and Norm.

This arctic species described from Greenland specimens I now am able to add to the Norwegian fauna, having found it living in two localities east and west of Vadsö, Finmark, in 5-25 fath.

Cytherura concentrica, B., C., & R.

Lervig Bay, 10–25 fath.; Stoksund, 80–100 fath.; off Batalden, near Floro.

Cytherura similis, G. O. Sars.

Dröbak, 120 fath.; Haakelsund, in Kors Fiord, 5–10 fath.; and in East Finmark, Vadsö, 5–25 fath.

Cytherura nigrescens (Baird).

Tide-marks along the whole coast from Christiania to Sydvaranger.

Cytherura rudis, Brady.

This species, previously only known in Greenland, is now added to the Norwegian fauna. I dredged living specimens to the east of the entrance to Vadsö Harbour, in 15–25 fath.

Cytherura cellulosa, Norman, = *C. nana*, G. O. Sars.

Bergen Fiord, off Sartoro, 15–40 fath.; Lervig Bay, 0–25 fath.; Stoksund, 80–126 fath.; Dröbak, 30–120 fath.; Haakelsund, in Kors Fiord, 3 fath.; Floro Bay; Vadsö, 20–30 fath.

GENUS 8. CYTHEROPTERON, G. O. Sars.

Cytheropteron latissimum (Norman), = *C. convexum*, G. O. Sars.

Lervig Bay, 3–25 fath., and in East Finmark at Vadsö, 10–25 fath., and between tide-marks in Klosterelv Fiord.

Cytheropteron nodosum, G. S. Brady.

In 3–100 fath., Lervig Bay, and off Lervig; and off Sartoro, in Bergen Fiord; in East Finmark a single specimen at Vadsö, 15–25 fath.

Cytheropteron inflatum, B., C., & R. (?).

Stoksund, in 125 fath. Some doubt attaches to the single specimen obtained, which is not very characteristic.

Cytheropteron subcircinatum, G. O. Sars.

Lervig Bay, 2–10 fath.

Cytheropteron punctatum, Brady.

Off Sartoro, in Bergen Fiord, 15–40 fath.

Cytheropteron hamatum, G. O. Sars.

Stoksund, 80–100 fath.

Cytheropteron testudo, G. O. Sars.

A very interesting species, found by me in two places in the

Hardanger Fiord, namely off Lervig, in 210 fath., and in Stoksund, 126 fath. ; also off Batalden, near Floro.

Genus 9. BYTHOCY THERE, G. O. Sars.

Bythocythere constricta, G. O. Sars.

Off Sartoro, Bergen Fiord, 20–30 fath. ; Kors Fiord, 180 fath. ; Floro Bay ; Vadsö, East Finmark, tide-marks.

Bythocythere recta, G. S. Brady.

A single young living example dredged in about 20 fathoms to the east of Vadsö, Finmark. It occurs in the British seas, and I have taken it in the Bay of Biscay ; but it is always numerically very scarce. It is a fossil in Scotch deposits. New to the Norwegian fauna.

Genus 10. PSEUDOCY THERE, G. O. Sars.

Pseudocythere caudata, G. O. Sars.

Hardanger Fiord, 25–100 fath. ; off Sartoro, Bergen Fiord, 15–40 fath. ; Oster Fiord, 50–100 fath. ; and Vadsö, Finmark, 5–15 fath.

Genus 11. SCLEROCYTHE, G. O. Sars.

Sclerocythere contorta (Norman).

Dröbak, 120 fath. ; off Sartoro, Bergen Fiord, 15–40 fath. Hardanger Fiord, 40–210 fath. ; Kors Fiord, 180 fath.

Fam. IV. PARADOXOSTOMATIDÆ.

Genus PARADOXOSTOMA, Fischer.

Paradoxostoma variable (Baird).

Found throughout the entire Norwegian coast from Dröbak to East Finmark, where I have found it during the past summer, between tide-marks at Vadsö and in Klosterelv Fiord.

Paradoxostoma ensiforme, G. S. Brady.

Lervig Bay, in Hardanger Fiord, 3–25 fath.

Paradoxostoma abbreviatum, G. O. Sars.

Lervig Bay, 3–25 fath. ; Stoksund, in the Hardanger Fiord, 80–100 fath. ; Haakelsund, in Kors Fiord ; Lungegaards-vandet, Bergen ; Batalden, near Floro, 200 fath.

Paradoxostoma pulchellum, G. O. Sars.

Lervig Bay.

Paradoxostoma orchadense, Brady and Rob.

Lervig Bay, a single specimen.

Paradoxostoma rostratum, G. O. Sars.

This species occurred to Prof. Sars as very rare in Öxfjord, Finmark. In our monograph Professor Brady and myself have introduced Sars's description and given an outline drawing from his pencil. I have now found three specimens among weeds between tide-marks at Vadsö, East Finmark. It is a very fine and distinct species, and is remarkable for its pure white colour.

Paradoxostoma productum, Brady & Norm.

Lervig Bay, 25 fath. ; two dredgings in Stoksund, in the Hardanger Fiord, in 80-126 fath. ; off Sartoro, in Bergen Fiord, 15-40 fath.

Paradoxostoma flexuosum, G. S. Brady.

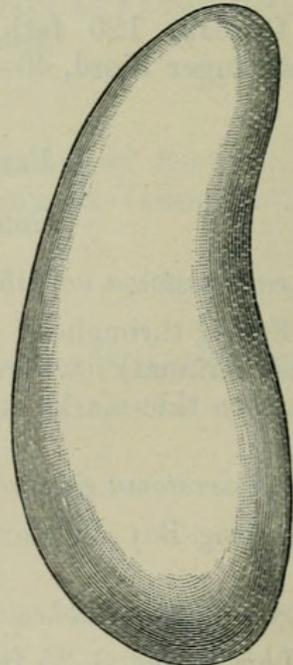
Dröbak, 30-100 fath. ; Lervig Bay, 3-25 fath. ; off Sartoro, Bergen Fiord, 15-40 fath. ; Oster Fiord, 100-200 fath.

Paradoxostoma inflexum, Brady & Norm., sp. n.

Shell, seen from the side, siliquose; greatly curved, greatest height equal to two fifths of the length, behind the middle; anterior half of much less height than the posterior, and bending downwards; anterior extremity narrow, but well and evenly rounded; posterior margin much broader, and also well and evenly rounded; dorsal margin strongly arched throughout, without any angularity in any part, posterior declination much more sudden than the anterior; ventral margin deeply concave slightly in front of the middle, behind the middle gently convex, the hinder portion of the shell thus becoming much higher than the anterior. Seen from above very narrow, greatest width not more than half the height, sides nearly flat, both extremities very narrow, but the anterior more acute than the posterior. Length .40 millim.

Tide-marks, among weeds, Vadsö, Finmark.

There are only two Ostracoda which this very small species can be said to approach at all in shape, and of which it might be suggested that it was the young. These are *Paradoxostoma Normani* and *Sclerochilus contortus*. With the young of the same size in these species it has been compared, and it differs *in toto*.



Paradoxostoma inflexum.

The young of the former is very much shorter and higher, in fact shorter and higher than the adult, and less incurved. The young of the latter is very nearly as the adult, the extremities much more nearly equal than in this species, and consequently the whole shape different; it is also more convex. It is possible that the present species may hereafter prove to be a *Sclerochilus*, and not a *Paradoxostoma*. The specimens described had been dried before they were noticed, though living when collected.

Section II. PLATYCOPA.

Fam. Cytherellidæ.

Genus CYTHERELLA, Bosquet.

Cytherella abyssorum, G. O. Sars.

Stoksund, in Hardanger Fiord, 126 fath.; off Lervig, 200 fath.; Bergen Fiord to the south of Bukken, 150–200 fath.; Oster Fiord, 100–200 fath.; Solems Fiord, Florø, 50–60 fath.

Section III. CLADOCOPA.

Fam. Polycopidæ.

Genus POLYCOPE, G. O. Sars.

Polycope orbicularis, G. O. Sars.

Lervig Bay, 3–25 fath.; Bergen Fiord, south of Bukken, 150–200 fath.; Oster Fiord, 100–200 fath.; Bog Fiord, East Finmark, 20–30 fath.

Section IV. MYODOCOPA.

Fam. Cypridinidæ.

Genus 1. CYPRIDINA, Milne-Edwards.

Cypridina norvegica, Baird.

Hardanger Fiord, off Lervig, 150–180 fath., and in Stoksund, 80–100 fath.

Genus 2. PHILOMEDES, Lilljeborg.

Philomedes Lilljeborgii, G. O. Sars.

Dröbak, 30–100 fath.; Hardanger Fiord, off Lervig, 150–180 fath., and in Stoksund, 80–100 fath.; Bergen Fiord, south of Bukken, 150–200 fath.

Philomedes brenda, Baird.

Dröbak, 20–100 fath.; East Finmark, in Varanger, Bog, and Klosterelv Fiords, 3–100 fathoms. In one bay on the south side of Bog Fiord it occurred in extraordinary abundance in 3 fath.

Prof. Sars has met with the following twenty-three species in Norway, which I have not myself found:—

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| Cythere crispata, <i>G. S. Brady</i> , = <i>C. cicatricosa</i> , <i>G. O. Sars</i> . | Bythocythere insignis, <i>G. O. Sars</i> . |
| — rubida, <i>G. S. Brady</i> , = <i>C. dramensis</i> , <i>G. O. Sars</i> . | Cytherois Fischeri, <i>G. O. Sars</i> . |
| — Macallana, <i>G. S. Brady</i> . | — vitrea, <i>G. O. Sars</i> . |
| Loxoconcha guttata (<i>Norman</i>), = <i>L. granulata</i> , <i>G. O. Sars</i> . | Paradoxostoma obliquum, <i>G. O. Sars</i> . |
| Cytherura atra, <i>G. O. Sars</i> . | Polycope punctata, <i>G. O. Sars</i> . |
| — gibba (<i>Müller</i>). | — pustulata, <i>G. O. Sars</i> . |
| — clathrata, <i>G. O. Sars</i> . | Cypridina megalops, <i>G. O. Sars</i> . |
| Cytheropteron alatum, <i>G. O. Sars</i> . | Asterope norvegica, <i>G. O. Sars</i> . |
| Bythocythere turgida, <i>G. O. Sars</i> . | — abyssicola, <i>G. O. Sars</i> . |
| — dromedaria, <i>G. O. Sars</i> . | Conchœcia elegans, <i>G. O. Sars</i> . |
| — simplex (<i>Norman</i>), = <i>B. acuminata</i> , <i>G. O. Sars</i> . | — borealis, <i>G. O. Sars</i> . |
| | Halocypris obtusata, <i>G. O. Sars</i> . |

On the other hand, the thirty species which follow have occurred to me, but are not recorded by Sars as found by himself:—

- | | |
|---|---|
| Pontocypris acupunctata, <i>G. S. Brady</i> . | Cythere mirabilis, <i>G. S. Brady</i> . |
| Cythere tenera, <i>G. S. Brady</i> . | Loxoconcha multifora (<i>Norman</i>). |
| — semipunctata, <i>G. S. Brady</i> . | Cytherura exserta, <i>Brad. & Norm.</i> |
| — corpulenta, <i>Brad. & Norm.</i> | — producta, <i>G. S. Brady</i> . |
| — gibbosa, <i>Brad. & Rob.</i> | — grœnlandica, <i>Brad. & Norm.</i> |
| — oblonga, <i>G. S. Brady</i> . | — rudis, <i>G. S. Brady</i> . |
| — leioderma, <i>Norman</i> . | — concentrica, <i>B., C., & R.</i> |
| — Robertsoni, <i>G. S. Brady</i> . | Cytheropteron nodosum, <i>G. S. Brady</i> . |
| — convexa, <i>Baird</i> . | — inflatum, <i>B., C., & R.</i> |
| — marginata, <i>Norman</i> . | — punctatum, <i>G. S. Brady</i> . |
| — navicula (<i>Norman</i>). | Bythocythere recta, <i>G. S. Brady</i> . |
| — globulifera, <i>G. S. Brady</i> . | Paradoxostoma orchadense, <i>Brad. & Rob.</i> |
| — complexa, <i>G. S. Brady</i> . | — productum, <i>Brad. & Norm.</i> |
| — cluthæ, <i>B., C., & R.</i> | — inflexum, <i>Brad. & Norm.</i> |
| — albomaculata, <i>Baird</i> . | |
| — quadridentata, <i>Baird</i> . | |

Arctic Species.

- | | |
|------------------------|------------------------|
| Argillœcia cylindrica. | Cythere concinna. |
| Cythere lutea. | — emarginata. |
| — pellucida. | — finmarchica. |
| — confusa. | — angulata. |
| — porcellanea. | — mirabilis. |
| — tenera. | — dunelmensis. |
| — cluthæ. | — Jonesii. |
| — gibbosa. | Cytheridea papillosa. |
| — leioderma. | — punctillata. |
| — marginata (?). | — Sorbyana. |
| — limicola. | Eucythere declivis. |
| — globulifera. | Krithe bartonensis. |
| — villosa. | Loxoconcha tamarindus. |
| — crenulata. | — fragilis. |
| — tuberculata. | Cytherura atra. |

Cytherura undata.	Cytheropteron montrosiense.
— grœnlandica.	— angulatum.
— nigrescens.	Bythocythere constricta.
— concentrica.	— turgida.
— similis.	— simplex.
— rudis.	Sclerochilus contortus.
— clathrata.	Paradoxostoma variabile.
Cytheropteron latissimum.	— flexuosum.
— nodosum (?).	— rostratum.
— inflatum.	Polycope orbicularis.
— hamatum.	Philomedes brenda.

Boreal Species.

Paracypris polita.	Loxoconcha multifora.
Pontocypris mytiloides.	— guttata.
— hispida.	— impressa.
— acupunctata.	Xestoleberis depressa (?).
— trigonella.	— aurantia.
Bairdia inflata.	Cytherura gibba.
— obtusata.	— sella.
— complanata.	— acuticostata.
Cythere Macallana.	— striata.
— semipunctata.	— producta.
— crispata (?).	— cellulosa.
— rubida.	Cytheropteron punctatum.
— oblonga.	— alatum.
— Robertsoni.	Pseudocythere caudata.
— convexa.	Cytherois Fischeri.
— cuneiformis.	Paradoxostoma ensiforme.
— navicula.	— abbreviatum.
— albomaculata.	— pulchellum.
— quadridentata.	

Abyssal Species.

Macrocypris minna.	Cytherella abyssorum.
— angusta.	Conchoœcia borealis.
Cythere echinata.	— elegans.
— latimarginata.	Halocypris obtusata.

Species of doubtful origin.

Cythere corpulenta.	Cytherois vitrea.
— complexa.	Paradoxostoma inflexum.
— mucronata.	— orchadense.
Krithe angusta.	— productum.
Cytherura affinis.	Polycope punctata.
— exserta.	— pustulata.
Cytheropteron testudo.	Cypridina norvegica.
— subcircinatum.	— megalops.
Bythocythere insignis.	Philomedes Lilljeborgii.
— dromedaria.	Asterope norvegica.
Bythocythere recta.	— abyssicola.



Norman, Alfred Merle. 1891. "X.—Notes on the marine Crustacea Ostracoda of Norway." *The Annals and magazine of natural history; zoology, botany, and geology* 7, 108–121. <https://doi.org/10.1080/00222939109460582>.

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