APHERUSA JURINII (H. Milne-Edwards).

This is *Amphithoe norvegica* Rathke and *Pherusa fucicola* Bate *partly* (see Walker, Ann. and Mag. Nat. Hist., May, 1891, p. 418).

Cullercoats (J. Alder); 5–6 miles off Souter Point, 30 fathoms (A. Mk.); four miles off Tynemouth in 27 fathoms (G. S. B.) N.D.

CALLIOPIUS RATHKEI (Zaddach).

Common between tidemarks. N.D.

CALLIOPIUS LÆVIUSCULUS (Kröyer).

Occasionally taken between tidemarks. We cannot regard the last as distinct from the present species (A. M. N.) N.D.

FAM. 16.—ATYLIDÆ

NOTOTROPIS SWAMMERDAMII (H. Milne-Edwards).

Abundant between tidemarks. N.D.

NOTOTROPIS FALCATUS (Metzger).

Alnmouth, 1899 (G. S. B.); not uncommon on the sand outside of the rocks at Cullercoats and Druridge Bay (A. Mk.)

Mr. Meek makes the following interesting statement, "The modified first pair of peræopoda are used to grasp fragments of shell. Most frequently two pieces of shell are taken and grasped by the modified appendages. The animal has then the appearance of lying in a bivalve shell—the fragments of shell coming pretty close together dorsally. The active movements of the apparent bivalves betray, however, their crustacean occupant to the observer." N.

NOTOTROPIS VEDLOMENSIS (Bate).

Near Holy Island, 35–50 fathoms; 40–50 miles E. by N. from Tynemouth, 40 fathoms (A. M. N.). Two miles off Cullercoats (A. Mk.); off Souter Point, 1904 (G. S. B.) N.D.

FAM. 17.—DEXAMINIDÆ

DEXAMINE SPINOSA (Montagu).

This species seems to be rare on the east coast, while it is common on all the other shores of Great Britain.

Cullercoats and Druridge Bay (A. Mk.) N.

DEXAMINE THEA Boeck=*D. tenuicornis* Bate (not Rathke).
Among weeds at low water, Sunderland (G. S. B.) D.

TRITÆTA GIBBOSA (Bate)=*Atylus gibbosus* Bate.
Parasitic in sponges, Cullercoats, Oct. 5, 1864 (A. M. N.) N.

GUERNEA COALITA (Norman).

1868. *Helleria coalita*, Norman, Crustacea Amphipoda New to Science or to Britain. Ann. and Mag. Nat. Hist., ser. 4, vol. ii., p. 418, pl. xxii., fig. 8, and pl. xxiii., figs. 1–6.

1887. *Guernea coalita*, Chevreux, Crustacés Amphipodes de la côte ouest de Bretagne, p. 15, woodcuts 1, 2 (separate copy).

1887. *Guernea lævis*, Chevreux, ibid, p. 41.

1887. *Prianassus Nordenskioldii*, H. J. Hansen, Oversigt over det vestlige Grönlands Fauna af malakostrake Havskrebsdyr. Vidensk. Middel. fra den Naturh. Foren. i Kjöbenhavn, p. 82, pl. ii., figs. 7–7 e, and pl. iii., figs. 1–1 c.

1893. *Guernea coalita*, Della Valle, Fauna und Flora des Golfes von Neapel, Gammarini, p. 570, pl. xxxi., figs. 20–33. pl. lviii., fig. 80.

Surface nine miles N.E. of the Longstone (A. Mk.); off Souter Point (G. S. B.). This species is now known to have a wide range from West Greenland (H. J. Hansen) and Franz Joseph Land (Stebbing) to Naples (Della Valle). N.D.

FAM. 18.—MELPHIDIPPIDÆ

MELPHIDIPPELLA MACRA (Norman).

1869. *Atylus macer*, Norman, Last Report Dredging Shetland. Brit. Assoc. Rep. for 1868, p. 280.

1870. *Melphidippa longipes*, A. Boeck, Crust. Amphip. Bor. et Arct., p. 139.

1876. *Melphidippa longipes*, Boeck, De Skand. og Arct. Amphip., p. 414. pl. xxiv., fig. 5.

1889. *Melphidippa macra*, Norman, "Notes on British Amphipoda." Ann. and Mag. Nat. Hist., ser. 6, vol. iv., p. 121, pl. x., fig. 14, and pl. xii., figs. 4–7.

1894. *Melphidippella macera*, G. O. Sars, Crust. Norway, Amphip., p. 488, pl. clxxi.

In several dredgings 2½ to 17 miles off Souter Point, 21–39 fathoms (A. Mk.) D.

FAM. 19.—GAMMARIDÆ

AMATHILLA HOMARI (Fabricius)=*Amathilla Sabini* Bate=*Graia imbricata* Bate (the young).

Very common in rock pools and between tidemarks, as well as in shallow water. We cannot see specific difference between *A. angulosa* and the young of this species, of which *Graia imbricata* Bate is a still younger condition. N.D.

GAMMARUS MARINUS Leach.

Ryhope, tidemarks (A. M. N.); Sunderland (G. S. B.); common on the coast (A. Mk.) N.D.

GAMMARUS LOCUSTA (Linné).

Abundant between tidemarks and in lammarian zone. N.D.

GAMMARUS DUEBENI Lilljeborg.

1889. *Gammarus locusta* var., C. Hoek, Crustacea Neerlandica ii., p. 50, pl. x., fig. 13.

1889. *Gammarus campylops*, Norman, Notes on British Amphipods. Ann. and Mag. Nat. Hist., ser. 6, vol. iv., p. 139, pl. xii., fig. 13.

We follow Sars here in using Lilljeborg's specific name, but we are by no means convinced that the species is not the *G. campylops* of Leach.

Brackish water, Bamburgh, and Hartlepool Slake (A. M. N.); common in the Coquet about a mile from the mouth of the river; in a drain flowing into the Blyth (A. Mk.) N.D.

GAMMARUS CAMPYLOPS (Leach) G. O. Sars.

One specimen from the river Blyth (A. Mk.) N.

GAMMARUS PULEX (De Geer).

In lakes and streams everywhere. N.D.

NIPHARGUS SUBTERRANEUS (Leach).

1863. *Niphargus aquilex*, Bate and Westwood, Brit. Amphip., vol. i., p. 315.

1900. *Niphargus subterraneus*, Chilton, The Subterranean Amphipoda of Great Britain. Jour. Linn. Soc., Zool., vol. xxviii., p. 147, pls. xvi., xvii., fig. 1.

It is also *Gammarus puteanus* Koch and *Niphargus stygius* Westwood.

The late Mr. R. Howse gave me a specimen of this species in 1893, which had come from a well in West Hartlepool (A. M. N.) D.

MELITA OBTUSATA (Montagu) = *Melita proxima* Bate = *Megamæra Alderi* Bate ♀.

Near the Dogger Bank, 1862; fishing boats, Cullercoats, 1864 (A. M. N.); 25 miles off Alnmouth, 59 fathoms, and 30 miles off the Farnes, 42 fathoms (A. Mk.) N.

MELITA DENTATA (Kröyer).

1889. *Metita dentata*, Norman, Notes on British Amphipoda. Ann. and Mag. Nat. Hist., ser. 6, vol. iv., p. 135, pl. xii., figs. 8–10.

Three specimens taken from fishing boat at Cullercoats (A. M. N.); 25 miles E. of Alnmouth, 50 fathoms (A. Mk.)

Bate and Westwood write respecting *Mæra grossimana*, "Dr. Johnston records it as not rare in Berwick Bay (Zool. Journ., iii., 180)." That southern species is not at all likely to be found on the north-east coast, and there can be little doubt that in this as in some other cases *Melita dentata* was mistaken for that species. N.

MELITA PALMATA (Montagu).

Eighty-two miles E. by N. from Tynemouth in 40–45 fathoms, October, 1901 (A. Mk.); in a small salt-water pond at Amble (G. S. B.). The first locality given is a very unusual one for this species. N.

MEGALUROPUS AGILIS Norman.

1889. *Megaluropus agilis*, Norman, Notes on British Amphipoda. Ann. and Mag. Nat. Hist., ser. 6, vol. iii. p. 446, pl. xviii., figs. 1–10, and vol. iv., p. 123, pl. x., figs. 15–17.

1889. *Megaluropus agilis*, Hoek, Crustacea Neerlandica ii. Tids. der Nederland. Dierk. Vereeniging 2de Reeks Dei II., p. 28, pl. vii., fig. 7, pl. viii., fig. 3, pl. ix., fig. 3.

1890. *Cheirocratus Drechselii*, Meinert, Vidensk. Udbytte Kanonbaden "Hauchs" Togter, Crustacea Malacostraca, p. 170, pl. ii., figs. 48–52.

A few specimens from Cullercoats, Blyth Bay, and Druridge Bay (A. Mk.) N.

MÆRA OTHONIS (H. Milne-Edwards)=*Megamæra othonis* ♀ and *Megamæra longimana* ♂ (B. and W.)

Frequent off the coasts. N.D.

CHEIROCRATUS ASSIMILIS (Lilljeborg).

1851. *Gammarus assimilis*, Lilljeborg, Ofvers. Kong. Vet.-Akad. Förhand., p. 23, and 1854, Kong. Vet.-Akad. Handl., p. 455.

1865. *Cheirocratus mantis*, Norman, Nat. Hist. Trans, Northumberland and Durham, vol. i., p. 13, pl. vii.. figs. 14, 15, and Bate and Westwood, vol. ii., p. 513.

1889. *Cheicocratus assimilis*, Norman, Ann. and Mag. Nat. Hist., ser. 6, vol. iv., p. 129, pl. x., fig. 13, pl. xi., fig. 11.

Dredged in 35–50 fathoms off Holy Island in 1864 (A. M. N.) N.

CHEIROCRATUS SUNDEVALLI (Rathke).

This is *Lilljeborgia shetlandica* Bate ♂, *Protomedeia Whitei* Bate ♀, *Lilljeborgia Normani* Stebbing, *Cheirocratus brevicornis* Hoek. For changes in the development with growth of the second gnathopod see Norman, Ann. and Mag. Nat. Hist., ser. 6, vol. iv., p. 130, pl. xi., figs. 9, 10, and pl. xii., figs. 1–3.

Off Holy Island, 1864 (A. M. N.); 2½ miles off Souter Point, 21 fathoms, and Cullercoats (A. Mk.) N.D.

FAM. 20.—AORIDÆ

MICRODEUTOPUS ANOMALUS (Rathke).

I have the following notes; seven miles off Tynemouth, 25 fathoms, frequent; off Holy Island, 1864 (A. M. N.); Sunderland, low water (G. S. B.); but the only specimens now in my collection are those from off Holy Island, which prove to be females of *Protomedeia fasciata* (which see). This throws some doubt on the other records. Females of the Aoridæ are often, especially young, difficult to distinguish; but the species last named is not likely to have occurred at low water. Mr. Meek in his list gives "*Microdeutopus* sp., a female was obtained at Cambois Bay in August, 1901."

AORA TYPICA Kröyer=*A. gracilis* Bate.

Holy Island Harbour, 1900, and from 2½ miles off Souter Point in 21 fathoms (A. Mk.) N.D.

LEMBOS LONGIPES (Lilljeborg).

A few specimens, Cullercoats, 28th August, 1901 (A. Mk.) N.

LEMBOS WEBSTERI Bate.

1876. *Microdeuteropus bidentatus*, Stebbing, Ann. and Mag. Nat. Hist., ser. iv., vol. xvii., p. 73, pls. iv. and v., figs. 1, 1a, 1b ♂.

Twenty-four miles off Alnmouth, 50 fathoms, and 2½ miles off Souter Point in 21 fathoms (A. Mk.) N.D.

FAM. 21.—PHOTIDÆ

PROTOMEDEIA FASCIATA Kröyer.

Off Alnmouth, 39–50 fathoms, and 16 miles off Souter Point, 39 fathoms (A. Mk.). These specimens found by Mr. Meek were very young; on re-examining three specimens which were recorded in 1865 as "*Microdeutopus anomalus*" from off Holy Island, 38–50 fathoms, I find them to be full grown females of *Protomedeia fasciata*. A character which was the first to catch my eye, and is a very distinctive one, was the very slender propodos of the anterior pairs of peræopoda, and the slenderness and great length of the nail, which is quite as

long or longer than the propodos; this last little feature is not noticed or correctly figured by Sars—absolutely correct in minute details as he usually is—who represents the nail too short. I mention this because in a mixed gathering of females of *Microdeutopus*, *Aora*, *Protomedeia*, &c., this propodos and nail, being so easily seen, would enable the specimens of the latter to be at once singled out. N.D.

GAMMAROPSIS ERYTHROPHTHALMUS Lilljeborg = *Eurystheus tridentatus* Bate ♂=*Eurystheus bispinimanus* Bate ♀.

Off Holy Island and other parts of the Northumberland coast; fishing boats, Cullercoats (A. M. N.); Seaham, 25–30 fathoms (G. H.); trawlers, Sunderland (G. S. B.); E. of Alnmouth and off Souter Point (A. Mk.). This is perhaps *Gammarus maculatus* of Johnston. N.D.

GAMMAROPSIS PALMATA (Stebbing and Robertson).

1891. *Podoceropsis palmata*, Stebbing and Robertson, Four New British Amphipoda. Trans. Zool. Soc., vol. xiii., p. 36, pl. vi. A.

1894. *Gammaropsis nana*, G. O. Sars, Crustacea Norway, Amphipoda, p. 561, pl. cxcix., fig. 2.

Thirty-two miles E. of Alnmouth, 39 fathoms, and 2½–39 miles E. of Souter Point, Co. Durham, 21–39 fathoms (A. Mk.) N.D.

MEGAMPHOPUS CORNUTUS Norman.

1878. *Podoceropsis intermedia*, Stebbing, "Two new species of Amphipodous Crustacea." Ann. and Mag. Nat. Hist., ser. 5, vol. ii., p. 367, pl. xv., fig. 3.

Two and a half miles off Souter Point in 21 fathoms (A Mk.); and in the same neighbourhood by G. S. B. D.

PHOTIS LONGICAUDATA (Bate).

Off Blyth in 22 fathoms (A. Mk.) N.

PHOTIS REINHARDI Kröyer.

Off Alnmouth, Farne Islands, and off Souter Point, Co. Durham, in 21–59 fathoms, and off the Tyne in 22 fathoms

(A. Mk.); off Holy Island, 38–50 fathoms; 7–50 miles off Tynemouth, 25–40 fathoms (A. M. N.); Seaham, 20–30 fathoms (G. H.)

My Northumberland specimens were examined by Mr. Spence Bate and named *Eiscladus longicaudatus*; but on examination I find them to be referable to *Photis Reinhardi.* N.D.

PODOCEROPSIS EXCAVATA (Bate)=*Nœnia excavata* Bate ♂, and *Nœnia rimapalmata* Bate ♀.

It is *Xenoclea Batei* Boeck and *Podoceropsis Batei* Meinert.

Northumberland coast (J. Alder); outside Holy Island, 35–50 fathoms; fishing boats, Cullercoats; off Sunderland, 1863 (A. M. N.); Seaham (G. H.); trawlers, Sunderland (G. S. B.); off Berwick in 25 fathoms, and off Blyth in 22 fathoms (A. Mk.) N.D.

PODOCEROPSIS SOPHIÆ Boeck.

Both sexes of the last species, and the only specimen known to Bate of *Nœnia undata* were sent to him from Northumberland by Mr. Alder. *Nœnia undata* is believed to be the female of *Podoceropsis Sophiæ* Boeck (=*Nœnia tuberculosa* Bate); and if that species should hereafter be found off the Northumberland coast, which there is little doubt it will be, this suspicion would be confirmed. N.

FAM. 22.—AMPHITHOIDÆ

AMPHITHOE RUBRICATA (Montagu)=*A. littorina* Bate.

Very common between tidemarks. N.D.

FAM. 23.—JASSIDÆ

ISCHYROCERUS ANGUIPES Kröyer.

"Two or three females obtained at Cullercoats in August have four spines on the inner ramus of the third uropod, and a dorsal row of three or four spines on the telson, and therefore appear to belong to this species." Also in 42–45 fathoms 82 miles E.N. of the Tyne, and in 42 fathoms off the Farne Islands (A. Mk.) N.

ISCHYROCERUS MINUTUS Lilljeborg.

1889. *Podocerus isopus*, Walker, Proc. Biolog. Soc. Liverpool, vol. iii., p. 209, pl. xi., figs. 11–13, and 1890, vol. iv., p. 250, pl. xvi., fig. 7.

"Fairly common in the harbour at Cullercoats and at other places on the coast" (A. Mk.); Sunderland (G. S. B.) We regard this as a small form of the foregoing species. N.D.

BRUZELIELLA FALCATA (Montagu)=*Podocerus falcatus* B. & W.

Off Berwick, 1863; Cullercoats; off Seaham, 25–30 fathoms; off Sunderland (A. M. N.); Craster and 82 miles E. by N. from the Tyne in 42–45 fathoms (A. Mk.). See Norman and Scott, "Crustacea of Devon and Cornwall," p. 94, for remarks on generic name *Bruzeliella*. N.D.

BRUZELIELLA PUSILLA (G. O. Sars)=*Podocerus minutus* and *pusillus* G. O. Sars.

Eighty-two miles E. by N. from Cullercoats, 40–45 fathoms (A. Mk.). *Podocerus Herdmani* Walker and *Podocerus odontonyx* of G. O. Sars appear to be founded on a mere varietal or abnormal state of the second gnathopods in which a tubercle is produced in the middle of the inner face of the finger; indeed the typical specimen of *Bruzeliella falcata* as figured by Montagu has a similar form of the nail. N.

JASSA PELAGICA Leach.

This is *Jassa capillata* Bruzelius, *Podocerus capillatus* B. & W., *Janassa capillata* Sars, and *Parajassa pelagica* of Stebbing.

Berwick (A. M. N.) N.

FAM. 24.—COROPHIIDÆ

ERICHTHONIUS HUNTERI (Bate).

Off Durham coast (G. S. B.); off Souter Point, 21 fathoms; off Farnes in 42 fathoms; off Cullercoats in 20–25 fathoms; and 82 miles E. by N. from Tynemouth, 42–45 fathoms (A. Mk.) The females in this genus so closely resemble each other, that it is by no means easy to distinguish them if not found in company with males. N.D.

ERICHTHONIUS ABDITUS (Templeton).

One or two specimens from off Cullercoats (A. Mk.); off Holy Island (A. M. N.) N.

ERICHTHONIUS DIFFORMIS (H. Milne-Edwards).

Cullercoats (J. Alder and H. T. Mennell). N.

CERAPUS CRASSICORNIS Bate.

"Dredged by Mr. Joshua Alder on the Northumberland coast" (Spence Bate). These were the type specimens.

Off Cullercoats in 20 fathoms, and 82 miles E.N.E. from the Tyne in 42–45 fathoms (A. Mk.) N.

SIPHONŒCETES WHITEI (Gosse)=*Siphonœcetes Colletti* Boeck and *S. mucronatus* Metzger.

Pretty common on the sand near to the rocks at the south end of Druridge Bay (A. Mk.). Mr. Meek has made some interesting observations on this species (Northumberland Sea Fisheries Commission Report, Scientific Investigations, 1901, p. 59). He has also found it in Skate Roads, North Sunderland, and at Cullercoats in 25 fathoms. N.

COROPHIUM VOLUTATOR (Pallas)=*Cancer grossipes* Linné=*Corophium longicorne* B. & W.

Common in mud near mouths of rivers and in salt marshes. N.D.

COROPHIUM CRASSICORNE Bruzelius.

Cullercoats, January 23, 1909 (A. Mk.); Roker (G. S. B.) N.D.

COROPHIUM BONELLI H. Milne-Edwards.

One specimen off Cullercoats, 5th August, 1900 (A. Mk.) N.

UNCIOLA PLANIPES Norman.

1865. *Unciola planipes*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 14, pl. vii., figs. 9–13.

1868. *Unciola leucopis*, Bate and Westwood, vol. ii., p. 518 (not *Unciola leucopis*, Kröyer).

1870. *Glauconome Kroyeri*, Boeck, Crustacea Borealia et Arctica. Vidensk.-Selsk. Forhand., p. 179 ♂.

1870. *Glauconome Steenstrupi*, idem. ibidem., p. 150 ♀.

The type specimen was taken off Holy Island in 35–50 fathoms in July, 1864 (A. M. N.) N.

UNCIOLA CRENATIPALMATA (Bate).

1863. *Dryope crenatipalmata*, B. & W., vol. i., p. 490 ♂.

1863. *Dryope irrorata*, B. & W., vol. i., p. 488 ♀.

1889. *Unciola crenatipalmata*, J. Bonnier, Les Amphipodes du Boulonnais. Bull. Soc. Sci. de France et Belgique, p. 229, pls. xii., xiii.

Near the rocks at Cullercoats, August, 1899 (A. Mk.) N.

FAM. 25.—DULICHIIDÆ

DULICHIA PORRECTA Bate.

Twenty-nine miles E. of Alnmouth, 59 fathoms; off Souter Point, 39 fathoms (A. Mk.); off Souter Point (G. S. B.) N.D.

DULICHIA FALCATA Bate.

Fishing boats, Cullercoats (J. Alder). N.

DULICHIA MONACANTHA Metzger.

One specimen 25 miles off Durham in 45 fathoms, muddy sand (G. S. B., *fide* A. Mk.) D.

SECTION III.—CAPRELLIDEA

FAM. 1.—CAPRELLIDÆ

PHTISICA MARINA Slabber=*Proto pedata* ♀=*P. Goodseri* ♂.

Several specimens from three miles off Cullercoats (A. Mk.). From Hydrozoa, deep water, off Cullercoats, and Durham coast (A. M. N.); trawlers, Sunderland (G. S. B.) N.D.

PSEUDOPROTELLA PHASMA (Montagu)=*Protella phasma* Bate.

Three miles E. of Tynemouth and off Seaham (A. M. N.); Cullercoats from fishing boats (J. Alder); 28 fathoms off Cullercoats (A. Mk.) N.D.

CAPRELLA LINEARIS (Linné).

The commonest Caprellidan in the district. *Caprella lobata* B. & W. is the adult male of this species. Some specimens sent to Mr. Spence Bate from Cullercoats and Seaham were recorded by B. & W., vol. ii., p. 73, as *C. equilibra*; they

however are not that species, but the male of the present one. N.D.

PERIAMBUS TYPICUS (Kröyer)=*Caprella typica* B. & W.

Off Alnmouth, 39 fathoms, off Cullercoats in 20–25 fathoms, and off Souter Point, Co. Durham, in 21–39 fathoms (A. Mk.); 30 miles off Sunderland, 40 fathoms (G. S. B.) N.D.

SUB-CLASS III.—ENTOMOSTRACA

ORDER VII.—BRANCHIOPODA

SUB-ORDER I.—PHYLLOCARIDA

FAM. 1.—NEBALIIDÆ

NEBALIA BIPES Fabr.

Not common, but occasionally taken off the coast. N.D.

SUB-ORDER II.—CLADOCERA

The works and papers chiefly to be consulted with relation to the Cladocera are :—

1. Baird (W.). Natural History of British Entomostraca, 1850.
2. Norman (A. M.) and Brady (G. S.). Monograph British Entomostraca of Families Bosminidæ, Macrothricidæ, and Lynceidæ. Nat. Hist. Trans. Northumberland and Durham, vol. i., 1867, pp. 354–408, pls. xviii.–xxiii.
3. Brady (G. S.). British species of Entomostraca belonging to Daphnia and other allied genera. Trans. Nat. Hist. Soc. Northumberland and Durham, vol. xiii., 1898, pp. 217–248, pls. vii.–x.
4. Lilljeborg (W.). Cladocera Sueciæ (König. Gesellsch. Wissensch., Upsala), 1901.

The last work is indispensable to the student of the Cladocera. All the following species will be found described and amply figured in it. References need not be given in general to Lilljeborg, but they will be given to the best figures of the species in papers by British authors.

DIVISION I.—CALYPTOMERA

SECTION I.—CTENOPODA G. O. Sars

FAM. 1.—SIDIDÆ

SIDA CRYSTALLINA (O. F. Müller).

1850. *Sida crystallina*, Baird, Brit. Entom., p. 107, pl. xii., figs. 3, 4, pl. xiii., fig. 1 a–h.

1901. *Sida crystallina*, Lilljeborg, l.c., p. 18, pl. i., figs. 1–10, pl. ii., figs. 1–3.

Apparently in all the larger pieces of water; Crag, Broomley, Grindon, Greenley, West Rothley, and South Belsay Lakes, Northumberland; Wynyard, Hardwick, and Sedgefield (A. M. N.); Sweethope (G. S. B.) N.D.

DIAPHANOSOMA BRACHYURUM (Liévin).

1848. *Sida brachyura*, Liévin, Branchiopoden der Danziger Gegend, p. 20, pl. iv., figs. 3–9.

1850. *Diaphanosoma Brandtianum*, S. Fischer, Ergänzungen. . . Umgegend von St. Petersburg vorkom. Crust. Ord. Branchiopoden und Entomostraceen. Mem. des Sav. Etrang., vol. vii., p. 10, pl. iii., figs. 1–5.

1865. *Daphnella Brandtiana*, G. O. Sars, Norges Fersk-vandskrebsdyr; Branchiopoda I. Cladocera Ctenopoda p. 45, pl. ii., figs. 25–33.

1901. *Diaphanosoma brachyurum*, Lilljeborg, l.c., p. 36, pl. iii., figs. 6–13, pl. iv., figs. 1–4.

1907. *Diaphanosoma brachyura*, var. *nasuta*, Kane (W. F. de V.), The Irish Naturalist, vol. xvi., p. 305, pl. xli.

Other synonyms are *Sida brachyura* Lilljeborg "De Crustaceis," *Daphnella brachyura* of P. E. Müller, Hudendorff, and Herrick, *Sida Brandtiana* Leydig, *Daphnella brachyura* Hellich, and *Diaphanosoma Brandtianun* G. O. Sars.

Daphnella Baird, 1850, is preoccupied; *Diaphanosoma* S. Fischer published later in the same year must therefore be the name of this genus.

The second species of this genus—if the former is worthy of specific rank—is *Diaphanosoma Wingii* Baird. Of this the following are, according to Lilljeborg, synonyms : *Sidæa crystallina* S. Fischer, 1851 ; *Diaphanosoma Leuchtenbergianum* S. Fischer, 1854 ; *Daphnella brachyura* G. O. Sars, 1865, Hellich, Daday, and Stengelin ; *Daphnella Brandtiana* P. E. Müller, Herrick, and Matile ; *Diaphanosoma brachyurum* G. O. Sars, 1890 ; and *Diaphanosoma Leuchtenbergianum* Lilljeborg, 1901.

The antennæ when directed backwards do not reach the end of the body in *D. brachyurum* ; in *D. Leuchtenbergianum* they attain the length of the body or reach beyond it.

We have taken *Diaphanosomæ* in Darden Lakes, Northumberland ; and in Wynyard and Hardwick Sedgefield lakes, Co. Durham ; but as they were taken some forty years ago we are unable to say positively to which species they belonged ; such specimens as have been preserved appear to be referable to *D. brachyurum* (A. M. N.) N.D.

Section II.—ANOMOPODA

Fam. 1.—DAPHNIIDÆ

Dactylura magna (Strauss).

1898. *Dactylura magna*, G. S. Brady, l.c., p. 241, pl. x., figs. 1–8, 18.

Pond at Layton Farm, near Sedgefield, Co. Durham (A. M. N.) ; pond at Elstobb House and at Canal Farm, High Barnes, near Sunderland (G. S. B.) ; quarry pond between Plessey and Blagdon, Northumberland (G. S. B. and A. M. N.) N.D.

Daphnia pulex (De Geer).

Common in ditches and small ponds. N.D.

Daphnia obtusa Kurz.

1898. *Daphnia obtusa*, G. S. Brady, l.c., p. 224, pl. ix., figs. 5–9.

Pond at Bishopton, Co. Durham (A. M. N.) D.

VAR. PROPINQUA G. O. Sars.

1898. *Daphnia obtusa*, var. *propinqua*, G. S. Brady, l.c., p. 225, fig. A, and pl. viii., figs. 21, 22.

Pond at Morton House near Fence Houses (A. M. N.) D.

DAPHNIA HAMATA G. S. Brady.

1898. *Daphnia hamata*, G. S. Brady, l.c., p. 227, pl. vii., figs. 9–17.

Ponds at Wallington, Northumberland, and near the Bowes House Lodge of Lambton Castle (A. M. N.) N.D.

DAPHNIA LONGISPINA O. F. Müller.

1898. *Daphnia longispina*, G. S. Brady, l.c., p. 228, pl. viii., figs. 11–19.

Crag, Paston, and Sweethope Lakes, Northumberland (G. S. B.); lakes at Wynyard and Hardwick Sedgefield, and moat at Raby Castle. I am not sure if the two badly mounted specimens which I have of the species from Crag Lake may not rather be referable to *D. lacustris* G. O. Sars (A. M. N.) N.D.

SCAPHOLEBERIS MUCRONATA (O. F. Müller).

In Greenley and Chartners lakes; and in the river Till at Etal, Northumberland; in the lakes at Wynyard and Hardwick Sedgefield (A. M. N.); the Loughs, Knaresdale (G. S. B.) N.D.

SIMOSA VETULA (O. F. Müller).

The generic name *Simocephalus* being preoccupied for a genus of snakes, A. M. Norman has substituted for the later *Simocephalus* of Schoedler the name *Simosa* (see Ann. and Mag. Nat. Hist, ser. 7, vol. xi., 1903, p. 367).

This is a common species in lakes, ponds, and streams. N.D.

CERIODAPHNIA RETICULATA (Jurine).

1901. *Ceriodaphnia reticulata*, Lilljeborg, l.c., p. 184, pl. xxvii., figs. 1–10.

Newbiggin, Northumberland; Sedgefield, Co. Durham (A. M. N.) N.D

CERIODAPHNIA MEGALOPS G. O. Sars.

1901. *Ceriodaphnia megalops*, Lilljeborg, l.c., p. 190, pl. xxvii., figs. 11–15.

Abundant in the river Till at Etal, Northumberland (A. M. N.) N.

CERIODAPHNIA QUADRANGULA (O. F. Müller).

1901. *Ceriodaphnia quadrangula*, l.c., p. 193, pl. xxviii., figs. 1–5.

Chartners Lake, Northumberland (A. M. N.) N.

CERIODAPHNIA PULCHELLA G. O. Sars.

1901. *Ceriodaphnia pulchella*, Lilljeborg, l.c., p. 198, pl. xxviii., figs. 6–18.

Lake at Hardwick Hall, Sedgefield (A. M. N.); Tindale Tarn (G. S. B.) N.D.

CERIODAPHNIA LATICAUDATA P. E. Müller.

1901. *Ceriodaphnia laticaudata*, Lilljeborg, l.c., p. 208, pl. xxix., figs. 8–14.

Lake at Wynyard Park (A. M. N.) D.

FAM. 2.—BOSMINIDÆ

BOSMINA LONGIROSTRIS (O. F. Müller).

1867. *Bosmina longirostris*, Brady and Norman, l.c., p. 357, pl. xxii., fig. 4.

1901. *Bosmina longirostris*, Lilljeborg, l.c., p. 226, pl. xxx., figs. 13–16, pl. xxxi., figs. 1–18, pl. xxxii., figs. 1–3.

Bosminæ have been taken by me in Darden and Sweethope Lakes, Northumberland; also at Wynyard and Hardwick Hall, Sedgefield, and moat at Raby Castle; and I believe all of them to have been this species, but as it is more than forty years ago when they were found, and I merely have records and not specimens, it is possible that those from one or more of the Northumberland localities may belong to the following species (A. M. N.) N.D.

BOSMINA OBTUSIROSTRIS G. O. Sars.

1867. *Bosmina longispina*, Brady and Norman, l.c., p. 358, pl. xxii., figs. 1, 2.

1901. *Bosmina obtusirostris*, Lilljeborg, l.c., p. 237, pl. xxxii., figs. 4–13, pl. xxxiii., figs. 1–12, pl. xxxiv., figs. 1–12, pl. xxxv., figs. 1–9, pl. xxxvi., figs. 1–12, pl. xxxvii., figs. 1–7.

Tarns on the Humbles, Northumberland (G. S. B.) N.

FAM. 3.—MACROTHRICIDÆ

ILYOCRYPTUS SORDIDUS (Liévin).

1863. *Acantholeberis sordida*, Norman, Ann. and Mag. Nat. Hist., ser. 3, vol. ii., p. 4 (separate copy), pl. xi., figs. 6–9; and Tyneside Nat. Field Club, vol. vi., p. 55, pl. vi., figs. 6–9.

1867. *Ilyocryptus sordidus*, Norman and Brady, l.c., p. 368.

Eastern lake at Belsay, and ditch on the south side of the railway between Hexham and Corbridge (G. S. B.); pond of the deserted colliery at Bishop Middleham, and in the Forge Dam at Sedgefield (A. M. N.) N.D.

MACROTHRIX LATICORNIS (Jurine).

1867. *Macrothrix laticornis*, Norman and Brady, l.c., p. 360, pl. xxiii., figs. 4, 5.

1901. *Macrothrix laticornis*, Lilljeborg, l.c., p. 338, pl. liv., figs. 6–13.

East lake at Belsay, Northumberland, at Fardingslake, and in the Glebe Engine Pond, Sunderland (G. S. B.). All these localities are now either built over or otherwise spoiled. N.D.

MACROTHRIX HIRSUTICORNIS Norman and Brady.

1867. *Macrothrix hirsuticornis*, Norman and Brady, l.c., p. 361, pl. xxiii., figs. 6, 7.

1901. *Macrothrix hirsuticornis*, Lilljeborg, l.c., p. 346, pl. lv., figs. 6–14.

The types of this species were taken by G. S. B. in 1864 in a slow-running stream at Ashburn, Sunderland. D.

DREPANOTHRIX DENTATA (H. A. Eurén).

1867. *Drepanothrix hamata*, Brady and Norman, l.c., p. 264, pl. xxii., figs. 5–7.

1901. *Drepanothrix dentata*, Lilljeborg, l.c., p. 368, pl. lvii., figs. 2–16.

In two of the small lakes at Darden, Northumberland, in 1864, and again at a subsequent visit (A. M. N.) N.

ACANTHOLEBERIS CURVIROSTRIS (O. F. Müller).

1863. *Acantholeberis curvirostris*, Norman, "On Acantholeberis Lilljeborg." Ann. and Mag. Nat. Hist., ser. 3, vol. xi., p. 2 (separate copy), pl. xi., figs. 1–5, and Trans. Tyneside Nat. Field Club, vol. vi., p. 53, pl. vi,, figs. 1–5.

1901. *Acantholeberis curvirostris*, Lilljeborg, l.c., p. 375, pl. lvii., fig. 17, pl. lviii., figs. 1–17.

This is a species which affects peaty water, and seems never to occur in the valleys. Crag Lake, Northumberland (G. S. B.). In Chartners, Aird, and Darden lakes, and in bog-pools near Winter's Stob, Northumberland (A. M. N.) N.

FAM. 4.—CHYDORIDÆ

EURYCERCUS LAMELLATUS (O. F. Müller).

1867. *Lynceus lamellatus*, Norman and Brady, l.c., p. 401 pl. xx., fig. 8.

1901. *Eurycercus lamellatus*, Lilljeborg, l.c., p. 386, pl. lix., figs. 1–10, and pl. lx., figs. 1–10.

A common species in ponds, lakes, slow rivers, etc. N.D.

CAMPTOCERCUS RECTIROSTRIS Schödler.

1867. *Lynceus macrourus*, Norman and Brady, l.c. (nec Müller), p. 373, pl. xx., fig. 6, pl. xxi., fig. 2.

1901. *Camptocercus rectirostris*, Lilljeborg, l.c., p. 402, pl. lxi., fig. 14, pl. lxii., figs. 1–17.

Crag, Greenley, and Grindon lakes, Northumberland (A. M. N.) N.

ACROPERUS HARPÆ Baird.

1867. *Lynceus harpæ*, Norman and Brady. l.c., p. 372, pl. xxi., fig. 1.

1901. *Acroperus harpæ*, Lilljeborg, l.c., p. 418, pl. lxiii., figs. 14–24, pl. lxiv., figs. 1–10.

Common in the clear water of ponds and lakes. N.D.

ALONOPSIS ELONGATA G. O. Sars.

1867. *Lynceus elongatus*, Norman and Brady, l.c., p. 374, pl. xviii., fig. 1, pl. xvi., fig. 2.

1901. *Alonopsis elongata*, Lilljeborg, l.c., p. 434, pl. lxv., figs. 5–20.

This is a lover of moorland lakes and tarns where there is some admixture of peat with the water. In Northumberland it is widely distributed in such situations, occurring in all the Northumberland lakes and many smaller pieces of water. N.

ALONA QUADRANGULARIS (O. F. Müller).

1867. *Lynceus quadrangularis*, Norman and Brady, l.c., p. 377, pl. xxi., fig. 5.

1867. *Alona sanguinea*, P. E. Müller, Danmarks Cladocera, Naturhist. Tidsskrift, ser. 3, vol. v., p. 177.

1901. *Lynceus quadrangularis*, Lilljeborg, l.c., p. 448, pl. lxvi., figs. 8–17.

Common in lakes, ponds, and slow streams. N.D.

ALONA AFFINIS (Leydig).

1860. *Lynceus affinis*, Leydig, Naturgesch. d. Daphniden, p. 223, pl. ix., figs. 65–69.

1867. *Alona oblonga*, P. E. Müller, Danmarks Cladocera, Naturhist. Tidsskrift, ser. 3, vol. v., p. 175, pl. iii., figs. 22, 23, pl. iv., figs. 1, 2.

1901. *Lynceus affinis*, Lilljeborg, l.c., p. 455, pl. lxvi., figs. 18–21, pl. lxvii., figs. 1–17, pl. lxviii., fig. 1.

This is *Lynceus quadrangularis* S. Fischer and *Alona quadrangularis* of Herrick.

Forge Dam, Sedgefield (A. M. N.); East Belsay Lake (G. S. B.) N.D.

ALONA TENUICAUDIS G. O. Sars.

1867. *Lynceus tenuicaudis*, Norman and Brady, l.c., p. 376, pl. xix., fig. 3.

1867. *Alona tenuicaudis*, P. E. Müller, Danmarks Cladocera, Naturhist. Tidssk., ser. 3, vol. v., p. 179, pl. ii., fig. 20, pl. iii., fig. 24.

1901. *Lynceus tenuicaudis*, Lilljeborg, l.c., p. 461, pl. lxviii., figs. 2–8.

In a small pond at Morden Moor Farm near Sedgefield (A. M. N.) D.

ALONA COSTATA G. O. Sars.

1867. *Lynceus costatus*, Norman and Brady, l.c., p. 379, pl. xviii., fig. 2, and pl. xxi., fig. 7.

1867. *Alona lineata* (Schödler), P. E. Müller, Danmarks Cladocera, Naturhist. Tidssk., ser. 3, vol. v., p. 178, pl. iv., figs. 3, 4.

1901. *Lynceus costatus*, Lilljeborg, l.c., p. 465, pl. lxviii., figs. 9–15.

Rothley, Aird, Capheaton, Chartners, Crag and Grindon Lakes, Northumberland; old colliery pond at Bishop Middleham; pond near Houghton-le-Spring, Co. Durham (A. M. N.); Wallington, Rothley, and Belsay Lakes, Northumberland (G. S. B.) N.D.

ALONA GUTTATA G. O. Sars.

1867. *Lynceus guttatus*, Norman and Brady, l.c., p. 380, pl. xviii., fig. 6, and pl. xxi., fig. 10.

1874. *Alona parvula*, Kurz, Dodekas neuer Cladoceren, &c. (separate copy), p. 44, pl. ii., fig. 8.

1874. *Alona tuberculata*, id. ibid., p. 45, pl. ii., fig. 3.

1901. *Lynceus guttatus*, Lilljeborg, l.c., p. 468, pl. lxviii., figs. 16–26.

Crag and Sweethope Lakes, Northumberland, and in a small pond at East Herrington, Co. Durham (A. M. N.); in ponds at Cullercoats and at Marsden, Co. Durham (G. S. B.) N.D.

ALONA ROSTRATA Köeh.

1867. *Lynceus rostratus*, Norman and Brady, l.c., p. 394, pl. xix., fig. 1, pl. xxi., fig. 6.

1901. *Lynceus rostratus*, Lilljeborg, l.c., p. 482, pl. lxix., figs. 7–21.

East Lake at Belsay, Northumberland (G. S. B.); river Till at Etal, Northumberland (A. M. N.) N.

RHYNCHOTALONA FALCATA (G. O. Sars).

1862. *Harporhynchus falcatus*, G. O. Sars, Om de i Omengen af. Christiania forekommende Cladocerer, Forhand. Videns-Selsk. Christiania, 1861, p. 41 (separate copy).

1867. *Lynceus falcatus*, Norman and Brady, l.c., p. 387, pl. xviii., fig. 4, pl. xx., fig. 1.

1884. *Leptorhynchus falcatus*, C. L. Herrick, Final Report on the Crustacea of Minnesota, p. 114, pl. i., fig. 17.

1901. *Leptorhynchus falcatus*, Lilljeborg, l.c., p. 488, pl. lxix., figs. 22–26, pl. lxx., figs. 1–5.

1903. *Rhynchotalona falcata*, Norman, New generic names for some Entomostraca and Cirripedia. Ann. and Mag. Nat. Hist., ser. 7, vol. xi., p. 367.

Sars' generic name *Harporhynchus* being pre-occupied, Herrick substituted *Leptorhynchus*, an unfortunate choice, as the name had been more than once previously used, and therefore Dr. Norman has re-named the genus *Rhynchotalona*.

Greenley Lake, Northumberland (A. M. N.), and Sweethope (G. S. B.) N.

LEYDIGIA LEYDIGII (Schödler).

1860. *Lynceus quadrangularis*, Leydig (nec Müller), Naturgesch. der Daphniden, p. 221, pl. viii., fig. 50.

1863. *Alona Leydigii*, Schödler, Neue Beiträge zur Naturgesch. d. Cladoceren, p. 27.

1874. *Leydigia quadrangularis*, Kurz, Dodekas neuer Cladoceren (separate copy), p. 52, pl. ii., fig. 2.

1901. *Leydigia quadrangularis*, Lilljeborg, l.c., p. 494, pl. lxx., figs. 6–17, pl. lxxi., figs. 1–3.

Schödler was undoubtedly right in re-naming this species, because the specific name *quadrangularis*, as used by Leydig, was that of another species described by Müller, and misapplied by Leydig to the present form.

The specimen assigned to *Lynceus acanthocercoides* by Brady and Norman (l.c., p. 385, pl. xix., fig. 5, pl. xxi., fig. 7), was really the present form, and not that described by Fischer.

The specific distinction between the two is certainly very slight, but apparently constant.

My discovery and re-discovery of this species I look upon as one of the most curious and remarkable experiences in my life as a naturalist. One afternoon, June 22nd, 1864, I brought home a gathering made in a pond at Lambton Park. Examination proved it in the main to consist of *Daphnia pulex*; but there floated across the field of the microscope the post-abdomen of a Lynceid which I at once recognised from its peculiar spination as something new to me; but it flashed across me that I had seen somewhere a figure like it. Taking down a MS. book from my library I found in it a tracing made at the Brit. Museum Library of Fischer's figure of *Lynceus acanthocercoides*. That this species described from Moscow should be here before me in that fragment of a post-abdomen was of course of the highest interest. The whole gathering was therefore passed drop by drop under review in the microscope, and the remainder of the slough or cast skin of the specimen to which the post-abdomen belonged was met with, but no other specimen; and Moscow was its only known home.

Twenty years passed by. I had three or four times brought home gatherings from the Lambton Pond, but the phantom *Leydigia* had not shown itself again either to myself or, as far as I am aware, to any other British naturalist. Some young friends were coming to me in the evening, and I required living material to show them under the microscope. At the breakfast table I told a nephew who was staying with me the foregoing story, and said we would in the afternoon go to the said pond to get what I required, and perhaps *Leydigia* might be found. I went into my library and began to examine a gathering I made ten days before at Seaton Carew, and there was *Leydigia*! I called up my nephew and remarked how curious it was that it should thus have turned up just after I had been talking about it. In the afternoon we went to the old habitat in Lambton Park, and there again was *Leydigia*. From two different localities in the same day!

I believe I can explain how it was that my search had before been unsuccessful. The species is a bottom-loving form. I had worked only in the water and among the weeds, while it lay snug below, but the light cast skin of 1864 had floated up and so been taken among the Daphniæ (A. M. N.)

Pond near the Bowes House Lodge of Lambton Park; ditches at Seaton Carew (A. M. N.); ditch south side of railway between Hexham and Corbridge, May, 1885 (G. S. B.)

GRAPTOLEBERIS RETICULATA (Baird).

1867. *Lynceus testudinarius*, Norman and Brady, l.c., p. 381, pl. xviii., fig. 7, and pl. xxi., fig. 4.

1901. *Graptoleberis testudinaria*, Lilljeborg, l.c., p. 504, pl. lxxi., figs. 9–14, pl. lxxii., figs. 1–8.

It is *Alona esocirostris* of Schödler.

Crag, Grindon, Chartners, and Darden Lakes, Northumberland, and Hardwick Lake, Sedgefield (A. M. N.); Belsay Lake, Northumberland; Boldon Flats and Fardingslake, Co. Durham (G. S. B.) N.D.

ALONELLA EXCISA (S. Fischer).

1854. *Lynceus excisus*, S. Fischer, Abhand. neue oder nicht genau gekannte Arten Daphniden u. Lynceiden. Bull. Soc. Imp. Nat. de Moscou, p. 428, pl. iii., figs. 11–14.

1863. *Pleuroxus excisus*, Schödler, Neue Beiträge zur Naturgeschichte der Cladoceren, p. 49, pl. ii., fig. 38.

1888. *Pleuroxus excisus*, Hellich, Die Cladoceren Böhmens, p. 99, fig. 56.

1894. *Pleuroxus exiguus*, Wisenberg-Lund, Grönlands Ferskvandsentomostraca. Middel. naturhist. Foren. i Kjöbenhavn, p. 127, pl. iv., fig. 16 (separate copy).

1901. *Alonella excisa*, Lilljeborg, l.c., p. 510, pl. lxxii., figs. 9–19.

"Crag, Greenley, Broomley, Chartners, and Darden Lakes, and a pool in the moors at Winter's Stob" (A. M. N.). These

localities were given in our paper of 1867. Probably most of them, if not all, apply to the present species, with which *Alonella exigua* Lilljeborg was united by us. The differences between the two species according to Lilljeborg's recent work appear to be very slight. The illustrations given by us in 1867 are regarded by Lilljeborg as referable to *A. exigua*; but we do not now know in what locality the figured specimen was taken. N.

ALONELLA EXIGUA (S. Fischer).

1853. *Lynceus exiguus*, Lilljeborg, De Crust. ex Ord. tribus, &c., p. 79, pl. vii., figs. 9, 10.

1874. *Alonella exigua*, Kurz, Dodekas neuer Cladoceren, p. 58, pl. iii., fig. 2.

1877. *Pleuroxus exiguus*, Hellich, Die Cladoceren Böhmens, p. 99, fig. 57.

1900. *Alonella exigua*, Lilljeborg, Cladocera Sueciæ, p. 513, pl. lxxii., figs. 20–26.

See under preceding species.

ALONELLA NANA (Baird).

1850. *Acroperus nanus*, Baird, Brit. Entom., p. 130, pl. xvi., fig. 6.

1861. *Alona pygmæa*, G. O. Sars, Om de i omegnen af Christiania forekommende Cladocerer. Forh. Vid.-Selsk. Christiania, 1861, p. 20 (separate copy).

1863. *Pleuroxus transversus*, Schödler, Neue Beit. z. Naturgesch. d. Cladoceren, p. 50, pl. iii., figs. 52, 53.

1867. *Lynceus nanus*, Norman and Brady, l.c., p. 396, pl. xviii., fig. 8, pl. xxi., fig. 8.

1901. *Alonella nana*, Lilljeborg, l.c., p. 517, pl. lxxii., figs. 27–31.

Greenley, Sweethope, Darden, and Capheaton lakes; Winter's Stob; Aird, in Northumberland; Hardwick Lake, Sedgefield (A. M. N.); Wallington, Rothley, and Belsay; Fardingslake near Marsden (G. S. B.) N.D.

PERACANTHA TRUNCATA (O. F. Müller).

1903. *Peratacantha truncata*, Lilljeborg, l.c., p. 522, pl. lxxiii., figs. 1–20.

Lilljeborg has changed *Peracantha* into the more classical form *Peratacanta*, but if changes like this were allowed to be made where would they stop!

Greenley and Crag lakes, Northumberland, and Wynyard and Hardwick (Sedgefield) lakes, and a pond at Bishop Middleham (A. M. N.); Ryton-on-Tyne, Cleadon Farm pond, and Axwell Park (G. S. B.) N.D.

PLEUROXUS LÆVIS G. O. Sars.

1861. *Lynceus lævis*, Norman and Brady, l.c., p. 389, pl. xviii., fig. 5, and pl. xxi., fig. 14.

1901. *Pleuroxus lævis*, Lilljeborg, l.c., p. 529, pl. lxxiii., figs. 21, 22, and pl. lxxiv., figs. 1–5.

Crag Lake, Northumberland, and Hell Kettles, near Darlington (G. S. B.) N.D.

PLEUROXUS ADUNCUS (Jurine).

1867. *Lynceus trigonellus*, Norman and Brady, l.c., p. 391, pl. xxi., fig. 11.

1901. *Lynceus aduncus*, Lilljeborg, l.c., p. 541, pl. lxxv., figs. 11–17.

Crag Lake, Holy Island, Hardwick Lake Sedgefield (A.M.N.) N.D.

PLEUROXUS TRIGONELLUS (O. F. Müller).

1863. *Pleuroxus trigonellus*, Schödler, Neue Beit. z. Naturgesch. d. Cladoceren, p. 44, pl. ii., figs. 33–36.

1863. *Pleuroxus ornatus*, id. ibid, p. 47, pl. ii., fig. 32.

1874. *Pleuroxus trigonellus*, Kurz, Dodekas neuer Cladoceren, &c., p. 67 (separate copy), pl. iii., figs. 2–5.

1901. *Pleuroxus trigonellus*, Lilljeborg, l.c., p. 534, pl. lxxiv., figs. 13–23.

The Forge Dam, Sedgefield (A. M. N.); pond near Sunderland Cemetery, Hesleden Engine Pond near Seaham (G. S. B.) We question whether this and the preceding should be regarded as more than varieties. D.

PLEUROXUS UNCINATUS Baird.

1850. *Pleuroxus uncinatus*, Baird, Brit. Entom., p. 135, pl. xvii., fig. 4.

1860. *Pleuroxus personatus*, Leydig, Naturgesch. d. Daphniden, p. 227, pl. x., fig. 70.

1863. *Rhypophilus glaber*, *uncinatus*, and *personatus*, Schödler, Neue Beit. z. Naturgesch. d. Cladoceren, pp. 55, 56, pl. iii., figs. 54–56 (*R. glaber*).

1867. *Lynceus uncinatus*, Norman and Brady, l.c., p. 393, pl. xviii., fig. 9, pl. xxi., fig. 13.

1901. *Pleuroxus uncinatus*, Lilljeborg, l.c., p. 537, pl. lxxv., figs. 1–10.

Greenley Lake, Hardwick Lake Sedgefield (A. M. N.); East Belsay and Wallington Lakes (G. S. B.) N.D.

CHYDORUS GLOBOSUS Baird.

1843. *Chydorus globosus*, Baird, Ann. and Mag. Nat. Hist., vol. xi., p. 90, pl. iii., figs. 1–4.

1848. *Lynceus tenuirostratus*, S. Fischer, Uber die in d. Umgeb. von St. Petersburg vorkom. Crust., p. 193, pl. x., fig. 3.

1867. *Lynceus globosus*, Norman and Brady, l.c., p. 398, pl. xx., fig. 5.

1901. *Chydorus globosus*, Lilljeborg, l.c., p. 547, pl. lxxv., figs. 18–27, pl. lxxvi., fig. 1.

Crag Lake (A. M. N. and G. S. B.) N.

CHYDORUS SPHÆRICUS (O. F. Müller).

1867. *Lynceus sphæricus*, Norman and Brady, l.c., p. 399, pl. xxi., fig. 12.

1901. *Chydorus sphæricus*, Lilljeborg, l.c., p. 561, pl. lxxvii., figs. 8–25.

Abundant everywhere. N.D.

VAR. CŒLATUS Schödler.

Greenley Lake; Sedgefield (A. M. N.); pond on Warden Law (G. S. B.) N.D.

MONOSPILUS DISPAR G. O. Sars.

1854. *Lynceus tenuirostris*, S. Fischer, Bull. de Soc. Imp. de Nat. de Moscou, p. 427, pl. iii., figs. 7–10 (but not *Lynceus tenuirostris*, S. Fischer, 1851).

1861. *Monospilus dispar*, G. O. Sars, Om de i Omengen af Christ. forkom. Cladocerer, p. 23.

1867. *Monospilus tenuirostris*, Norman and Brady, l.c., p. 403, pl. xix., fig. 2, pl. xx., fig. 9.

1901. *Monospilus dispar*, Lilljeborg, l.c., p. 581, pl. lxxviii., figs. 26–31, pl. lxxix., figs. 1–6.

East Belsay Lake, Northumberland (G. S. B.) N.

DIVISION II.—GYMNOMERA G. O. Sars

SECTION III.—ONYCHOPODA G. O. Sars

FAM. 1.—POLYPHEMIDÆ

POLYPHEMUS PEDICULUS (Linné).

1850. *Polyphemus pediculus*, Baird, Brit. Entom., p. 111, pl. xvii., fig. 1.

1901. *Polyphemus pediculus*, Lilljeborg, l.c., p. 595, pl. lxxix., figs. 22–31, pl. lxxx., figs. 1–9.

In lakes, Crag, Grindon, Broomley, and Greenley, and Hardwick Lake Sedgefield. N.D.

PODON INTERMEDIUS Lilljeborg.

1853. *Podon intermedius*, Lilljeborg, De Crust. ex Ord. tribus Clad., Ostrac. et Cop., &c., p. 161.

1867. *Podon intermedius*, P. E. Müller, Danmarks Cladocera, p. 215, pl. v., fig. 22, pl. vi., figs. 1–4.

1901. *Podon intermedius*, Lilljeborg, l.c., p. 627, pl. lxxxiv., figs. 8–16, pl. lxxxv., figs. 1–6.

Occasionally taken in the tow net. N.D.

PODON POLYPHEMOIDES (Leuckart).

1859. *Evadne polyphemoides*, Leuckart, Carcinologisches. Archiv f. Naturgesch., 25er Jahrg., p. 262, pl. vii., fig. 5.

1862. *Pleopis minutus*, G. O. Sars, Om de i Omengen af Christ. forekom. Cladocerer, p. 46.

1865. *Podon Mecznikowii*, Czerniavski, Materialia ad Zoograp. ponticam comparatam, p. 59.

1901. *Podon polyphemoides*, Lilljeborg, l.c., p. 633, pl. lxxxv., figs. 7–11.

First taken on our coasts by G. S. B. in 1866 in the estuary of the Tees, and since frequently off the coasts. N.D.

EVADNE NORDMANNI S. Lovén.

1850. *Evadne Nordmanni*, Baird, Brit. Entom., p. 114, pl. xvii., fig. 1.

1901. *Evadne Nordmanni*, Lilljeborg, l.c., p. 641, pl. lxxxv., figs. 4–17.

Not rare off the coasts. N.D.

(The middle of the Northumberland lakes has never been examined. It is not improbable that some of the "plankton" species will reward research there).

ORDER VIII.—OSTRACODA

The following are the chief works referred to in the list of Ostracoda:

1. Brady (G. S.). Monograph of Recent British Ostracoda. Trans. Linn. Soc., vol. xxvi., 1868.

2. Brady (G. S.) and Norman (A. M.). Monograph of the Marine and Freshwater Ostracoda of the North Atlantic and North-Western Europe, Section I., Podocopa. Scient. Trans. Royal Dublin Soc., ser. 2, vol. iv., 1889.

3. Brady (G. S.) and Norman (A. M.). Same as above, Pt. II. Scient. Trans. Royal Dublin Soc., ser. 2, vol. v., 1896.

4. Müller (G. W.). Zoologica, Heft 30, Deutschlands Süsswasser-Ostracoden, 1900.

5. Kaufmann (A.). Cypriden und Darwinuliden (Revue Suisse de Zoologie, vol. viii., 1900).

6. Hartwig (W.). Arten der Ostracoden-Unterfamilie Candoninæ der Provinz Brandenburg (Sitz.-Bericht d. Gesellsch. naturf. Freunde zu Berlin), 1901.

SECTION I.—PODOCOPA

FAM. 1.—CYPRIDIDÆ

CYPRIA OPHTHALMICA (Jurine).

Common in ditches and ponds and at the margins of lakes. N.D.

CYPRIA EXSCULPTA (S. Fischer)=*Cypris striolata* G. S. Brady =*Cypris granulata* (the young) D. Robertson.

Seaton Carew, Co. Durham; Newbiggin (A. M. N.); Greenley Lake (G. S. B.) N.D.

CYCLOCYPRIS GLOBOSA (G. O. Sars)=*Cypris cinerea* G. S. Brady.

Newbiggin; Broomley and Crag Lakes (A. M. N.) N.

CYCLOCYPRIS SERENA (Koch).

1889. *Cypria serena*, Brady and Norman (2), p. 70.

1896. *Cyclocypris serena*, Brady and Norman (3), p. 718.

Common in ditches, ponds, and lakes. N.D.

CYCLOCYPRIS LÆVIS (O. F. Müller)=*Cypris minuta* Baird= *Cypris ovum* G. S. Brady.

1889. *Cypria lævis*, Brady and Norman (2), p. 18.

1896. *Cyclocypris lævis*, Brady and Norman (3), p. 728.

Common everywhere. N.D.

CYPRIS FUSCATA (Jurine)=*Cypris fusca* and *hispida* Baird.

1864. *Cypris oblonga*, G. S. Brady, Trans. Tyneside Nat. Field Club, vol. vi., p. 104, pl. ii., figs. 1–4.

An abundant species in small pieces of water. N.D.

CYPRIS OBLIQUA G. S. Brady.

Rothley and Belsay Lakes, Northumberland (G. S. B.); Crag Lake (A. M. N.) N.

CYPRIS RETICULATA Zaddach=*Cypris affinis* Fischer and Lilljeborg.

1865. *Cypris tessellata*, G. S. Brady (partim) (1), p. 366.

1889. *Cypris reticulata*, Brady and Norman (2), p. 76, pl. viii., figs. 1, 2, pl. xi., figs. 5–7.

Sedgefield (A. M. N.); Fenham and Boldon Flats (G. S. B.) N.D.

CYPRIS VIRENS (Jurine)=*C. tristriata* Baird.

A common inhabitant of small grassy pools and ditches which dry up in summer. N.D.

CYPRIS PUBERA O. F. Müller.

1863. *Cypris punctillata*, Norman, Trans. Tyneside Nat. Field Club, vol. v., p. 145, pl. iii., figs. 11–14.

Taken in great abundance and very fine in the Forge Dam, Sedgefield, in 1861 (A. M. N.); pond at Seaton Marsh, Co. Durham (G. S. B.). It is a rare species. D.

CYPRIS ORNATA O. F. Müller.

The only known British specimens of this species were taken by G. S. B. in a pond near Shotton Hall, Co. Durham. D.

CYPRIS ELLIPTICA Baird=*C. hirsuta* S. Fischer.

1889. *Cypris elliptica*, Brady and Norman (2), p. 75, pl. ix., figs. 5, 6, pl. xi., fig. 12.

In a pond at Foxton Lane, Sedgefield (A. M. N.); and at Stocksfield, where it was found by Mr. H. B. Watson (G. S. B.) N.D.

CYPRINOTUS INCONGRUENS (Rambohr).

1896. *Cypris incongruens*, Brady and Norman (3), p. 721, pl. lxiv., figs. 17, 18, pl. lxviii., figs. 22, 23 ♂.

This species seems to like a slight admixture of salt in the water which it frequents. Seaton Delaval, Northumberland; Rainton and Seaton Carew, Co. Durham (A. M. N.) N.D.

CYPRINOTUS PRASINUS (S. Fischer).

1889. *Cypris prasina*, Brady and Norman (2), p. 78.

1896. *Cyprinotus prasinus*, Brady and Norman (3), p. 722.

Cooling ponds at Monkwearmouth Colliery, and in a salt marsh north of the river Coquet below Warkworth (G. S. B.); Seaton Delaval, Northumberland, and Rainton Meadows, Co. Durham (A. M. N.) This species requires apparently a certain amount of salt in the water which it inhabits. Canon Norman has taken the species in the Botanical Gardens at Palermo, Sicily, whence the type specimens of S. Fischer came. N.D.

ILYOCYPRIS BISTRIGATA (Jurine).

1866. *Cypris gibba*, Brady (partim) (1), p. 369, pl. xxiv., figs. 47–49.

1889. *Ilyocypris gibba*, Brady and Norman (partim) (2), p. 105.

1890. *Ilyocypris Bradyi*, G. O. Sars, "Oversigt af Norges Crustaceer. Branch., Ostrac., Cirrip.," p. 50.

1891. *Ilyocypris gibba*, var. *repens*, Vavra, Monog. der Ostracoden Böhmens, p. 60, fig. 18.

1896. *Ilyocypris Bradii*, Brady and Norman (3), p. 728, pl. lxiii., figs. 22, 23, pl. lxviii., figs. 18, 19.

1900. *Ilyocypris Bradyi*, G. W. Müller (4), p. 90, pl. xix., figs. 11–19, pl. xx., figs. 17, 18.

1900. *Ilyocypris Bradyi*, Kaufmann (5), p. 353, pl. xxiv., figs. 1, 2, pl. xxv., figs. 17, 18.

Dr. A. Kaufmann (Cypriden und Darwinuliden) has divided what used to be considered *Cypris gibba* into no less than five species; whether these forms are really of specific value further investigations must determine. Meanwhile we include under the name *Ilyocypris bistrigata* the forms which have the swimming setæ shorter than the following joint, and which are assigned by Kaufmann to two of his species, namely, *I. Bradyi* and *I. iners*. Our local specimens are referable only to the former species.

A common species. Among other localities we have specimens from Newbiggin and Seaton Delaval, Northumberland; Lambton Park, Rainton Meadows, and Seaton Carew, Co. Durham. N.D.

HERPETOCYPRIS REPTANS (Baird)=*Candona virescens* G. S. Brady (the young).

Dr. Kaufmann has described several species which are nearly allied to this. Very common, especially in grassy pools and ditches, but also found in lakes. N.D.

HERPETOCYPRIS STRIGATA (O. F. Müller).

Rare in the British Islands. In the burn at Fulwell Cemetery, Sunderland (G. S. B.) D.

HERPETOCYPRIS TUMEFACTA (Brady and Robertson).

Warn Burn and the Coquet, Northumberland (Brady and Robertson); near Sunderland (G. S. B.) N.D.

PRIONOCYPRIS SERRATA (Norman)=*Cypris bicolor* W. Müller=*Cypris Zenckeri* Toth and Chyzer.

1863. *Candona serrata*, Norman, Trans. Tyneside Nat. Field Club, vol. v., p. 148, pl. iii., figs. 1–6.

1889. *Herpetocypris serrata*, Brady and Norman (2), p. 57.

1896. *Prionocypris serrata*, Brady and Norman (3), p. 725.

1900. *Prionocypris serrata*, Kaufmann (5), p. 297, pl. xx., figs. 10–12, pl. xxi., figs. 22–26.

1900. *Cypris serrata*, G. W. Müller (4), p. 72, pl. xiv., figs. 3, 11, 14.

Very abundant in the Forge Dam at Sedgefield (A. M. N.); Fardingslake, near Marsden (G. S. B.) D.

ILYODROMUS ROBERTSONI (Brady and Norman).

1889. *Erpetocypris Robertsoni* Brady and Norman (2), p. 88, woodcut.

1896. *Ilyodromus Robertsoni*, Brady and Norman (3), p. 724.

In a shallow ditch by the side of the road between Haydon Bridge and Staward (G. S. B.) N.

CYPRIDOPSIS ACULEATA (O. G. Costa).

1863. *Cypris aculeata*, Norman, Trans. Tyneside Nat. Field Club, vol. v., p. 147, pl. iii., figs. 7–9.

C. aculeata Costa from Naples was subsequently given the very same name by Lilljeborg from Sweden.

Seaton Carew and Cowpen Marshes, Co. Durham; Newbiggin (A. M. N.); Monkwearmouth Colliery Pond, Hylton Dene, and Warkworth (G. S. B.) N.D.

CYPRIDOPSIS VILLOSA (Jurine).

Very abundant in the Forge Dam, Sedgefield; Rainton Meadows, Co. Durham; Newbiggin (A. M. N.); Belsay East Lake (now drained) and near Crag Lake; Silksworth, and Fulwell (G. S. B.) N.D.

PIONOCYPRIS VIDUA (O. F. Müller).

1896. *Pionocypris vidua*, Brady and Norman (3), p. 726.

Common in small ponds of clean water, and in lakes. N.D.

PIONOCYPRIS OBESA (Brady and Robertson).

1895. *Pionocypris obesa*, Brady and Norman (3), p. 726.

Fulwell Cemetery, near Sunderland (G. S. B.) D.

PROTEOCYPRIS SALINA G. S. Brady.

1907. *Proteocypris salina*, Brady (G. S.), Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle-upon-Tyne, new ser., vol. i., p. 334, pl. x., figs. 1–12.

This species was described from specimens taken in a salt-water pond at Amble, Northumberland (G. S. B.) N.

POTAMOCYPRIS FULVA G. S. Brady.

Fulwell Cemetery, and near the mouths of several rivers in Northumberland—Warn Burn, rivers Coquet, Wansbeck, and Blyth (G. S. B.) N.D.

NOTODROMAS MONACHA (O. F. Müller).

Fishburn, Co. Durham (A. M. N.); many places in the counties of Northumberland and Durham (G. S. B.) N.D.

CANDONA CANDIDA (O. F. Müller).

Foreign authors (Hartwig, Kaufmann, and G. W. Müller) have described a large number of forms as species allied to *C. candida* and *C. compressa*; and certainly either *C. candida* is an extremely variable form or several species have in the past been improperly associated under that name.

Very common in ditches, ponds, and lakes. N.D.

CANDONA NEGLECTA G. O. Sars.

1887. *Candona neglecta*, G. O. Sars, Nye Bidrag til Kundskaben om Middelhavets Invert. Fauna, IV., Ostracoda Mediterranea, p. 279, pl. xv., figs. 5–7, pl. xix., figs. 1–21.

1889. *Candona candida*, var. *neglecta*, Brady and Norman (2), p. 99, pl. x., figs. 18–21.

1891. *Candona fabæformis*, Vavra (not Fischer), Mon. der Ostracoden Böhmens, p. 45.

1898. *Candona Vavrai*, Hartwig, "In Candona fabæformis stecken drei verschiedene Arten." Zoolog. Anzeiger, vol xxi., p. 566.

1900. *Candona neglecta*, Kaufmann (5), p. 387, pl. xxix., figs. 1–5, pl. xxx., figs. 12–18, pl. xxxi., fig. 21.

1900. *Candona neglecta*, G. W. Müller (4), p. 17, pl. ii., figs. 4–6, 13–18.

Chester Road, Sunderland (G. S. B.)

Further research will probably prove that this species, hitherto confounded with *C. candida*, is widely distributed in the two counties. D.

CANDONA CLAVIFORMIS Brady and Norman.

1889. *Candona candida*, var. *claviformis*, Brady and Norman, Mon. Marine and Freshwater Ostracoda, &c. Trans. Roy. Dublin Soc., ser. 2, vol. iv., p. 98, pl. x., fig. 1 ♂.

Taken several times in years 1859–68 in a pond in a field adjoining the Rectory at Sedgefield, Co. Durham, and subsequently near Seaton Delaval (A. M. N.). The two sexes will shortly be described and figured in a paper which Dr. Brady has in preparation on the genus Candona. N.D.

CANDONA CAUDATA Kaufmann.

1892. *Candona acuminata*, Kaufmann, Die Ostracoden der Umgebung Berns. Mittlg. d. naturf. Ges. Bern, p. 70.

1900. *Candona caudata*, Kaufmann, Cypriden und Darwinuliden der Schweiz. Revue Suisse de Zoologie, vol. viii., p. 365, pl. xxiv., figs. 16–20, pl. xxvi., figs. 17–23.

East Lake at Belsay, Northumberland (now drained and built over) (G. S. B.) N.

CANDONA ZETLANDICA (Brady).

1868. *Cytheridea zetlandica*, Brady (1), p. 428, pl. xxviii., figs. 42–46.

1870. *Candona candida*, var. *tumida*, Brady and Robertson, Ann. and Mag. Nat. Hist., ser. 4, vol. vi., p. 16, pl. ix., figs. 13–15.

1889. *Candona candida*, var. *tumida*, Brady and Norman (2), p. 99, pl. x., figs. 14–17.

1898. *Candona Weltneri*, Hartwig, Eine neue Candona aus der Provinz Brandenburg. Sitz. der Gesellsch. naturfor. Freunde zu Berlin, vol. xxi., p. 50.

1900. *Candona Weltneri*, G. W. Müller (4), p. 16, pl. iii., figs. 3, 4, 13, 14, 17–20.

Rivers Coquet, Blyth, and Wansbeck, and Wark Burn, Belsay East Lake, Seaton Burn, and Alnmouth, Northumberland (G. S. B.) N.

CANDONA LACTEA Baird.

Sedgefield and Seaton Carew Marshes; Newbiggin (A. M. N.); Budle Bay and rivers Aln and Coquet (G. S. B.) N.D.

CANDONA ROSTRATA Brady and Norman.

This is not *C. rostrata* G. W. Müller which is *C. marchica* Hartwig.

Newbiggin (A. M. N.) N.

CANDONA COMPRESSA (Koch).

1864. *Candona albicans*, G. S. Brady, Trans. Tyneside Nat. Field Club, vol. vi., p. 107, pl. iii., figs. 6–10 (the young).

1868. *Candona compressa*, Brady (1), p. 382, pl. xxvi., figs. 22–27.

1889. *Candona pubescens*, Brady and Norman (2), p. 101, pl. xii., figs. 32–37.

1896. *Candona compressa*, Brady and Norman (3), p. 728.

1901. *Candona compressa*, Hartwig (6), p. 104.

Sedgefield, Seaton Carew Marshes, Rainton Meadows, pond in Lumley Dene (A. M. N.), Sunderland (G. S. B.) D.

CANDONA ZENCKERI G. O. Sars.

1890. *Candona Zenckeri*, G. O. Sars, "Oversigt. af Norges Crustaceer, II., Branch., Ostrac., Cirrip." Vidensk.-Selsk. Forhand., p. 66.

1896. *Candona Zenckeri*, Brady and Norman (3), p. 739, pl. lxiii., fig. 25, pl. lxviii., figs. 12, 13.

The only specimens as yet known in Great Britain were taken in a pond near Ferry Hill (A. M. N.) D.

CANDONA STAGNALIS G. O. Sars.

1890. *Candona stagnalis*, G. O. Sars, "Oversigt. af Norges Crustaceer, II., Branch., Ostrac., Cirrip." Vidensk.-Selsk. Forhand., p. 69.

1891. *Candona ambigua*, T. Scott, "Invert. Fauna of Inland Waters of Scotland." Ninth Rep. Fish. Board Scotland, p. 277, pl. iv., figs. 7 a–c ♂.

1896. *Candona stagnalis*, Brady and Norman (3), p. 729, pl. lxviii., figs. 14–17.

1900. *Candona rara*, G. W. Müller (4), p. 22, pl. v., fig. 1, pl. vi., figs. 2, 3, 14–16.

1901. *Candona pubescens*, Hartwig (6), p. 96.

Found in a pool near Broomley Lake, Northumberland (A. M. N.) N.

CANDONOPSIS KINGSLEII (Brady and Robertson).

1889. *Candona Kingsleii*, Brady and Norman (2), p. 102, pl. ix., figs. 19–22, pl. xiii., fig. 19.

1891. *Candonopsis Kingsleii*, Vavra, Monog. der Ostracoden Böhmens, p. 54.

1900. *Candonopsis Kingsleii*, G. W. Müller (4), p. 38, pl. vi., figs. 23–28, pl. vii., figs. 22–25.

1900. *Candonopsis Kingsleii*, Kaufmann (5), p. 357, pl. xxiv., figs. 8–11, pl. xxvi., figs. 1–9, pl. xxxi., fig. 17.

1901. *Candonopsis Kingsleii*, Hartwig (6), p. 127.

Crag Lake, Northumberland (A. M. N.) N.

PONTOCYPRIS MYTILOIDES (Norman).

Not rare in the littoral and laminarian zones. N.D.

PONTOCYPRIS ACUPUNCTATA G. S. Brady.

Budle Bay, Northumberland, and off Marsden, Durham, 10 fathoms (G. S. B.) N.D.

PONTOCYPRIS TRIGONELLA G. O. Sars.

This species is apparently scarce on this coast. Budle Bay, Northumberland (G. S. B.) N.

ARGILLŒCIA CYLINDRICA G. O. Sars.

Off Seaham and Marsden (G. S. B.) D.

ARGILLŒCIA PROPINQUA G. S. Brady.

1903. *Argillæcia propinqua*, G. S. Brady, Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, new ser., vol. i., p. 7, pl. ii., figs. 1-8.

Twenty-five miles east of Alnmouth in 59 fathoms (G. S. B.) N.

FAM. 2.—CYTHERIDÆ

CYTHERE LUTEA O. F. Müller.

Abundant between tidemarks. N.D.

CYTHERE PELLUCIDA Baird=*Cythere castanea* G. O. Sars and Brady (olim.)

Common in salt-marshes and estuaries. N.D.

CYTHERE CONFUSA Brady and Norman=*Cythere pellucida* Brady et auct. (not Baird).

Dredged in comparatively deep water, 25–46 fathoms, and also common on muddy ground in estuaries and tidemarks. N.D.

CYTHERE PORCELLANEA G. S. Brady.

More frequently found than the last in estuaries, and dredged in shallow water. N.D.

CYTHERE TENERA G. S. Brady.

Generally dredged, but has been found by G. S. B. between tidemarks at Whitley and Cullercoats. N.D.

CYTHERE SEMIPUNCTATA G. S. Brady.

Budle Bay and Seaton Sluice, Northumberland, and off the coast of Durham (G. S. B.) N.D.

CYTHERE CRISPATA G. S. Brady.

Off Marsden, 10 fathoms (G. S. B.) D.

CYTHERE GIBBOSA Brady and Robertson.

Budle Bay and several estuarine situations on the Northumberland coast (G. S. B.). The Tweed above Berwick; river Lyne near Newbiggin; and marshes at Seaton Carew (A. M. N.) N.D.

CYTHERE ALBOMACULATA Baird.

Common between tidemarks, and recorded by G. S. B. from a freshwater lake at Bolam, Northumberland.

The Bolam habitat must be looked upon as doubtful; a renewed search there has resulted in failure to find the species, and it is possible that it found its way accidentally into the earlier gathering. N.D.

CYTHERE ROBERTSONI G. S. Brady.

Budle Bay, Northumberland; Sunderland, tidemarks, and in several places off the Durham coast in 29–55 fathoms (G. S. B.); Seaton Sluice (A. M. N.) N.D.

CYTHERE LIMICOLA (Norman).

1866. *Cythereis limicola*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 20, pl. vi., figs. 1–4.

Confined to the coralline zone, but not rare at such a depth off the coast. N.D.

CYTHERE CUNEIFORMIS G. S. Brady.

More generally found in 15–40 fathoms, but also occurs in several estuarine localities in Northumberland, and has been found between tidemarks on mud-covered rocks at Whitley (G. S. B.); Seaton Delaval (A. M. N.) N.D.

CYTHERE NAVICULA (Norman).

Budle Bay, Northumberland (G. S. B.) N.

CYTHERE VILLOSA (G. O. Sars).

Among small weeds between tidemarks in estuaries, and more rarely dredged.

The specimens referred to *C. borealis* Brady taken at Seaton Carew, belong really to *C. villosa*. N.D.

CYTHERE QUADRIDENTATA Baird.

Occasionally occurring in deep water off the coast. N.D.

CYTHERE EMACIATA G. S. Brady.

Found under similar circumstances to the last, but much rarer. N.D.

CYTHERE TUBERCULATA (G. O. Sars).

Frequent in deep water. On some parts of our coasts it is found living between tidemarks, but has not yet occurred under such circumstances on the north-east coast. N.D.

CYTHERE CONCINNA Rupert Jones.

Occasionally occurring in deep water. N.D.

CYTHERE FINMARCHICA (G. O. Sars).

Another deep water form which has been found off the coasts both of Northumberland and Durham. N.D.

CYTHERE ANGULATA (G. O. Sars).

Found off the coast in deep water, but rare. N.D.

CYTHERE DUNELMENSIS (Norman).

1865. *Cythereis dunelmensis*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 22, pl. vii., figs. 1–4.

A fine species which is not rare in deep water off the north-east coasts. N.D.

CYTHERE JONESII (Baird).

1865. *Cythereis Jonesii*, Norman, Nat. Hist. Trans Northumberland and Durham, vol. i., p. 21, pl. vii., figs. 5–8.

Common in deep water, and the most beautiful representative of the genus in our fauna. N.D.

LIMNICYTHERE INOPINATA (Baird).

Hardwick Lake, Sedgefield, and Raby and Lambton Parks (A. M. N.); Fulwell Cemetery, Gibside, and in a millstream at Hedworth, Co. Durham, and in East Belsay Lake, Northumberland, and in many estuarine localities (G. S. B.) N.D.

CYTHERIDEA PAPILLOSA Bosquet.

1865. *Cythere debilis*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 15, pl. v., figs. 5–8.

In deep water, somewhat local, but common when found. N.D.

CYTHERIDEA PUNCTILLATA G. S. Brady.

Seaton Carew (G. S. B.) D.

CYTHERIDEA ELONGATA G. S. Brady.

On muddy rocks at low-water mark at Seaton Carew (G. S. B.) D.

CYTHERIDEA TOROSA (Rupert Jones).

1864. *Cyprideis torosa*, Brady, Trans. Tyneside Nat. Field Club, vol. vi., p. 108, pl. iii., figs. 11–23.

1868. *Cytheridea littoralis*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 6.

In brackish water, Warkworth, Alnmouth, Cambois, Seaton Sluice, and Jarrow Slake (G. S. B.); Hartlepool (A. M. N.). Inland in fresh water in the Forge Dam at Sedgefield (A. M. N.); and at Belsay (G. S. B.) N.D.

EUCYTHERE DECLIVIS (Norman).

1865. *Cythere declivis*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 16, pl. v., figs. 9–12.

In deep water off the coast, but not common. Both the varieties *argus* Sars and *anglica* Brady are found upon the coast. N.D.

KRITHE BARTONENSIS (Rupert Jones).

Taken by G. S. B. off both the Northumberland and Durham coasts in 30–60 fathoms, but very local. N.D.

LOXOCONCHA IMPRESSA (Baird).

Frequent in rock pools and estuaries, and in moderate depths off the coast. N.D.

LOXOCONCHA VIRIDIS (O. F. Müller).

This is *Cythere rhomboidea* S. Fischer and *Loxoconcha elliptica* G. S. Brady.

Essentially a brackish water species. Rivers Aln, Coquet, Wansbeck, and Blyth (G. S. B.); Seaton Sluice and Hartlepool (A. M. N.) N.D.

LOXOCONCHA MULTIFORA (Norman).

1865. *Cythere multifora*, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 18, pl. vi., figs. 13–16.

Off Holy Island, 1864 (A. M. N.); Budle Bay, Northumberland (G. S. B.) N.

LOXOCONCHA GUTTATA (Norman).

1865. *Cythere guttata*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 19, pl. vi., figs. 9–12.

1870. *Loxoconcha granulata*, G. S. Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 368, pl. xiii., figs. 5–7.

Dredged in 1864 off Holy Island, and also 10–15 miles off Seaham in about 40 fathoms (A. M. N.); 29 miles E. of Alnmouth in 59 fathoms, and several places off the Durham coast in 20–30 fathoms (G. S. B.) N.D.

LOXOCONCHA TAMARINDUS (Rupert Jones).

1865. *Cythere lævata*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 18, pl. v., figs. 13–16.

Off Holy Island (A. M. N.); Northumberland and Durham coasts in tide-pools and in 30-46 fathoms, also in estuaries as Budle Bay and river Blyth (G. S. B.) N.D.

LOXOCONCHA PUSILLA Brady and Robertson.

Budle Bay and rivers Wansbeck and Blyth, Northumberland (G. S. B.); Seaton Delaval (A. M. N.) N.

LOXOCONCHA FRAGILIS G. O. Sars.

Budle Bay, Northumberland (G. S. B.) N.

XESTOLEBERIS AURANTIA (Baird).

Common between tidemarks and in estuaries. In 1891 G. S. B. took it at 29 miles E. of Alnmouth in 59 fathoms. N.D.

XESTOLEBERIS DEPRESSA G. O. Sars.

The last is usually a tidemark species; this on the contrary is an inhabitant of the ultra-littoral region, and descends to deep water, where it is not uncommon. N.D.

CYTHERURA GIBBA (O. F. Müller).

Berwick-on-Tweed and Seaton Sluice, fine and abundant (A. M. N.); near the mouth of several Northumberland rivers (G. S. B.) N.

CYTHERURA CORNUTA G. S. Brady.

Berwick-on-Tweed (A. M. N.); between tidemarks at Boulmer, Northumberland (G. S. B.) N.

CYTHERURA SELLA G. O. Sars.

This is *C. cuneata* ♂ and *C. flavescens* ♀ of Brady.

Common between tidemarks and in estuaries. N.D.

CYTHERURA ACUTICOSTATA G. O. Sars.

Tidemarks, but not common; also river Blyth and off Holy Island; Hawthorn and Castle Eden in 20 fathoms (G. S. B.) N.D.

CYTHERURA STRIATA G. O. Sars.

Cytherura quadrata Norman is the female of this species.

Common between tidemarks, amidst the fine weeds and Corallina; as well as dredged. N.D.

CYTHERURA ANGULATA G. S. Brady.

Tidemarks, and dredged, but a much scarcer species than the last; also in estuaries, as those of the rivers Blyth and Wansbeck (G. S. B.); Seaton Delaval, tidemarks (A. M. N.) N.D.

CYTHERURA UNDATA G. O. Sars.

This is seldom abundant, but distributed; more usually in the coralline zone, but also in estuaries, as those of the rivers Wansbeck and Blyth (G. S. B.) N.D.

CYTHERURA PRODUCTA G. S. Brady.

Off the Durham coast, and at the mouth of the Aln (G. S. B.) N.D.

CYTHERURA NIGRESCENS (Baird).

The commonest Cytherura between tidemarks, where it may be met with almost everywhere. N.D.

CYTHERURA CONCENTRICA Brady, Crosskey and Robertson.

Seaton Delaval and Hartlepool (G. S. B.) N.D.

CYTHERURA SIMILIS G. O. Sars.

This is *Cytherura Sarsii* Brady and *Cytherura propinqua* Brady and Robertson.

Seaton Delaval, tidemarks (A. M. N.); Boulmer; off Seaham Harbour; and at low-water mark at Seaton Carew (G. S. B.) N.D.

CYTHERURA FULVA Brady and Robertson.

In 20–30 fathoms off the Durham coast, and between tidemarks at Boulmer, Northumberland (G. S. B.); Seaton Delaval, between tidemarks (A. M. N.) N.D.

CYTHERURA CLATHRATA G. O. Sars.

Between tidemarks at Whitley and Seaton Sluice, and dredged off Hawthorn in 20 fathoms (G. S. B.) N.D.

CYTHERURA CELLULOSA (Norman).

1865. *Cythere cellulosa*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 22, pl. v., figs. 17–20, and pl. vi., fig. 17.

Between tidemarks and dredged, not rare. N.D.

CYTHEROPTERON LATISSIMUM (Norman).

1865. *Cythere latissima*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 19, pl. vi., figs. 5–8.

Off Holy Island, and on the Dogger Bank, and off Seaham (A. M. N.); twenty-nine miles E. of Alnmouth in 49–60 fathoms, and off Souter Point in 30–39 fathoms, abundant and fine (G. S. B.) N.D.

CYTHEROPTERON ALATUM G. O. Sars.

Very rare, 30 miles off Sunderland in 40–45 fathoms (G. S. B.) D.

CYTHEROPTERON NODOSUM G. S. Brady.

On the Dogger Bank (A. M. N.); mouth of the Wansbeck river and off the coast of Durham (G. S. B.) N.D.

BYTHOCYTHERE TURGIDA G. O. Sars.

1870. *Bythocythere turgida*, G. S. Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 372, pl. xiii., figs. 1–4.

Twenty-nine miles E. of Alnmouth in 59 fathoms; off Souter Point in 30–40 fathoms (G. S. B.) N.D.

BYTHOCYTHERE CONSTRICTA G. O. Sars.

Off the Durham coast in 20–35 fathoms, and also off Northumberland (G. S. B.) N.D.

BYTHOCYTHERE SIMPLEX (Norman).

1865. *Cythere simplex*, Norman, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 17, pl. v., figs. 1–4.

The types were dredged in 1862 about 100 miles off Tynemouth, and it was again taken in 1864 off Holy Island (A. M. N.). In several places off the Durham coast in 20–40 fathoms, twenty-nine miles E. of Alnmouth in 40–60 fathoms, and off Souter Point in 30–40 fathoms (G. S. B.). Living specimens in very fine condition were taken during the dredging excursions of 1901–2, generally associated with equally fine captures of *Cythere Jonesii*. N.D.

PSEUDOCYTHERE CAUDATA G. O. Sars.

Occasionally dredged, but not common. N.D.

SCLEROCHILUS CONTORTUS (Norman).

Off the coasts in 20–46 fathoms, and also between tidemarks. N.D.

CYTHERIDEIS SUBULATA G. S. Brady.

Boulmer, near Whitley, Northumberland; Sunderland and Seaton Carew (G. S. B.); Seaton Delaval (A. M. N.); tidemarks and shallow water. N.D.

CYTHEROIS FISCHERI (G. O. Sars).

1870. *Paradoxostoma Fischeri*, G. S. Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 362, pl. xii., figs. 10, 11.

Budle Bay, Boulmer, Seaton Delaval, Northumberland; Sunderland; off Marsden and Seaham 33–35 fathoms (G. S. B.); Warkworth (A. M. N.) N.D.

FAM. 3.—PARADOXOSTOMATIDÆ

PARADOXOSTOMA VARIABILE (Baird).

Abundant between tidemarks and in shallow water. N.D.

PARADOXOSTOMA ENSIFORME G. S. Brady.

Frequent between tidemarks. N.D.

PARADOXOSTOMA ABBREVIATUM G. O. Sars.

Tidemarks Budle Bay, Boulmer, and Seaton Carew; 20 fathoms off Hawthorn (G. S. B.) N.D.

PARADOXOSTOMA OBLIQUUM G. O. Sars.

Muddy rocks at low water, Whitley (G. S. B.); Seaton Delaval (A. M. N.) N.D.

PARADOXOSTOMA NORMANI G. S. Brady.

Seaton Sluice and Budle Bay, Northumberland; off the Durham coast 10-20 fathoms (G. S. B.) N.D.

PARADOXOSTOMA PULCHELLUM G. O. Sars.

1870. *Paradoxostoma pulchellum*, G. S. Brady, Nat. Hist Trans. Northumberland and Durham, vol. iii., p. 363 pl. xii., figs. 4, 5.

Boulmer, Seaton Carew, Hartlepool, all tidemarks (G. S. B.) N.D.

PARADOXOSTOMA HIBERNICUM G. S. Brady.

1870. *Paradoxostoma hibernicum*, G. S. Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 362, pl. xii., figs. 10, 11.

Boulmer, tidemarks, and Seaton Delaval (G. S. B.) N.

PARADOXOSTOMA HODGEI G. S. Brady.

1870. *Paradoxostoma Hodgei*, G. S. Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 371, pl. xii., figs. 12, 13.

Off Seaham Harbour (G. S. B.) D.

PARADOXOSTOMA FLEXUOSUM G. S. Brady.

Off the coast and in estuarine mud, but not common. N.D.

MACHÆRINA TENUISSIMA (Norman).

1870. *Xiphichilus tenuissimus*, G. S. Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 369, pl. xii., figs. 6–9, and pl. xiv., figs. 5–10.

Fourteen miles off Seaham, 35 fathoms, and 5–17 miles off Souter Point, 30–60 fathoms (G. S. B.) D.

SECTION II.—MYODOCOPA

FAM. 1.—ASTEROPIDÆ

ASTEROPE TERES (Norman).

Fourteen miles off Seaham in 35 fathoms (G. S. B.) D.

ASTEROPE MARIÆ (Baird).

About 30 miles off Alnmouth in 39 fathoms (G. S. B.) N.

FAM. 2.—CYPRIDINIDÆ

PHILOMEDES BRENDA (Baird).

Forty to fifty miles off Tynemouth, and off the coast of Durham near the Dogger Bank (A. M. N.); 14 miles off Seaham in 35 fathoms, and 25 miles east of Alnmouth in 50 fathoms (G. S. B.) N.D.

PHILOMEDES INTERPUNCTA (Baird).

Off Northumberland in deep water (A. M. N.); off Marsden, Hawthorn, and Sunderland, 20–45 fathoms (G. S. B.) N.D.

SECTION III.—CLADOCOPA

FAM. 1.—POLYCOPIDÆ

POLYCOPE ORBICULARIS G. O. Sars.

Several places off the coast of Durham (G. S. B.) N.

SECTION IV.—PLATYCOPA

FAM. 1.—CYTHERELLIDÆ

CYTHERELLA SERRULATA Brady and Norman.

About 30 miles off Alnmouth in 39 fathoms (G. S. B.) N.

CYTHERELLA ABYSSORUM G. O. Sars.

This is *C. scotica* G. S. Brady.

Fourteen miles off Seaham in 35 fathoms (G. S. B.) D.

ORDER IX.—COPEPODA

For information as to the British species of Copepoda the following works will be found useful. These are referred to in the synonymy by the numerals attached to each.

1. Baird (W.). Natural History of the British Entomostraca, London, Ray Society, 1850.

2. Claus (Dr. C.). Die frei lebenden Copepoden, mit besonderer Berücksichtigung der Fauna Deutschlands, der Nordsee und des Mittelmeeres, Leipzig, 1863.
3. Brady (G. S.). A monograph of the free and semi-parasitic Copepoda of the British Islands, 3 vols., London, Ray Society, 1878–80.
4. Brady (G. S.). A revision of the British species of fresh-water Cyclopidæ and Calanidæ. Nat. Hist. Trans. Northumberland and Durham, vol. xi., 1891.
5. Giesbrecht (Dr. Wilhelm). Systematik und Faunistik der pelagischen Copepoden des Golfes von Neapel und der angrenzenden Meeres-Abschnitte, Berlin, 1892.
6. Sars (G. O.). An Account of the Crustacea of Norway, vols. iv., v., Copepoda, 1904–9 (in course of publication).
7. Norman (A. M.) and Scott (T.). The Crustacea of Devon and Cornwall, 1906.

Scott (T. and A.). Numerous papers chiefly in the Annual Reports of the Fishery Board for Scotland.

The classification here adopted for the Copepoda is based chiefly on that used by Professor G. O. Sars in his work on the "Crustacea of Norway" now in course of publication.

Section I.—CALANOIDA

Fam. 1.—CALANIDÆ

Calanus septentrionalis (H. Goodsir).

1843. *Cetochilus septentrionalis*, Goodsir, Edinburgh New Philos. Journ., xxxv., p. 336, pl. vi., figs. 1–11.
1863. *Cetochilus helgolandicus*, Claus (2), p. 171, pl. xxvi., figs. 2–9.
1878. *Calanus finmarchicus*, Brady (3), vol. i., p. 38, pl. i., figs. 1–12.
1901. *Calanus helgolandicus*, G. O. Sars (6), vol. iv., p. 11, pl. iv.
1906. *Cetochilus septentrionalis*, Norman and Scott (7), p. 126.

This species, hitherto referred by most authors to *Monoculus finmarchicus* Gunner, is considered by Professor G. O. Sars to be distinct, Gunner's description referring to a closely allied form which is chiefly Arctic in its distribution, and differs in its greater size and in some not very important structural details.* So far as we at present know the true *C. finmarchicus* does not occur in our district. *C. septentrionalis*, on the contrary, is often found in immense numbers, usually near the surface in the open sea, but often also in pools of the littoral zone where it has doubtless been left behind by the retreating tide. N.D.

Fam. 2.—PSEUDOCALANIDÆ

Pseudocalanus elongatus Boeck.

1865. *Calanus Clausii*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 33, pl. i., figs. 1, 11–13.

1878. *Pseudocalanus elongatus*, Brady (3), vol. i., p. 45 pl. iii., figs. 1–9.

Very common both in the open sea and in tidal pools. N.D.

Fam. 3.—CENTROPAGIDÆ

Centropages typicus Kröyer.

1863. *Ichthyophorba denticornis*, Claus (2), p. 199, pl. xxxv., figs. 1, 3–9.

1865. *Ichthyophorba denticornis*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 40, pl. iv., figs. 1–6.

1878. *Centropages typicus*, Brady (3), vol. i., p. 65, pl. viii., figs. 1–10.

1901. *Centropages typicus*, G. O. Sars (6), vol. iv., p. 75, pls. xlix., l., li. N.D.

* The British form was, however, described by H. Goodsir in 1843 under the specific name *septentrionalis*, and as pointed out in the "Crustacea of Devon and Cornwall," that name must be adopted if the still earlier one used by Gunner be held to apply to a different species.

CENTROPAGES HAMATUS (Lilljeborg).

1865. *Ichthyophorba hamata*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 39, pl. iv., figs. 7–10.

1878. *Centropages hamatus*, Brady (3), vol. i., p. 67, pl. viii., figs. 11–13.

1901. *Centropages hamatus*, G. O. Sars (6), vol. iv., p. 76, pl. lii.

The two foregoing species are of frequent occurrence in the open sea; less frequent in tidal pools. N.D.

ISIAS CLAVIPES Boeck.

1878. *Isias clavipes*, Brady (3), vol. i., p. 62, pl. vii., figs. 3–13.

1901. *Isias clavipes*, G. O. Sars (6), vol. iv., p. 79, pls. liii., liv.

This species, though generally distributed round the British Islands, had not been noted in our district until quite recently; but in several tow-net collections made during the summer of 1905 it occurred rather plentifully. N.D.

FAM. 4.—DIAPTOMIDÆ

DIAPTOMUS CASTOR (Jurine).

1875. *Diaptomus castor*, Brady (in part) (3), vol. i., p. 59, pl. vi., figs. 6–13, and (6) p. 92, pl. xi., figs. 1–6.

1901. *Diaptomus castor*, G. O. Sars (6), vol. iv., p. 85, pls. lvii., lviii.

This species is found for the most part in ponds and ditches—not so often in larger sheets of water; not common in our district, nor perhaps in any other part of the country. In ponds at Shotton, Sunderland, and Wardley (G. S. B.); Broomley Lake (A. M. N.) N.D.

DIAPTOMUS GRACILIS G. O. Sars.

1862. *Diaptomus gracilis*, G. O. Sars, Oversigt af de indenlandske Ferskvandscopepoder, p. 9.

1891. *Diaptomus gracilis*, Brady (4), p. 94, pl. xi., figs. 7–9, pl. xii., figs. 1–8.

1901. *Diaptomus gracilis*, G. O. Sars (6), vol. iv., p. 92, pl. lxiii.

Syn.: *Diaptomus Westwoodii*, Lubbock.

An almost exclusively lacustrine species which occurs abundantly in most of the English and Scottish lakes, and generally in ponds and still water. Very plentiful in Tindale and Talkin Tarns, which are just over the border of our restricted district, also in Crag Lake and Chartners Lake (A. M. N.). In Talkin Tarn we have seen the net come up from some few feet below the surface quite alive with shoals consisting chiefly of this species and *Eurytemora affinis* (G. S. B.) N.

Fam. 5.—TEMORIDÆ

Temora longicornis Müller.

1865. *Temora longicornis*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 36, pl. i., fig. 15, and pl. ii., figs. 1–10, and (3) vol. i., p. 54, pl. iii., figs. 10–19.

Syn.: *Temora finmarchica*, Baird; and *Diaptomus longicaudatus*, Lubbock.

This is one of the most abundant of the marine Copepoda. It occurs both in the littoral zone and in the open sea, more plentifully at most seasons than any other of the Calanoida, excepting, perhaps, *Calanus septentrionalis*. Easily recognised by its very long and slender caudal appendages. N.D.

Eurytemora velox (Lilljeborg).

1865. *Temora velox*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. i., p. 38, pl. i., fig. 16, and pl. iii., figs. 1–11, and (3) vol. i., p. 56, pl. vi., figs. 1–5.

1891. *Eurytemora Clausi*, Brady (4), p. 105, pl. xiii., figs. 1–5.

1901. *Eurytemora velox*, G. O. Sars (6), vol. iv., p. 100, pls. lxvii., lxviii.

Common, and often very abundant, in the pools of salt marshes, and (in other parts of the country) occasionally in fresh water. Not noticed in this district except in brackish

water. Hylton Dene (habitat now destroyed), Seaton Sluice, Alnmouth, Hartlepool, &c. (G. S. B.) N.D.

EURYTEMORA AFFINIS (Poppe).

1885. *Temorella affinis*, Poppe, Die freilebenden Copepoden des Jadebusens (Abhandl. des naturwissenschaft. Vereins zu Bremen, ix. Band), p. 184, Taf. vi., figs. 22–28.

1888. *Temorella affinis*, Poppe, var. *hirundoides*, Nordquist, Die Calaniden Finlands, Helsingfors, p. 48, Taf. iv., figs. 5–11.

1891. *Eurytemora affinis*, Brady (4), p. 107, pl. xiii., figs. 6–9.

1901. *Eurytemora hirundoides*, G. O. Sars (6), vol. iv., p. 102, pl. lxix.

Between the typical *Temorella affinis* and the variety *hirundoides*—promoted by Prof. G. O. Sars to the rank of a species—the differences seem to be of degree only, depending upon the amount of development of the posterior angles of the metasome, the hirsute furniture of the furca and some other very slight variations. It seems better to look upon all these forms as belonging to one and the same species. Our only local record is "brackish water ditches at Hartlepool" (A. M. N.) D.

FAM. 6.—METRIDIIDÆ

METRIDIA LUCENS Boeck.

1878. *Metridia armata*, Brady (3), vol. i., p. 42, pl. ii., figs. 1–12, vol. ii., pl. lvi., figs. 19, 20.

1892. *Metridia hibernica*, Giesbrecht (5), p. 345, pl. xxxii., fig. 11, pl. xxxiii., figs. 2, 12, 16, 22, 28, 36, 39.

Syn.: *Paracalanus hibernicus* Brady and Robertson.

The British species assigned in the Ray Society Monograph to *Metridia armata* Boeck is said by G. O. Sars not to belong to that species, but to *M. lucens* Boeck. We therefore adopt that view, and are able to include it as taken off North Sunderland, and also three miles off Ryhope (G. S. B.) N.D.

Fam. 7.—PSEUDOCYCLOPIDÆ

Pseudocyclops crassiremis Brady.

1878. *Pseudocyclops crassiremis*, Brady (3), vol. i., p. 82, pl. vii., figs. 1, 2, pl. xii., fig. 14.

The type of this species was taken off Seaham Harbour in a depth of twenty to thirty fathoms—one specimen only. D.

Fam. 8.—PONTELLIDÆ

Anomalocera Patersonii Templeton.

1850. *Anomalocera Patersonii*, Baird (1), p. 229, pl. xxvii., figs. 1a–i, 2a–c.

1863. *Irenæus Patersonii*, Claus (2), p. 206, pl. ii., fig. 1, pl. xxxvii., figs. 1–6.

1878. *Anomalocera Patersonii*, Brady (3), vol. i., p. 75, pl. xi., figs. 1–14, pl. x., figs. 13, 14.

A purely pelagic species, occurring occasionally in great numbers, at other times only sparingly. Taken at all points of the coast. N.D.

Fam. 9.—PARAPONTELLIDÆ

Parapontella brevicornis (Lubbock).

1857. *Pontella brevicornis*, Lubbock, Ann. and Mag. Nat. Hist., 2nd ser., vol. xx., pl. xi., figs. 4–8.

1878. *Parapontella brevicornis*, Brady (3), vol. i., p. 69, pl. ix., figs. 1–16.

This, like the preceding species, is at times very abundant in the open sea, generally not very far from shore; it is found also not very unfrequently, but in smaller numbers, between tidemarks. N.D.

Fam. 10.—ACARTIIDÆ

Acartia Clausi Giesbrecht.

1878. *Dias longiremis*, Brady (in part) (3), vol. i., p. 51, pl. v., figs. 1–14.

1892. *Acartia Clausi*, Giesbrecht (5), p. 507, pl. xxx., figs. 2, 4, 13–15, 17, 28, 36, 47, pl. xlii., fig. 32, pl. xliii., figs. 3, 5, 14.

1901. *Acartia Clausi*, G. O. Sars (6), vol. iv., p. 150, pl. ci.

The species belonging to this genus require, as regards their distribution in our district, more attention than they have yet received. The prevailing form, both littoral and pelagic, is undoubtedly that here noted. But other nearly related species, formerly confused with *A. longiremis* (Lilljeborg) will probably also be found. N.D.

ACARTIA LONGIREMIS (Lilljeborg).

1878. *Dias longiremis*, Brady (in part), loc. cit.

1892. *Acartia longiremis*, Giesbrecht (5), p. 522, pl. xxx., fig. 25, pl. xliii., fig. 25.

This is taken not unfrequently in the tow-net, though it appears to be by no means so abundant in our district as the preceding species. N.D.

SECTION II.—HARPACTICOIDA

The re-arrangement of this group adopted in Professor Sars' work on the "Crustacea of Norway" being not yet complete, the family divisions are here altogether omitted.

MISOPHRIA PALLIDA Boeck.

1864. *Misophria pallida*, Boeck, Oversigt af Norges Copepoder, p. 24.

1878. *Misophria pallida*, Brady (3), vol. i., p. 79, pl. xiii., figs. 11–16, pl. xviii., figs. 11, 12.

Dredged off Hawthorn in 27 fathoms on a sandy bottom (G. S. B.) D.

PTERINOPSYLLUS INSIGNIS G. S. Brady.

1878. *Lophophorus insignis*, Brady (3), vol. i., p. 122, pl. xiii., figs. 1–10, and pl. xv., fig. 10, and vol. iii., p. 23 *(Pterinopsyllus)*.

In the Ray Society Monograph (*loc. cit.*) this species was placed in the family Cyclopidæ. It is in fact intermediate in character between Cyclopidæ and Harpacticidæ, and Professor G. O. Sars has informed us (*in litt.*) that in his forthcoming work he will place the genus among Harpacticidæ. We think this right, and therefore adopt the new arrangement.

The type specimens were dredged in a depth of 27 fathoms off Hawthorn, Co. Durham. More recently it has been taken off Scarborough in 17 fathoms. D.

LONGIPEDIA CORONATA Claus.

1863. *Longipedia coronata*, Claus (2), p. 111, pl. xiv., figs. 14–24.

1903. *Longipedia coronata*, G. O. Sars (6), vol. v., p. 10, pls. iii. and iv.

The type species seems to be much less common in British waters than that recently described and named by Professor G. O. Sars, *L. Scotti*. *L. coronata*, however, was found in washings from dredged material taken off Northumberland and Durham in July, 1904, aud off Hartlepool in 25 fathoms many years ago (G. S. B.) N.D.

LONGIPEDIA SCOTTI G. O. Sars.

1880. *Longipedia coronata*, Brady (3), vol. ii., p. 6, pls. xxxiv. and xxxv.

1903. *Longipedia Scotti*, G. O. Sars, An Account of the Crustacea of Norway, vol. v., p. 11, pl. v., fig. 1.
(not *Longipedia coronata*, Claus).

The true *Longipedia coronata* of Claus, described by that author in 1863 (Die frei-lebenden Copepoden, p. 111, pl. xiv., figs. 14–24) is said by Professor G. O. Sars to differ from that described and figured in the Ray Society Monograph of British Copepoda. The differences are found chiefly in the spinous armature of the last abdominal segments and second pair of feet.

L. Scotti is common in moderate depths of water, and on sandy bottoms especially is often very abundant. N.D.

ECTINOSOMA SARSII Boeck.

1872. *Ectinosoma Sarsii*, Boeck, Nye Slægter og Arter af Saltvands-Copepoder, p. 45.

1880. *Ectinosoma spinipes*, Brady (3), vol. ii., p. 9, pl. xxxvi., figs. 1–10.

Common in tidal pools and in moderate depths of water all round the coast. N.D.

ECTINOSOMA HERDMANI T. and A. Scott.

1896. *Ectinosoma Herdmani*, T. and A. Scott, A Revision of the British Copepoda belonging to the genera *Bradya*, Boeck, and *Ectinosoma*, Boeck. Trans. Linn. Soc., ser. 2, Zoology, vol. vi., p, 432, pl. xxxvi., figs. 16, 44, pl. xxxvii., figs. 3, 16, 29, 54, pl. xxxviii., figs. 7, 25, 33, 47.

Dredged off North Sunderland, September, 1902. N.

ECTINOSOMA NORMANI T. and A. Scott.

1896. *Ectinosoma Normani*, T. and A. Scott, A Revision of the British Copepoda belonging to the genera *Bradya*, Boeck, and *Ectinosoma*, Boeck. Trans. Linn. Soc., London, ser. 2, Zoology, vol. vi., p. 435, pl. xxxvi., figs. 21, 29, 39, pl. xxxvii., figs. 12, 26, 34, 51, pl. xxxviii., figs. 5, 18, 42, 45.

Found at the roots of Laminaria, Holy Island (G. S. B.) N.

ECTINOSOMA MELANICEPS Boeck.

1864. *Ectinosoma melaniceps*, Boeck, Oversigt af Norges Copepoder, p. 30.

1880. *Ectinosoma melaniceps*, Brady (3), vol. ii., p. 11, pl. xl., figs. 17–20.

A small species easily distinguished by a circumscribed patch of dusky grey colour on the front of the head. Generally distributed, but our only local records are "pools at extreme low-water mark, Roker," Cullercoats, and Alnmouth (G. S. B.) N.D.

ECTINOSOMA ERYTHROPS G. S. Brady.

1880. *Ectinosoma erythrops*, Brady (3), vol. ii., p. 12, pl. xxxvi., figs. 11–17.

"Dredged in depths of from five to thirty fathoms off the coasts of South Durham and North Yorkshire." This seems to be a rare species, but is recorded by Mr. T. Scott from the Firth of Forth, and by the late Mr. I. C. Thompson from the Irish Sea. D.

ECTINOSOMA BRUNNEA G. S. Brady.

1907. *Ectinosoma brunnea*, Brady, Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle-upon-Tyne, new series, vol. i., p. 333, pl. ix., figs. 4–11.

Taken in a salt-water pond at Amble, December, 1905. N.

MICROSETELLA ROSEA (Dana).

1892. *Microsetella rosea*, Giesbrecht (5), pp. 550, 554, pl. xliv., figs. 32, 35, 37, 38, 41, 43, 46, 48, 49.

1905. *Microsetella rosea*, Brady, Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, new series, vol. i., p. 213, pl. iii., figs. 1–4.

One specimen only was found in washings from the dredge taken between St. Mary's Island and Souter Point. N.

BRADYA TYPICA Boeck.

1872. *Bradya typica*, Boeck, Nye Slægter og Arter af Saltvands-Copepoder, p. 47.

1880. *Bradya typica*, G. S. Brady (3), vol. ii., p. 17, pl. xxxviii., figs. 1–10.

1904. *Bradya typica*, G. O. Sars (6), vol. v., p. 46, pl. xxv.

This species is found generally on sandy bottoms similar to those haunted by *Longipedia*. Our only local record is "off Hartlepool in 25 fathoms" (G. S. B.) D.

PSEUDOBRADYA MINOR (T. and A. Scott).

1896. *Bradya minor*, T. and A. Scott, A Revision of the British Copepoda belonging to the genus *Bradya* Boeck and *Ectinosoma* Boeck, p. 425, pl. xxxv., figs. 5, 9, 13, 21, 24, 31, 35, 42, pl. xxxvi., figs. 5, 9.

1904. *Pseudobradya minor*, G. O. Sars (6), vol. v., p. 41, pl. xxii., fig. 2.

1907. *Bradya minor*, Brady, Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle-upon-Tyne, new series, vol. i., p. 332, pl. ix., figs. 1–3.

Taken in a salt-water pond at Amble, December, 1905. This species may be at once recognised by a conspicuous dark patch near the base of the antennules. N.

ZOSIME TYPICA Boeck.

1872. *Zosime typica*, Boeck, Nye Slægter og Arter af Saltsvands-Copepoder, p. 46.

1880. *Zosime typica*, Brady (3), vol. ii., p. 15, pl. xxxix., figs. 1–12.

1903. *Zosime typica*, G. O. Sars (6), vol. v., p. 27, pl. xv.

Dredged twenty miles off Sunderland on a bottom of muddy sand in forty-five fathoms (G. S. B.) D.

CYLINDROPSYLLUS LÆVIS G. S. Brady.

1880. *Cylindropsyllus lævis*, Brady (3), vol. iii., p. 30, pl. lxxxiv., figs. 1–8.

1892. *Cylindropsyllus lævis*, T. Scott, Tenth Annual Report of the Fishery Board for Scotland, p. 258, pl. xiii., figs. 1–18.

This species was originally described and figured from a single female specimen taken off Hartlepool in a depth of five fathoms. We have seen no further specimens, but it has been taken in considerable numbers by Mr. T. Scott in the Firth of Forth, and has been fully described and figured by him (*loc. cit.*). The late Mr. I. C. Thompson, of Liverpool, also found it sparingly on the west coast of England. D.

HARPACTICUS CHELIFER (O. F. Müller).

1776. *Cyclops chelifer*, O. F. Müller, Zool. Dan. Prodr. 2413.

1850. *Arpacticus chelifer*, Baird, p. 212, pl. xxix., figs. 2, 3, 3a–g.

1880. *Harpacticus chelifer*, Brady (3), vol. ii., p. 146, pl. lxiv., figs. 19, 20, pl. lxv., figs. 1–7, 9, 11, 12, 14, 15.

1904. *Harpacticus chelifer*, G. O. Sars (6), vol. v., p. 49, pls. xxvii., xxviii.

One of the commonest of the Harpacticidæ: frequent between tidemarks—less frequent in greater depths. N.D.

HARPACTICUS FLEXUS Brady and Robertson.

1880. *Harpacticus flexus*, Brady (3), vol. ii., p. 152, pl. lxiv., figs. 12–18.

1904. *Harpacticus flexus*, Sars (6), vol. v., p. 53, pl. xxx., fig. 2.

On roots of Laminariæ, Holy Island (G. S. B.) N.

TIGRIOPUS FULVUS (S. Fischer).

1860. *Harpacticus fulvus*, S. Fischer, Beiträge zur Kenntniss der Entom. (Abhandl. der König. Bayer. Akad., vol. viii.), p. 656, pl. i., figs. 30–33, pl. ii., figs. 34–39.

1869. *Tigriopus Lilljeborgii*, Norman, Last Shetland Dredging Report, p. 296.

1880. *Harpacticus fulvus*, Brady (3), vol. ii., p. 149, pl. lxiv., figs. 1–11.

Found all round the coast, mostly in shallow pools at or above high-water mark, and often in vast swarms when the water has become warm with prolonged exposure to the sun. N.D.

ZAUS SPINATUS Goodsir.

1845. *Zaus spinatus*, Goodsir, Ann. and Mag. Nat. Hist., vol. xvi., p. 326, pl. xi., figs. 1–8.

1880. *Zaus spinatus*, Brady (3), vol. ii., p. 153, pl. lxvi., figs. 1–9.

1904. *Zaus spinatus*, G. O. Sars (6), vol. v., p. 57, pl. xxxiii.

Not uncommon among weeds, especially near low-water mark all along the coast. N.D.

ZAUS GOODSIRI G. S. Brady.

1880. *Zaus Goodsiri*, G. S. Brady (3), vol. ii., p. 156, pl. lxvi., figs. 10–13.

1904. *Zaus Goodsiri*, G. O. Sars (6), vol. v., p. 59, pl. xxxv.

Within our district we have seldom seen this species; it was dredged off Whitley in a depth of twenty fathoms, July, 1899, and one or two specimens were taken in the same year between tide-marks at Alnmouth (G. S. B.) N.

ALTEUTHA DEPRESSA Baird.

1850. *Alteutha depressa*, Baird (1), p. 216, pl. xxx., figs. 1, 2.

1868. *Alteutha typica*, Czerniawsky, Materialia ad Zoographiam ponticam comparatum, p. 34, pl. iii., figs. 15–25, pl. iv., fig. 10.

1880. *Peltidium crenulatum*, Brady (3), vol. ii., p. 163, pl. lxxii., figs. 6–15.

1889. *Alteutha depressa*, Claus, Copepodenstudien I. Peltidien, p. 11, pl. ii., figs. 9–17.

Dr. Baird (*loc. cit.*) records this species from "Berwick Bay, 1835, not common." Otherwise it does not appear to have been noticed in our district, and partly on this account we have heretofore taken Baird's species to be that here called *Eupelte purpurocincta*. But his description, and especially his figures, seem more properly applicable to the present species, and that view has also been taken by so good an authority as Professor Claus. N.

ALTEUTHA INTERRUPTA (Goodsir).

1845. *Sterope interrupta* ♀ and *Carillus oblongus* ♂, Goodsir, Several new species of Crustacea allied to Saphirina. Ann. and Mag. Nat. Hist., vol. xvi., p. 326, pl. xi., figs. 10, 12.

1863. *Alteutha bopyroides*, Claus (2), p. 143, pl. xx., figs. 10–17.

1864. *Alteutha norvegica*, Boeck, Oversigt over de ved Norges Kyster iagttage Copepoder, p. 48.

1880. *Peltidium interruptum*, G. S. Brady (3), vol. ii., p. 162, pl. lxxi., figs. 4–15.

1885. *Peltidium conophorum*, Poppe, Frei-lebende Copepoden des Jadebusens, pl. vii., fig. 19.

1889. *Alteutha bopyroides*, Claus, Copepodenstudien I. Peltidien, p. 9, pl. i., figs. 1–11, pl. ii., figs. 1–8.

A common species taken mostly in the tow-net, also by the dredge, and less commonly between tide-marks. N.D.

EUPELTE PURPUROCINCTA (Norman).

1869. *Alteutha purpurocincta*, Norman, "Last Report on Dredging off Shetland Isles." Brit. Assoc. Report, 1868, p. 298.

1880. *Peltidium depressum*, Brady (3), vol. ii., p. 160, pl. lxxii., figs. 1–5.

1889. *Eupelte purpurocincta*, Claus, Copepodenstudien I. Peltidien, p. 14, pl. iii., figs. 1–8.

This beautiful species is easily recognised by its flattened oval form and its transverse purple band; it is common in low-water pools, chiefly on the fronds of *Laminaria saccharina*. N.D.

ROBERTSONIA TENUIS (Brady and Robertson).

1876. *Ectinosoma tenue*, B. and R., Report Brit. Assoc., 1875, p. 196.

1880. *Robertsonia tenuis*, Brady (3), vol. ii., p. 25, pl. xli., figs. 1–14.

Dredged in several places off the Durham coast in depths of from twenty to thirty-seven fathoms (G. S. B.) D.

TEGASTES* FALCATUS Norman.

1869. *Amymone falcata*, Norman, "Last Report on Dredging off Shetland Isles." Brit. Assoc. Report, 1868, p. 296.

1872. *Amymone rubra*, Boeck, Nye Slægter og Arter af Saltvands-Copepoder, p. 49.

1880. *Amymone sphærica*, Brady (not Claus) (3), vol. ii., p. 28, pl. xlix., figs. 1–11.

1903. *Amymone rubra*, Brady, Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle-on-Tyne, new series, vol. i., p. 3, pl. i., fig. 13.

1904. *Tegastes falcatus*, Sars (6), p. 69, pl. xli.

A scarce but widely distributed species. Dredged in twenty-five fathoms off Marsden and Souter Point; found also at roots of Laminariæ at Holy Island (G. S. B.) N.D.

TEGASTES LONGIMANA (Claus).

1863. *Amymone longimana*, Claus (2), p. 115, pl. xx., figs. 13, 14.

1880. *Amymone longimana*, Brady (3), vol. ii., p. 30, pl. xlix., figs. 12, 13.

One specimen dredged in a depth of thirty-seven fathoms off Hawthorn (G. S. B.) D.

* The generic name *Amymone* having been twice previously used, by O. F. Müller in 1785 and by Savigny in 1817, Dr. Norman has proposed to substitute the term *Tegastes*.

PORCELLIDIUM FIMBRIATUM Claus.

1863. *Porcellidium fimbriatum*, Claus (2), p. 140. pl. xxii., fig. 1.

1880. *Porcellidium fimbriatum*, Brady (3), vol. ii., p. 167, pl. lxx., figs. 1–4.

1904. *Porcellidium fimbriatum*, G. O. Sars (6), vol. v., p. 76, pls. xliv., xlv.

Found chiefly on the fronds of Laminariæ between tide-marks, but "sometimes taken by the dredge in considerable numbers where decomposing algæ and other vegetable matters are deposited." In our district the only record is Alnmouth (G. S. B.) N.

ASPIDISCUS LITTORALIS G. O. Sars.

1904. *Aspidiscus littoralis*, G. O. Sars (6), vol. v., p. 79, pls. xlvi. and xlvii.

A beautiful species, easily recognized when well grown by a brilliant crimson patch occupying the centre of the body. Its favourite habitat, as in the case of many of the flattened or depressed Copepoda, is on the fronds of Laminariæ. Here it often occurs very abundantly at almost all points of our coast. In the "Monograph of British Copepoda" it was erroneously identified with *Aspidiscus fasciatus* Norman and *Porcellidium fasciatum* Boeck. Professor Sars, however, has shown that it differs from both these species, and has proposed for it the specific name *littoralis*.

PSAMATHE LONGICAUDA Philippi.

1840. *Psamathe longicauda*, Philippi, Weigman. Archiv für Naturgesch., p. 189, pl. iv., fig. 1.

1880. *Scutellidium tisboides*, Brady (3), vol. ii., p. 175, pl. lxviii., figs. 1–10.

1905. *Psamathe longicauda*, G. O. Sars (6), vol. 5, p. 83, pl. xlix.

This has many characters in common with *Tisbe furcata*, and is met with in similar situations, but always sparingly. We have seen no local specimens excepting one or two taken at Roker on the fronds of *Laminaria saccharina* (G. S. B.) D.

TISBE FURCATA (Baird).

1850. *Canthocamptus furcatus*, Baird (1), p. 210, pl. xxv., figs. 1, 2, pl. xxx., figs. 4–6.

1880. *Idya furcata*, Brady (3), vol. ii., p. 172, pl. lxvii.' figs. 1–11.

1906. *Tisbe furcata*, Norman and Scott (7). p. 183.

A very common species in tidal pools: much less frequent in the open sea. Very widely distributed, and correspondingly variable in minor characteristics. N.D.

THALESTRIS LONGIMANA Claus.

1863. *Thalestris longimana*, Claus (2), p. 130, pl. xviii., figs. 1–11.

1880. *Thalestris longimana*, Brady (3), vol. ii., p. 136, pl. lx., figs. 1–13.

A very conspicuous species owing to its generally beautiful coloration, but never occurring in any great abundance. Not uncommon between tidemarks all along the coast. N.D.

THALESTRIS BRUNNEA G. O. Sars.

1905. *Thalestris brunnea*, G. O. Sars (6), vol. v., p. 108, pl. lxiii.

Specimens taken at Roker on the roots of Laminariæ, and doubtfully referred by Dr. Brady to *T. rufo-violascens* Claus, are considered by Professor Sars to belong to a species newly described by him under the specific name *brunnea*. D.

PARATHALESTRIS CLAUSI (Norman).

1905. *Parathalestris Clausi*, G. O. Sars (6), vol. v., p. 111, pls. lxv., lxvi.

Syn.: *Thalestris Clausi*, Brady and Norman.

This is one of the commonest of British Harpacticidæ, being often found plentifully in pools of the littoral zone, as well as in the open sea. N.D.

PARATHALESTRIS HIBERNICA (Brady and Robertson).

1873. *Thalestris hibernica*, B. and R., Ann. and Mag. Nat. Hist., ser. 4, vol. xii., p. 135, pl. viii., figs. 17–19.

1880. *Thalestris hibernica*, Brady (3), vol. ii., p. 134, pl. lxii., figs. 13–17, pl. lxiii., figs. 14, 15.

1905. *Parathalestris hibernica*, G. O. Sars (6), vol. v., p. 113, pl. lxviii.

A scarce species. Our only local record is Holy Island, where it was found at the roots of Laminariæ. N.

PARATHALESTRIS (?) NORTHUMBRICA *nov. nom.*

1905. *Thalestris robusta*, Brady, Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, new series, vol. i., p. 218, pl. v., figs. 11–17 (not *Th. robusta* Claus).

One specimen found in a tidal pool at Cullercoats (G. S. B.) N.

PARATHALESTRIS (?) DENTI (G. S. Brady).

1905. *Thalestris Denti*, Brady, *loc. cit.*, p. 218, pl. vi., figs. 10–15.

Found in washings of dredged material taken between St. Mary's Island and Souter Point, July, 1904 (G. S. B.) N.D.

Of this and the preceding species the male only has been seen, and the generic reference must be considered as provisional merely.

PARATHALESTRIS HARPACTOIDES (Claus).

1880. *Thalestris harpactoides*, Brady (3), vol. ii., p. 127, pl. l., figs. 9–16, pl. lix., fig. 1.

1905. *Parathalestris harpactoides*, G. O. Sars (6), vol. v., p. 112, pl. lxvii.

This species occurred in a surface-net gathering from Teesmouth given to us by the late Mr. E. C. Davison of Sunderland (G. S. B.); rock pools, Seaton Sluice, Northumberland (A. M. N.) N.D.

PHYLLOTHALESTRIS MYSIS (Claus).

1880. *Thalestris mysis*, Brady (3), vol. ii., p. 121, pl. lviii., figs. 1–13.

1905. *Phyllothalestris mysis*, G. O. Sars (6), vol. v., p. 116, pls. lxx., lxxi.

In tidal pools among algæ, Alnmouth (G. S. B.)

Easily recognized by the abnormally large and foliaceous fifth pair of feet in the female. N.

RHYNCHOTHALESTRIS RUFOCINCTA (Norman).

1880. *Thalestris rufocincta*, Brady (3), vol. ii., p. 125, pl. lvii., figs. 1–9.

1905. *Rhynchothalestris rufocincta*, G. O. Sars (6), vol. v., p. 120, pls. lxxiii., lxxiv.

Dredged off Marsden, 10 fathoms, and off Hawthorn, 27 fathoms, and at low-water on fronds of Laminariæ at Roker (G. S. B.) D.

RHYNCHOTHALESTRIS HELGOLANDICA (Claus).

1880. *Thalestris helgolandica*, Brady (3), vol. ii., p. 123, pl. lxi., figs. 9–14.

1905. *Rhynchothalestris helgolandica*, G. O. Sars (6), vol. v., p. 121, pl. lxxv.

Dredged off the Durham coast in 27 fathoms (G. S. B.) D.

MICROTHALESTRIS FORFICULA (Claus).

1863. *Thalestris forficula*, Claus (2), p. 131, pl. xvii., figs. 7–11.

1894. *Thalestris forficuloides*, T. and A. Scott, Twelfth Annual Report of the Fishery Board for Scotland, p. 255, pl. x., figs. 13–25, and On Some New and Rare Crustacea from Scotland (Annals and Magazine of Natural History, ser. vi., vol. xii., 1894).

1905. *Microthalestris forficula*, G. O. Sars (6), vol. v., p. 123, pl. lxxvi.

Found at the roots of Laminariæ, Holy Island (G. S. B.) N.

The foregoing genera *Parathalestris*, *Phyllothalestris*, *Rhynchothalestris*, and *Microthalestris*, previously referred by most authors to *Thalestris* Claus, are considered by Dr. G. O. Sars to belong to distinct genera to which he has assigned the names here used.

DACTYLOPUSIA TISBOIDES (Claus).

1880. *Dactylopus tisboides*, Brady (3), vol. ii., p. 106, pl. liv., figs. 1–13.

1905. *Dactylopusia thisboides*, G. O. Sars (6), vol. v., p. 126, pls. lxxvii. and lxxviii., fig. 1.

One of the commonest of the Harpacticidæ, occurring abundantly between tidemarks, and less profusely in greater depths of water down to at least 40 fathoms. N.D.

DACTYLOPUSIA NEGLECTA G. O. Sars.

1880. *Dactylopus tisboides*, Brady (3) (brackish water variety), vol. ii., p. 108, pl. liv., figs. 14–16.

1905. *Dactylopusia neglecta*, G. O. Sars (6), vol. v., p. 127, pl. lxxviii., fig. 2.

This was briefly noticed and figured in the "Monograph of British Copepoda" as a brackish water variety of *D. tisboides*, but the characters are distinctive enough to have warranted Professor G. O. Sars in giving it specific rank. The only local record is "brackish pools at Seaton Sluice, Northumberland" (G. S. B.) N.

DACTYLOPUSIA BREVICORNIS (Claus).

1880. *Dactylopus brevicornis*, Brady (3), vol. ii., p. 118, pl. lvii., figs. 10–12, pl. lviii., fig. 14.

1905. *Dactylopusia brevicornis*, G. O. Sars (6), vol. v., p. 130, pl. lxxx.

Not uncommon on the fronds of *Laminaria saccharina* at Sunderland (G. S. B.) D.

DACTYLOPUSIA PLATYCHELES (G. S. Brady).

1902. *Dactylopus platycheles*, Brady, On Copepoda and other Crustacea taken in Ireland and on the North-East Coast of England. Nat. Hist. Trans. Northumberland and Durham, vol. xiv., p. 61, pl. iii., figs. 1–10.

Taken among algæ at extreme low-water mark, Roker (G. S. B.) D.

DACTYLOPUSIA LONGIROSTRIS (Claus).

1863. *Dactylopus longirostris*, Claus (2), p. 127, pl. xvii., figs. 4–6.

1899. *Dactylopus longirostris*, Brady, On *Ilyopsyllus coriaceus* and other Crustacea taken at Alnmouth. Nat. Hist. Trans. Northumberland and Durham, vol. xiii., p. 434, pl. xiii., figs. 9–12.

One specimen which we take to belong to this species was got in a pool near low-water mark at Alnmouth (G. S. B.) N.

DACTYLOPUSIA VULGARIS G. O. Sars.

1880. *Dactylopus Stromii*, Brady (3), vol. ii., p. 111, pl. lv., figs. 1–13.

1905. *Dactylopusia vulgaris*, G. O. Sars (6), vol. v., p. 128, pl. lxxiv., fig. 1.

"Roker, on *Laminaria saccharina*, rare" (G. S. B.) D.

AMENOPHIA PELTATA Boeck.

1864. *Amenophia peltata*, Boeck, Oversigt Norges Copepoder, p. 45 (separate copy).

1880. *Thalestris peltata*, Brady (3), vol. ii., p. 138, pl. liii. figs. 11–15.

1906. *Amenophia peltata*, G. O. Sars (6), vol. v., p. 136, pls. lxxxiii. and lxxxiv., fig. 1.

One specimen found in a tidal pool at low-water mark, Alnmouth (G. S. B.) N.

DACTYLOPODELLA FLAVA (Claus).

1866. *Dactylopus flavus*, Claus, Die Copepoden-Fauna von Nizza, p. 28, pl. iii., figs. 13–16.

1880. *Dactylopus flavus* (partim), Brady (3), vol. ii., p. 116, pl. lvi., figs. 1–11.

1905. *Dactylopodella flava*, G. O. Sars (6), vol. v., p. 132, pl. lxxxi.

The specimens referred in the "Monograph of British Copepoda" to *Dactylopus flavus* Claus belonged to two distinct species—*D. flavus* Claus and *Idomene forficata* Philippi. No specimens from Northumberland or Durham having been preserved, it is impossible now to say with certainty which of the two species ought to be recorded in this list, but inasmuch as those taken off Red Cliff, Yorkshire, belong undoubtedly to *D. flavus*, it seems fair to assume that the Durham specimens dredged off Hawthorn are also referable to that species. D.

WESTWOODIA NOBILIS (Baird).

1845. *Arpacticus nobilis*, Baird, Trans. Berw. Nat. Club, vol. ii., p. 155.

1888. *Westwoodia nobilis*, Brady (3), vol. ii., p. 141, pl. lxiii., figs. 1–13.

Recorded by Dr. Baird from Berwick Bay. Very rarely on fronds of Laminaria at Sunderland (G. S. B.) A widely distributed species, but never occurring in great numbers. N.D.

DIOSACCUS TENUICORNIS (Claus).

1863. *Dactylopus tenuicornis*, Claus (2), p. 127, pl. xvi., figs. 17–23.

1880. *Diosaccus tenuicornis*, Brady (3), vol. ii., p. 68, pl. lix., figs. 12–16, pl. lx., figs. 14–18.

Widely distributed; living chiefly on the fronds of Laminaria. The only local record is Cullercoats (G. S. B.) N.

AMPHIASCUS IMUS (G. S. Brady).

1872. *Stenhelia ima*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iv., p. 436, pl. xix., figs. 1–5.

1880. *Stenhelia ima*, Brady (3), vol. ii., p. 35, pl. xliii., figs. 1–14.

1906. *Amphiascus imus*, G. O. Sars (6), vol. v., p. 156, pl. xcvii.

Dredged off the Durham coast near Marsden and off Hartlepool (G. S. B.) D.

AMPHIASCUS TENUIREMIS (G. S. Brady).

1880. *Dactylopus tenuiremis*, Brady (3), vol. ii., p. 115, pl. lvi., figs. 12–18.

1906. *Amphiascus tenuiremis*, G. O. Sars (6), vol. v., p. 161, pl. cii.

Dredged in 45 fathoms 20 miles off Sunderland, and in 30 to 39 fathoms off Souter Point (G. S. B.) D.

AMPHIASCUS HISPIDUS (Brady).

1880. *Stenhelia hispida*, Brady (3), vol. ii., p. 32, pl. xlii., figs. 1–14.

1906. *Amphiascus hispidus*, G. O. Sars (6), vol. v., p. 166, pls. cvii., cviii.

Dredged off Hartlepool in five fathoms, and off Marsden, 30 fathoms (G. S. B.) D.

AMPHIASCUS INTERMEDIUS (Scott).

1897. *Stenhelia intermedia*, Scott, Marine Invertebrata of Loch Fyne. 15th Annual Report Fishery Board for Scotland, p. 169, pl. ii., figs. 10–21.

1906. *Amphiascus intermedius*, G. O. Sars (6), vol. v., p. 169, pl. cx.

A single specimen found among dredged material from a depth of 25 fathoms off Hartlepool (G. S. B.) D.

DELAVALIA PALUSTRIS G. S. Brady.

1868. *Delavalia palustris*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 134, pl. v., figs. 10–15, and (3) vol. ii., p. 43, pl. l., figs. 1–8.

1906. *Stenhelia palustris*, G. O. Sars (6), vol. v., p, 185, pl. cxxii.

Found in brackish pools near the mouth of the Seaton Burn, Northumberland, and in similar pools on the Aln above Alnmouth (G. S. B.)

Professor G. O. Sars considers *(loc. cit.)* that the genus *Delavalia* is really identical with *Stenhelia* Boeck, but Boeck's definition of *Stenhelia* assigns to the first pair of feet a structure "similar to those of Dactylopus," and of this latter genus he says of the first pair of feet that "the inner branch is elongated, three-jointed, the first joint being very long and bearing two prehensile bristles: the inner branch generally smaller, with its middle joint not much longer than the other two"—both branches being therefore three-jointed. But one of the most distinctive characters of *Delavalia* is the *two-jointed* and *non-prehensile* inner branch of the first foot. We therefore prefer to retain that generic name. N.

DELAVALIA LONGICAUDATA (Boeck).

1872. *Stenhelia longicaudata*, Boeck, Nye Slægter og Arter af Saltvands-Copepoder. Chr. Vid. Forh., p. 49.

1880. *Delavalia reflexa*, Brady (partim) (3), vol. ii., p. 45, pl. li., figs. 9, 14.

1906. *Stenhelia longicaudata*, G. O. Sars (6), vol. v., p. 190, pl. cxxv., fig. 1.

This species is included in our list on the faith of Professor G. O. Sars, who remarks that "some of the figures given by

Professor Brady of his species *Delavalia reflexa* (for instance figures 9 and 14) undoubtedly refer to the present form." *D. reflexa* was dredged on a sandy bottom five miles off Hartlepool (G. S. B.) D.

DELAVALIA REFLEXA Brady and Robertson.

1875. *Delavalia reflexa*, B. and R., Brit. Assoc. Report, p. 196.

1880. *Delavalia reflexa*, Brady (3), vol. ii., p. 45, pl. li., figs. 1–8, 11–13.

1906. *Stenhelia reflexa*, G. O. Sars (6), vol. v., p. 186, pl. cxxiii.

Respecting this species G. O. Sars says, "It seems to me beyond doubt that Mr. Brady, under the name of *Delavalia reflexa*, has confounded two distinct species," and that some of his figures refer to *Stenhelia longicaudata*, the remainder only to *S. reflexa*.

Found off Hartlepool as noted under *D. longicaudata*. D.

DELAVALIA ROBUSTA Brady and Robertson.

1875. *Delavalia robusta*, B. and R., Brit. Assoc. Report, p. 196.

1880. *Delavalia robusta*, Brady (3), vol. ii., p. 46, pl. li., figs. 15–21.

Dredged off Hawthorn (G. S. B.) D.

DELAVALIA PYGMÆA Brady.

1905. *Delavalia pygmæa*, Brady, On Copepoda and other Crustacea taken off Northumberland and Durham in July, 1904 (Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, new series, vol. i.), p. 214, pl. iii., figs. 5–10.

One specimen taken between St. Mary's Island and Souter Point in washings from dredge (G. S. B.) N.

STENHELIA LIMICOLA G. S. Brady.

1899. *Stenhelia limicola*, Brady, On *Ilyopsyllus coriaceus* and other Crustacea taken at Alnmouth (Nat. Hist Trans. Northumberland and Durham, vol. xiii., 1899) p. 433, pl. xii., figs. 1–7.

Two or three examples of this species were taken near the old oyster-hatchery at the side of the Aln above Alnmouth; we had previously found it in a somewhat similar situation on the muddy shores of the river Glen at Carrick, County Donegal (G. S. B.) N.

STENHELIA MEEKI G. S. Brady.

1905. *Stenhelia Meeki*, Brady, On Copepoda and other Crustacea taken off Northumberland and Durham in July, 1904. Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, new series, vol. i., p. 216, pl. iv., figs. 7–16.

One specimen found in washings from dredge between St. Mary's Island and Souter Point (G. S. B.) N.

STENHELIA HERDMANI A. Scott.

1896. *Stenhelia Herdmani*, A. Scott, Some New and Rare Copepoda from Liverpool Bay. Report for 1895 on the Lancashire Sea Fisheries Laboratory, pl. i., figs. 1–11.

1903. Brady, on Entomostraca found at the roots of *Laminariæ*. Nat. Hist. Trans. Northumberland and Durham, new series, vol. i., p. 3, pl. i., figs. 1–11.

Found in washings from the roots of Laminaria at Holy Island (G. S. B.) N.

STENHELIA DENTICULATA I. C. Thompson.

1893. *Stenhelia denticulata*, Thompson, Revised Report on the Copepoda of Liverpool Bay. Trans. Liverpool Biological Society, p. 20, pl. xxx., figs. 1–11.

1903. *Stenhelia denticulata*, Brady, On Entomostraca found at the roots of *Laminariæ*. Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, vol. i., new series, p. 3.

Dredged off Whitley in a depth of twenty fathoms (G. S. B.) N.

STENHELIA ÆMULA (T. Scott).

1893. *Delavalia æmula*, T. Scott, Additions to the Fauna of the Firth of Forth. Eleventh Annual Report Fishery Board for Scotland, p. 204, pl. iv., figs. 36–47.

1906. *Stenhelia æmula*, G. O. Sars (6), vol. v., p. 184, pl. cxxi.

Taken in a depth of 25 fathoms five miles off Hartlepool (G. S. B.) D.

CANTHOCAMPTUS MINUTUS (O. F. Müller).

1776. *Cyclops minutus*, O. F. Müller, Zool. Dan. Prodr., 2400.

1785. *Cyclops minutus*, idem, Entomostraca, p. 101, pl. xvii., figs. 1–7.

1820. *Monoculus staphylinus*, Jurine, Hist. des Monocles, p. 74, pl. vii., figs. 1–19.

1880. *Canthocamptus minutus*, Brady (3), vol. ii., p. 48, pl. xliv., figs. 1–17.

A very widely distributed and common species, occurring abundantly in most sheets of fresh water whether great or small. N.D.

CANTHOCAMPTUS HORRIDUS Fischer.

1860. *Canthocamptus horridus*, Fischer, Beiträge zur Kenntniss der Entomostraceen. Abhandl. der König. Bayer. Akad. der Wissensch., vol. viii., p. 670, pl. xxi., figs. 57–59a, 60.

1880. *Canthocamptus northumbricus*, Brady (3), vol. ii., p. 57, pl. xlv., figs. 1–14.

This has been identified by Professor Lilljeborg, we think rightly, with the more recently described *C. northumbricus*: the earlier name must, of course, be adopted. It was found sparingly in Bolam Lake, Northumberland, and more lately (July, 1896) in Loughrigg Tarn (G. S. B.) Noticed also by Mr. T. Scott near Edinburgh, and by Mr. Scourfield in the South of England. N.

ATTHEYELLA CRASSA (G. O. Sars).

1863. *Canthocamptus crassus*, G. O. Sars, Oversigt af de indenlandske Ferskvandscopepoder, p. 23 (separate copy).

1880. *Attheyella spinosa*, Brady (3), vol. ii., p. 58, pl. xliii., figs. 15–18, pl. xlvi., figs. 13–18.

1907. *Attheyella crassa*, G. O. Sars (6), vol. v., p. 199, pl. cxxix.

A small species, probably not uncommon, but easily overlooked. The only localities in our district of which we have notes are an engine-pond at Murton Junction, near Sunderland, and a "ferruginous ditch at the roadside half-way between Haydon Bridge and Stawarď" (G. S. B.) N.D.

ATTHEYELLA PYGMÆA (G. O. Sars).

1863. *Canthocamptus pygmæus*, G. O. Sars, *loc. cit.*, p. 21.

1880. *Attheyella cryptorum*, Brady (3), vol. ii., p. 60, pl. lii., figs. 1–18.

1907. *Attheyella pygmæa*, G. O. Sars (6), vol. v., p. 202, pl. cxxxi.

A commoner species apparently than the preceding, and widely distributed, preferring pools and ditches rather than large expanses of water. Our only local record is, however, from a very different situation—"the damp roof of the pit workings of the low main, West Cramlington Colliery, living among films of gelatinous algæ." These specimens were sent to us by the late Mr. Atthey, and the genus was named after him, but the species—thought at the time to be new—had been previously described by G. O. Sars as a *Canthocamptus*. We still think, however, that the characters are such as to warrant a generic distinction. N.D.

MESOCHRA LILLJEBORGI Boeck.

1864. *Mesochra Lilljeborgi*, Boeck, Oversigt af Norges Copepoder, p. 51.

1880. *Mesochra Lilljeborgi*, Brady (3), vol. ii., p. 62, pl. xli., figs. 15–21, pl. xlvii., figs. 16–21.

In the north-eastern district this species seems to be confined to brackish water localities, having been found only in salt-marsh pools at Seaton Sluice and Alnmouth (G. S. B.) N.

TACHIDIUS DISCIPES Giesbrecht.

1869. *Tachidius brevicornis*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 130, pl. v., figs. 1–9.

1880. *Tachidius brevicornis*, Brady (3), vol. ii., p. 20, pl. xxxvii.

1881. *Tachidius discipes*, Giesbrecht, Die freilebenden Copepoden der Kieler Foehrde, p. 108.

The reference of this species to *Cyclops brevicornis* Müller—until recently adopted by most authors—was, to say the least, a very doubtful one. It seems best, therefore, to use the new specific name proposed by Giesbrecht.

T. discipes is to be found plentifully during the summer months in the brackish pools of almost all estuaries and salt-marshes. N.D.

TACHIDIUS LITTORALIS Poppe.

1881. *Tachidius littoralis*, Poppe, Ueber einen neuen Harpacticiden. Abhandl. d. naturw. Ver. Bremen, vol. vii., p. 149, pl. vi.

1892. *Tachidius crassicornis*, T. Scott, Additions to the Fauna of the Firth of Forth, Part 4. Tenth Annual Report of Fishery Board for Scotland, p. 250, pl. viii., figs. 14–27.

1895. *Tachidius littoralis*, Brady, Entomostraca collected in the Solway district and at Seaton Sluice. Nat. Hist. Trans. Northumberland and Durham, vol. xiii., p. 13, pl. ii., figs. 14–17.

Another brackish water species found in similar situations to the foregoing. River Lyne at Newbiggin, mouth of the Wansbeck, and Seaton Carew (A. M. N.); Seaton Sluice (G. S. B.) N.D.

AMEIROPSIS BREVICORNIS G. O. Sars.

1880. *Ameira longipes*, Brady (3), vol. ii., p. 37, pl. liii., figs. 1–10.

1907. *Ameiropsis brevicornis*, G. O. Sars (6), vol. v., p. 224, pl. cxlviii.

Dredged in 25 to 45 fathoms off the Durham coast (G. S. B.)

Professor G. O. Sars considers that the species called by us *Ameira longipes* belongs to a nearly allied distinct genus named by him as above, and distinguished chiefly by the structure of the mandibular palp. D.

AMEIRA BREVIREMIS G. S. Brady.

1905. *Ameira breviremis*, Brady, On Copepoda and other Crustacea taken off Northumberland and Durham in July, 1904. Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, new series, vol. i., p. 214, pl. iii., figs. 11–14, and pl. iv., figs. 1–6.

One specimen only taken between St. Mary's Island and Souter Point in washings from dredged material (G. S. B.) N.

DANIELSSENIA TYPICA Boeck.

1872. *Danielssenia typica*, Boeck, Nye Slægter og Arter Saltvands-Copepoder, p. 55.

1880. *Jonesiella spinulosa*, Brady (3), vol. ii., p. 41, pl. xlviii., figs. 14–18, pl. xlix., figs. 14, 15.

Taken sparingly off Hartlepool on a sandy bottom, and off Hawthorn on a muddy bottom, depth 37 fathoms (G. S. B.) D.

THOMPSONULA HYÆNÆ (I. C. Thompson).

1889. *Jonesiella hyænæ*, I. C. Thompson, Proc. Liverpool Biological Society, vol. iii., p. 193, pl. ix., figs. 1–10.

1905. *Thompsonula hyænæ*, T. Scott, Ann. and Mag. Nat. Hist., ser. 7, vol. xvi., p. 571.

A few specimens of this interesting species were taken by the dredge off North Sunderland in 1892 (G. S. B.). It has been dredged also by Dr. Scott in the Firth of Forth. N.

PHYLLOPODOPSYLLUS BRADYI (T. Scott).

1892. *Tetragoniceps Bradyi*, T. Scott, Tenth Annual Report of the Fishery Board for Scotland, p. 253, pl. ix., figs. 19–32.

1905. *Tetragoniceps Bradyi*, Brady, On Copepoda and other Crustacea taken off Northumberland and Durham in July, 1904. Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, new series, vol. i., p. 217, pl. v., figs. 1–10.

1907. *Phyllopodopsyllus Bradyi*, G. O. Sars (6), vol. v., p. 231, pl. clv.

One specimen found in washings from dredge between St. Mary's Island and Souter Point (G. S. B.) N.

STENOCOPIA LONGICAUDATA (T. Scott).

1892. *Ameira longicaudata*, T. Scott, Additions to the Fauna of the Firth of Forth. 10th Annual Report of the Fishery Board for Scotland, Part 3, p. 250, pl. ix., figs. 1–18.

1907. *Stenocopia longicaudata*, Sars (6), vol. v., p. 228, pls. cli., clii.

Dredged off Hartlepool in 25 fathoms (G. S. B.) D.

LAOPHONTE CORNUTA Philippi.

1840. *Laophonte cornuta*, Philippi, Archiv für Naturgeschichte, p. 189, pl. iii., fig. 13.

1880. *Laophonte serrata*, Brady (3), vol. ii., p. 71, pl. lxxiii., figs. 1–14.

1907. *Laophonte cornuta*, G. O. Sars (6), vol. v., p. 235, pls. clvii. and clviii.

In the opinion of Professor G. O. Sars this species "has been erroneously identified by Brady and other British authors with *Cleta serrata* of Claus, which is a different species."

Found at the roots of Laminariæ at Holy Island. N.

LAOPHONTE CURTICAUDA Boeck.

1864. *Laophonte curticauda*, Boeck, Oversigt af Norges Copepoder, p. 54.

1880. *Laophonte curticauda*, Brady (3), vol. ii., p. 80, pl. lxxiii., figs. 15–18, pl. lxxvi., figs. 1–9.

A common littoral species, found in tidal pools at Whitburn and Sunderland, and at the roots of Laminariæ, Holy Island (G. S. B.) N.D.

LAOPHONTE SIMILIS (Claus).

1866. *Cleta similis*, Claus, Die Copepodenfauna von Nizza, p. 23, pl. v., figs. 13, 14.

1880. *Laophonte similis*, Brady (3), vol. ii., p. 78, pl. lxxv., figs. 1–14.

A common form in the littoral zone, and extending downwards to a depth of several fathoms along the coasts of Durham and Northumberland. N.D.

LAOPHONTE LONGICAUDATA Boeck.

1864. *Laophonte longicaudata*, Boeck, Oversigt af Norges Copepoder, p. 55.

1880. *Laophonte longicaudata*, Brady (3), vol. ii., p. 82, pl. lxxiv., figs. 12–15, pl. lxxvi., figs. 10–15.

Dredged in several places off the Durham coast down to 30 fathoms—Hartlepool, Seaham, and Hawthorn (G. S. B.) D.

LAOPHONTOPSIS LAMELLIFERA (Claus).

1863. *Cleta lamellifera*, Claus (2), p. 123, pl. xv., figs. 21–25.

1880. *Laophonte lamellifera*, Brady (3), vol. ii., p. 83, pl. lxxv., figs. 15–23.

A rather scarce species, but occurring both on algæ in the littoral zone and among dredged material from moderate depths. On Laminariæ and on muddy rocks, Sunderland, and at the roots of Laminariæ, Sunderland and Holy Island (G. S. B.) N.D.

ASELLOPSIS HISPIDA Brady and Robertson.

1873. *Asellopsis hispida*, B. and R., Ann. and Mag. Nat. Hist., ser. 4, vol. xii., p. 137, pl. ix., figs. 6–10.

1880. *Laophonte hispida*, Brady (3), vol. ii., p. 85, pl. lxxxi., figs. 1–11.

Dredged sparingly in a depth of from four to ten fathoms off the Durham coast (G. S. B.) D.

NORMANELLA DUBIA (Brady and Robertson).

1876. *Laophonte dubia*, B. and R., Brit. Assoc. Report (1875), p. 196.

1880. *Normanella dubia*, Brady (3), vol. ii., p. 87, pl. lxxviii., figs. 12–22.

A minute species, probably often overlooked, though widely distributed. Dredged off Marsden and Hartlepool, 10 to 30 fathoms (G. S. B.) D.

CLETODES LIMICOLA G. S. Brady.

1872. *Cletodes limicola*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iv., p. 438, pl. xxi., figs. 10–17.

1880. *Cletodes limicola*, Brady (3), vol. ii., p. 90, pl. lxxix., figs. 1–12.

In depths of from 20 to 45 fathoms in muddy sand off the Durham coast (G. S. B.) D.

CLETODES LONGICAUDATA Brady and Robertson.

1876. *Cletodes longicaudata*, B. and R., Brit. Assoc. Report (1875), p. 196.

1880. *Cletodes longicaudata*, Brady (3), vol. ii., p. 92, pl. lxxix., figs. 13–19.

Found in similar situations to the preceding species. Off Hartlepool five fathoms, and at roots of Laminaria, Holy Island (G. S. B.) N.D.

CLETODES PROPINQUA Brady and Robertson.

1876. *Cletodes propinqua*, B. and R., Brit. Assoc. Report (1875), p. 196.

1880. *Cletodes propinqua*, Brady (3), vol. ii., p. 94, pl. lxxvii., figs. 9–17.

Dredged off Marsden in 35 fathoms (G. S. B.) D.

CLETODES LINEARIS (Claus).

1866. *Lilljeborgia linearis*, Claus, Die Copepodenfauna von Nizza, p. 22, pl. ii., figs. 1–8.

1880. *Cletodes linearis*, Brady (3), vol. ii., p. 95, pl. lxxx., figs. 1–14.

An uncommon species. The only local record is Holy Island, where it was found at the roots of Laminaria (G. S. B.) N.

CLETODES SIMILIS T. Scott.

1895. *Cletodes similis*, T. Scott, Thirteenth Annual Report of the Fishery Board for Scotland, p. 168, pl. iii., figs. 22–26, pl. iv., figs. 1–3.

At roots of Laminariæ, Holy Island, and dredged off Souter Point in 39 fathoms (G. S. B.) N.D.

CLETODES LATA T. Scott.

1892. *Cletodes lata*, T. Scott, Tenth Annual Report Fishery Board for Scotland, p. 257, pl. x., figs. 10–18.

Dredged off Hartlepool in 25 fathoms (G. S. B.) D.

PONTOPOLITES TYPICUS T. Scott.

1894. *Pontopolites typicus*, T. Scott, Twelfth Annual Report of the Fishery Board for Scotland, p. 251, pl. viii., figs. 9–17.

1903. *Pontopolites typicus*, Brady, On Entomostraca found at the roots of Laminariæ. Trans. Nat. Hist. Soc. Northumberland and Durham, new series, vol. i., p. 4, pl. i., figs. 4–12.

Found at the roots of Laminariæ, Holy Island (G. S. B.) N.

NANNOPUS PALUSTRIS G. S. Brady.

1880. *Nannopus palustris*, Brady (3), vol. ii., p. 101, pl. lxxvii., figs. 18–20.

A few specimens found in pools of brackish water at Seaton Sluice (G. S. B.) N.

PLATYCHELIPUS LITTORALIS G. S. Brady.

1880. *Platychelipus littoralis*, Brady (3), vol. ii., p. 103, pl. lxxix., figs. 20–23, pl. lxxx., figs. 15-19.

In brackish pools at Alnmouth and Seaton Sluice (G. S. B.) N.

ILYOPSYLLUS CORIACEUS Brady and Robertson.

1880. *Ilyopsyllus coriaceus*, Brady (3), vol. ii., p. 143, pl. lxxxii., figs. 1–10.

1899. *Ilyopsyllus coriaceus*, Brady, On *Ilyopsyllus coriaceus* and other Crustacea taken at Alnmouth. Nat. Hist. Trans. Northumberland and Durham, vol. xiii., p. 434, pls. xi. and xii., fig. 8.

This very curious and interesting species was first described from specimens taken in the West of Ireland. It has since been found at Arcachon in France, at Lymington in Hampshire, and lastly on the muddy flats at Alnmouth, Northumberland. In all these cases the habitat has been similar—on mud banks a little removed from the sea where the salinity of the water is periodically reduced by admixture from rivers. N.

SECTION III.—CYCLOPOIDA

FAM. 1.—CYCLOPIDÆ

OITHONA SIMILIS Claus.

1866. *Oithona similis*, Claus, Die Copepoden-Fauna von Nizza, p. 14.

1878. *Oithona spinifrons* (Boeck?), Brady (3), vol. i., p. 90, pl. xiv., figs. 1–9, pl. xxiv.A, figs. 1, 2.

Taken frequently by the tow-net in the open sea, but seldom in any great numbers. N.D.

CYCLOPINA LITTORALIS G. S. Brady.

1872. *Cyclopina littoralis*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iv., p. 429, pl. xvii., figs. 9–14.

1878. *Cyclopina littoralis*, Brady (3), vol. i., p. 92, pl. xv., figs. 1–9.

This is a rather rare species, occurring chiefly among weeds between tidemarks, but also in dredgings from various depths up to 45 fathoms. We have taken it in tidal pools at Alnmouth, Whitley, and Ryhope, as well as in several dredgings off the coast (G. S. B.) N.D.

CYCLOPINA GRACILIS Claus.

1863. *Cyclopina gracilis*, Claus (2), p. 104, pl. x., figs. 9–15.

1878. *Cyclopina gracilis*, Brady (3), vol. i., p. 93, pl. xxiv.B, figs. 1–9, pl. xci., figs. 10, 11.

1906. *Cyclopina gracilis*, Brady, Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle-upon-Tyne, new series, vol. i., part 3, pl. x., fig. 13.

Several specimens of *C. gracilis* were found in a gathering from a salt-water pond at Amble in December, 1905. N.

CYCLOPINA (?) OVALIS G. S. Brady.

1880. *Cyclopina (?) ovalis*, Brady (3), vol. ii., p. 181 (woodcut).

To the original description based upon a single imperfect specimen we are able to add nothing. It was taken in the surface net off Sunderland (G. S. B.) D.

EURYTE LONGICAUDA Philippi.

1843. *Euryte longicauda*, Philippi, Archiv für Naturg., Jahr. 9, p. 63, pl. iii., fig. 3 a–d.

1878. *Thorellia brunnea*, Boeck, Oversigt over de ved Norges Kyster iagttagne Copepoder, p. 26.

1878. *Thorellia brunnea*, Brady (3), vol. i., p. 95, pl. xvi., figs. 1–10.

By no means a common species in our district, but on other parts of the British coast considerably more abundant; generally on the fronds of *Laminaria saccharina* at or about low-water mark. We have notes of its capture on the Durham coast (exact localities not preserved) and at the roots of Laminariæ at Holy Island. N.D.

CYCLOPS VIRIDIS Jurine.

1878. *Cyclops gigas*, Brady (3), vol. i., p. 105, pl. xx., figs. 1–16.

1891. *Cyclops viridis*, Brady (4), p. 82, pl. v., figs. 6–10.

1901. *Cyclops viridis*, Lilljeborg, Synopsis specierum huc usque in Suecia observatarum generis Cyclopis, Stockholm, p. 8 (separate copy), pl. i.. figs. 6–11.

Common everywhere in fresh water, sometimes even in brackish pools. N.D.

CYCLOPS BICUSPIDATUS Claus.

1891. *Cyclops Thomasi*, Brady (4), p. 80, pl. vi., figs. 1–4.

1891. *Cyclops bicuspidatus*, Brady (4), p. 78, pl. v., figs. 1–5.

1901. *Cyclops bicuspidatus*, Lilljeborg, *loc. cit.*, p. 11, pl. i., figs. 12–17, pl. ii., fig. 1.

In a pond in Lambton Park, county Durham (A. M. N.) D.

CYCLOPS VERNALIS S. Fischer.

1863. *Cyclops elongatus*, Claus (2), p. 97, pl. xi., figs. 1, 2.

1891. *Cyclops elongatus*, Brady (4), p. 70, pl. i., figs. 1–5.

1901. *Cyclops vernalis*, Lilljeborg, *loc. cit.*, p. 17, pl. ii., figs. 5–7.

A form of unfrequent occurrence, characterised by the presence of eighteen joints in the anterior antennæ instead of the usual seventeen, was described by Professor Claus as a distinct species under the name *elongatus*. This is now

generally considered as an abnormality, a variation of *C. vernalis*. Professor Lilljeborg, in his definition of *C. vernalis*, says "Antennæ primi paris . . . articulis 17, rarissime 18 compositæ." Our only record is for the *elongatus* variety. Pools near Broomley Lough (A. M. N.) N.

CYCLOPS VICINUS Uljanin.

1891. *Cyclops vicinus*, Brady (4), p. 77, pl. i., figs. 6–9.

1901. *Cyclops vicinus*, Lilljeborg, *loc. cit.*, p. 26, pl. ii., figs. 16–19.

Our local records are Bolam Lake and Paston Tarn (G. S. B.); Broomley Lake and Fallowlees Lake (A. M. N.) N.

CYCLOPS STRENUUS S. Fischer.

1878. *Cyclops strenuus*, Brady (3), vol. i., p. 104, pl. xix., figs. 1–7.

1891. *Cyclops strenuus*, idem (4), p. 73, pl. ii., figs. 1–4.

1891. *Cyclops abyssorum*, idem, ibidem, p. 73, pl. iii.

The form described by Sars under the specific name *abyssorum* seems to be simply a pelagic form of *C. strenuus*, altogether more feebly developed, and generally found at considerable depths below the surface. Of *C. abyssorum* we have records from Crag and Broomley Lakes (A. M. N.); of the *strenuus* form from Belsay, Plessey, Lambton Park, and Seaton Carew. N.D.

CYCLOPS FUSCUS (Jurine).

1878. *Cyclops signatus*, Brady (3), vol. i., p. 100, pl. xvii., figs. 4–12, and (4) p. 71 (in part).

1901. *Cyclops fuscus*, Lilljeborg, *loc. cit.*, p. 44, pl. iii., figs. 12–15.

A common species, generally distributed in weedy ponds and ditches. N.D.

CYCLOPS ALBIDUS (Jurine).

1878. *Cyclops tenuicornis*, Brady (3), vol. i., p. 102, pl. xviii., figs. 1–10.

1891. *Cyclops signatus*, idem (4), p. 71 (in part).

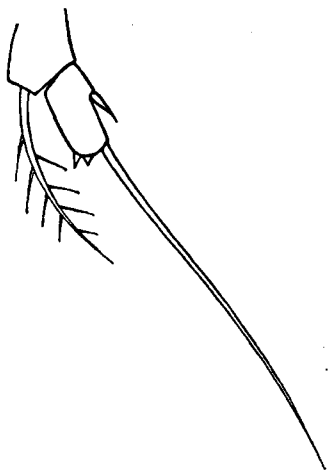
In the same situations as the preceding species, and equally common. N.D.

CYCLOPS INSIGNIS Claus.

1868. *Cyclops Lubbockii*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iii., p. 127, pl. iv., figs. 1–8.

1878. *Cyclops insignis*, Brady (3), vol. i., p. 108, pl. xxi., figs. 1–9, and (6) p. 73, pl. vi., fig. 5 (1891).

Taken many years ago in brackish pools near the edge of Hartlepool Slake. The figure of the fifth foot in Plate xxi. of the Ray Society Monograph is incorrect; that here given was



CYCLOPS INSIGNIS.
Fifth foot, highly magnified.

drawn from a specimen taken at Lymington, Hants, no example from Hartlepool being at present attainable: the figure agrees almost exactly with that given by Claus (G. S. B.) D.

CYCLOPS SERRULATUS S. Fischer.

1878. *Cyclops serrulatus*, Brady (3), vol. i., p. 109, pl. xxii., figs. 1–14, and (4) p. 83, pl. vii., fig. 1 (1891).

Wherever there is water capable of sustaining animal life there may be found *Cyclops serrulatus*. It seems to be less fastidious about impurities and less dependent on the presence

of vegetation than any other species. It is also very widely distributed, occurring, if not from China to Peru, at all events from Turkestan, through Europe, to North America. N.D.

CYCLOPS MACRURUS G. O. Sars.

1878. *Cyclops macrurus*, Brady (3), vol. i., p. 111, pl. xxix., figs. 1–5, and (4) p. 84, pl. vii., fig. 2 (1891).

We have no local record of this species except from Crag Lake (A. M. N.) N.

CYCLOPS AFFINIS G. O. Sars.

1878. *Cyclops affinis*, Brady (3), vol. i., p. 112, pl. xv., figs. 11–14, pl. xxiv.B, figs. 10–15, and (4) p. 86, pl. viii., figs. 1–6 (1891).

Not a common species. Locally it has been found only in the river Till at Etal (A. M. N.) N.

CYCLOPS FIMBRIATUS S. Fischer.

1878. *Cyclops crassicornis*, Brady (3), vol. i., p. 118, pl. xxiii., figs. 1–6.

1891. *Cyclops fimbriatus*, Brady (4), p. 90, pl. ix., fig. 1.

Found in Bolam Lake, and in a ferruginous ditch by the side of the road between Haydon Bridge and Staward (G. S. B.); Rainton Meadows, county Durham (A. M. N.) N.D.

CYCLOPS SALINUS G. S. Brady.

1899. *Cyclops salinus*, Brady, On *Ilyopsyllus coriaceus* and other Crustacea taken at Alnmouth. Nat. Hist. Trans. Northumberland and Durham, vol. xiii., p. 432, pl. xii., figs. 11–15; and On Entomostraca found at the roots of Laminariæ, idem, ibidem (new series, vol. i., p. 7, pl. i., figs. 1–3, 1904).

Found among fuci between tidemarks at Alnmouth and Holy Island (G. S. B.) N.

[CYCLOPS KAUFMANNI Uljanin.

In the Ray Society Monograph (vol. i., p. 113, pl. xxix., figs. 6–12) *C. Kaufmanni* was described and figured, as also in the "Revision" of 1891 (Brady (4), p. 89, pl. vii., fig. 3).

But no indubitably adult specimens have as yet been observed, and it seems best under these circumstances to consider it as an immature form of some other species—perhaps of *C. viridis*. The same remarks apply to *Cyclops Helleri*].

HALICYCLOPS ÆQUOREUS (S. Fischer).

1878. *Cyclops æquoreus*, Brady (3), vol. i., p. 119. pl. xix., figs. 8–10, pl. xxi., figs. 11–17, and (4) p. 91, pl. x., fig. 1 (1891).

Claus in 1893 founded a new genus *Hemicyclops* with *Cyclops æquoreus* as the type. The name, however, having been previously used in a different sense by Boeck, Dr. Norman has proposed to substitute for it that of *Halicyclops*.*

H. æquoreus is essentially a brackish water species, occurring not uncommonly in salt marshes and pools at the side of estuaries. It seems to be generally distributed, but the only local habitat at present known to us is Seaton Sluice, Northumberland (G. S. B.) N.

FAM. 2.—ASTEROCHERIDÆ

DERMATOMYZON NIGRIPES (Brady and Robertson).

1880. *Cyclopicera nigripes*, Brady (3), vol. iii., p. 54, pl. lxxxix., figs. 1–11.

1899. *Dermatomyzon nigripes*, Giesbrecht, Die Asterocheriden des Golfes von Neapel und der angrenzenden Meeres-Abschnitte, Berlin, 1899, p. 77, pl. i., fig. 4, pl. v., figs. 1–14.

A fine and well characterized species, not uncommon in moderate depths of water. Off Marsden and Hawthorn in 25 to 27 fathoms. Off Alnmouth 50 to 59 fathoms (G. S. B.) N.D.

ASTEROCHERES LATA (G. S. Brady).

1880. *Cyclopicera lata*, Brady (3), vol. iii., p. 56, pl. lxxxix., fig. 12, pl. xc., figs. 11–14.

One specimen among algæ in a tidal pool at Roker (G. S. B.) This species is normally parasitic on *Echinus*

* On new generic names for some Entomostraca (Annals and Magazine of Natural History, ser. 7, vol. xi., April, 1903).

esculentus, and the free-swimming condition in which it is frequently found is probably only temporary. The parasitic Crustacea of our district have been scarcely at all investigated, and will form a rich field for future research. The identification of this species with *Ascomyzon echinicola* Norman appears to have been erroneous. There are rather conspicuous differences in the fifth pair of feet and other points, but these need examination with the aid of further specimens, not at present attainable. D.

ASTEROCHERES BOECKI (G. S. Brady).

1880. *Artotrogus Boecki*, Brady (3), p. 60, pl. xci., figs. 1–9.

1899. *Asterocheres Boecki*, Giesbrecht, Die Asterocheriden des Golfes von Neapel und der angrenzenden Meeres-Abschnitte, Berlin, 1899, pp. 75 and 100, pl. i., fig. 2, pl. ii., figs. 22–31.

In a tidal pool, Alnmouth, September, 1899 (G. S. B.)

Like the preceding, probably a truly commensal or parasitic species only accidentally found in a free condition. N.

ASTEROCHERES VIOLACEUS (Claus).

1889. *Echinocheres violaceus*, Claus, Ueber neue oder wenig bekannte halbparasitische Copepoden, p. 30, pl. vi., figs. 1–10.

1899. *Asterocheres violaceus*, Giesbrecht, *loc. cit.*, pp. 76 and 101, pl. i., fig. 1, and pl. ii., figs. 34–42.

1899. *Echinocheres violaceus*, Brady, On *Ilyopsyllus coriaceus* and other Crustacea taken at Alnmouth. Nat. Hist. Trans. Northumberland and Durham, vol. xiii., p. 437, pl. xii., figs. 9, 10.

1899. *Cyclopicera berniciensis*, idem ibidem, p. 438, pl. xiii., figs. 1–8.

Two specimens taken in the free condition in a tidal pool near low-water mark at Alnmouth (G. S. B.)

The name *Cyclopicera berniciensis* must be withdrawn, having been founded upon a mutilated male specimen of *Asterocheres violaceus*.

ACONTIOPHORUS SCUTATUS Brady and Robertson.

1880. *Acontiophorus scutatus*, Brady (3), vol. iii., p. 69, pl. xc., figs. 1–10.

Dredged in 27 fathoms off Hawthorn (G. S. B.) D.

BRADYPONTIUS MAGNICEPS (G. S. Brady).

1880. *Artotrogus magniceps*, Brady (3), vol. iii., p. 61, pl. xciii., figs. 1-9.

1899. *Bradypontius magniceps*, Giesbrecht, *loc. cit.*, p. 88, pl. vi., figs. 41–44.

A few specimens dredged off Castle Eden in 20 fathoms. D.

CRIBROPONTIUS NORMANI (Brady and Robertson).

1880. *Artotrogus Normani*, Brady (3), vol. iii., p. 63, pl. xci., figs. 12–15; pl. xcii., fig. 14, pl. xciii., fig. 10.

1899. *Cribropontius Normani*, Giesbrecht, *loc. cit.*, p. 86, pl. vii., figs. 40–47.

A few specimens dredged six miles off Hawthorn in a depth of 27 fathoms (G. S. B.) D.

DYSPONTIUS STRIATUS Thorell.

1880. *Dyspontius striatus*, Brady (3), vol. iii., p. 65, pl. xcii., figs. 1–13.

1899. *Dyspontius striatus*, Giesbrecht, *loc. cit.*, p. 90, pl. i., fig. 10, pl. vii., figs. 1–11.

Dredged off Hawthorn in company with the foregoing species (G. S. B.) D.

MICROCANCERILLA, nov. gen.

Body oblong, urosome distinctly separate from metasome; antennules short, six-jointed; mandibles simple, falcate; maxillæ club-shaped; anterior and posterior maxillipeds clawed, prehensile; three pairs of biramose swimming feet.

MICROCANCERILLA CŒRULEOCRUCIATA, n. sp. Plate IX. (A).

Female. Length 0·42 mm. Cephalothorax oblong-ovate, last segment expanded laterally and produced backwards, forming two acute subfalcate processes, each of which bears near the tip a single rigid seta (?rudimentary fourth foot);

abdomen four-jointed, the joints very short and nearly equal in length; caudal stylets short, quadrate, scarcely longer than broad, sharply angulated at the outer distal edge; bearing one long rigid apical seta and two very small ones. Antennules short and stout, six-jointed, the terminal joint bearing four setæ; mandibles small, consisting of a single stout curved limb without any palp; maxillæ simple, claviform, dilated at the extremity, which bears a few simple setæ; anterior maxillipeds bearing a very long and slender terminal claw; posterior similarly formed, but with a much shorter and more robust unguis; three pairs of swimming feet, each with a robust basal joint, and two tri-articulate branches. The siphon is apparently slender and tubular, but was only indistinctly seen. The animal is nearly colourless, except that the alimentary tract is coloured so as to form in the recent condition a brilliant blue cross. Three specimens were taken by A. M. N. in a brackish pool by the side of the stream at Seaton Sluice in June, 1885, but renewed search in the same place has failed to disclose further specimens. The animal is evidently a suctorial one, and doubtless a parasite which in this case had become detached from its host. No species at all nearly corresponding to it has apparently been described. Its nearest allies are probably *Cancerilla* Dalyell and *Botryllophilus* Hesse, and it would appear not at all unlikely that the host may prove to be one of the Amphipods or Isopods which abound in salt marshes, or possibly the shore crab. N.

Fam. 3.—ONCÆIDÆ

Oncæa anglica G. S. Brady.

1905. *Oncæa anglica*, Brady, On Copepoda and other Crustacea taken off Northumberland and Durham in July, 1904. Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, new series, vol. i., p. 220, pl. vi., figs. 1–9.

One specimen only—a female—was found in washings of dredged material taken between St. Mary's Island and Souter Point (G. S. B.) N.

Fam. 4.—LICHOMOLGIDÆ

Lichomolgus fucicola G. S. Brady.

1872. *Macrocheiron fucicolum*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iv., p. 434, pl. xviii., figs. 9–18.

1880. *Lichomolgus fucicola*, Brady (3), vol. iii., p. 41, pl. lxxxv., figs. 1–11.

Found not unfrequently among fuci at and beyond low-water mark, as well as in greater depths among dredged material. Though often found free-swimming, the natural habit of this genus would seem to be symbiotic in the branchial cavities of Ascidians. Our local records are St. Mary's Island, Alnmouth, and Ryhope, among fuci, and in dredgings from four miles off Hawthorn and Marsden in about 25 fathoms (G. S. B.) N.D.

Pseudanthessius liber (Brady and Robertson).

1875. *Lichomolgus liber*, B. and R., Brit. Assoc. Report, p. 197.

1880. *Lichomolgus liber*, Brady (3), vol. iii., p. 44, pl. lxxxvi., figs. 1–13.

(*Pseudanthessius*, Claus, Ueber neue oder wenig bekannte halbparasitische Copepoden, Wien, 1889).

In dredgings from North Sunderland, Marsden, and Hawthorn (G. S. B.) N.D.

Pseudanthessius Thorellii (Brady and Robertson).

1875. *Lichomolgus Thorellii*, B. and R., Brit. Assoc. Report, p. 197.

1880. *Lichomolgus Thorellii*, Brady (3), vol. iii., p. 47, pl. lxxxviii., figs. 1–9.

Off Marsden in 25 fathoms, and off Northumberland coast (G. S. B.) N.D.

Hermannella arenicola (G. S. Brady).

1872. *Boeckia arenicola*, Brady, Nat. Hist. Trans. Northumberland and Durham, vol. iv., p. 430.

1880. *Lichomolgus arenicolus*, Brady (3), vol. iii., p. 46, pl. lxxxvii., figs. 1–7.

Dredged off Seaton Carew in four fathoms (G. S. B.) D.

Section IV.—NOTODELPHYOIDA

Fam. 1.—NOTODELPHYIDÆ

The Entomostraca belonging to this family are normally parasitic or symbiotic in the interior of Ascidians, though sometimes found as free-swimmers.

Notodelphys cœrulea Thorell.

1859. *Notodelphys cœrulea*, Thorell, Bidrag till Kännedomen om Krustaceer som lefvai Arter af Slægter Ascidia, p. 37, pl. iii. and iv., fig. 1.

1878. *Notodelphys cœrulea*, Brady (3), vol. i., p. 130, pl. xxvii., figs. 10–13.

In the branchial sac of *Ascidia parallelogramma* off Hawthorn (G. S. B.) D.

Notodelphys agilis Thorell.

1859. *Notodelphys agilis*, Thorell, *loc. cit.*, p. 40, pls. iv., v., fig. 6.

1878. *Notodelphys agilis*, Brady (3), vol. i., p. 130, pl. xxvi., figs. 1–10.

In Ascidians taken off the coast of Durham in 20 to 30 fathoms (G. S. B.) D.

Ascidicola rosea Thorell.

1859. *Ascidicola rosea*, Thorell, *loc. cit.*, p. 39, pls. ix., x., fig. 13.

1878. *Ascidicola rosea*, Brady (3), vol. i., p. 145, pl. xxx., figs. 1–10.

In Ascidians taken off Northumberland and Durham (G. S. B.) N.D.

Doropygus pulex Thorell.

1859. *Doropygus pulex*, Thorell, *loc. cit.*, p. 46, pl. vi., fig. 8.

1878. *Doropygus pulex*, Brady (3), vol. i., p. 133, pl. xxviii., figs. 1–12.

In Ascidians from the coasts of Northumberland and Durham (G. S. B.) N.D.

DOROPYGUS PORCICAUDA G. S. Brady.

1878. *Doropygus porcicauda*, Brady (3), vol. i., p. 138, pl. xxvii., figs. 1–9, pl. xxxiii., figs. 14–16.

From Ascidians dredged in 27 fathoms off Hawthorn, and in 21 fathoms off Souter Point (G. S. B.) D.

SECTION V.—MONSTRILLOIDA

FAM. 1.—MONSTRILLIDÆ

MONSTRILLA GRANDIS? Giesbrecht.

1892. *Monstrilla grandis*, Giesbrecht, Pelagische Copepoden des Golfes von Neapel, pp. 586, 588.

1901. *Monstrilla grandis*, Brady, On Copepoda and other Crustacea taken in Ireland and on the North-East Coast of England. Nat. Hist. Trans. Northumberland and Durham, vol. xiv., p. 64, pl. iv., figs. 1–3.

One specimen taken in the bottom-net at Cullercoats in July, 1900 (G. S. B.). A single specimen (species doubtful) taken at Seaton Carew, May, 1866. N.D.

SECTION VI.—CALIGOIDA

FAM. 1.—ERGASILIDÆ

BOMOLOCHUS SOLEÆ Claus.

1863. *Bomolochus soleæ*, Claus, Zeitsch. f. wiss. Zool., vol. xiv., p. 383, pl. xxxv., figs. 16–20.

1893. *Bomolochus soleæ*, T. Scott, Eleventh Annual Report Fishery Board for Scotland, p. 212, pl. v., figs. 1–10.

1906. *Bomolochus soleæ*, A. Brian, Copepoda parassiti dei Pesci d'Italia, p. 31.

1909. *Bomochus soleæ*, Bainbridge (May E.), Notes on some Parasitic Copepoda. Trans. Linn. Soc., ser. 2, vol. xi., p. 45.

From nostrils of cod, found by Miss Lebour on fish brought into North Shields. Miss Lebour placed this, and other

species which follow, in Miss May E. Bainbridge's hands for identification and description. N.

Fam. 2.—CALIGIDÆ

Caligus rapax M. Edwards.

A common parasite on various fishes. N.D.

Caligus curtus O. F. Müller.

Parasitic on cod and its allies; very common. N.D.

Lepeophtheirus salmonis (Kröyer).

Specimens in the British Museum, "Berwick, parasitic on salmon, Dr. Baird." It is *L. Strœmii* of Baird. N.

Lepeophtheirus hippoglossi (Kröyer).

On the holibut, Berwick Bay (Dr. Johnston); Seaham Harbour (G. H.). N.D.

Trebius caudatus Kröyer.

Common on skate. N.D.

Echthrogaleus coleoptratus (Guérin).

1850. *Dinemoura alata*, Baird (1), p. 285, pl. xxxii., figs. 6, 7.

On a Beaumaris shark, Berwick Bay (Dr. Johnston). N.

Dinemoura producta (O. F. Müller).

1850. *Dinemoura lamnæ*, Baird (1), p. 286, pl. xxxiii., fig. 8.

"Taken from a Beaumaris shark *(Lamna monensis)* in Berwick Bay, September, 1844" (Dr. Johnston). N.

Cecrops Latreillii Leach.

On a sunfish off the Tyne (John Hancock); on sunfish, St Mary's Isle (G. S. B.) N.D.

Section VII.—LERNÆOIDA

Fam. 1.—SPLANCHNOTROPHIDÆ

Splanchnotrophus brevipes A. Hancock and Norman.

1863. *Splanchnotrophus brevipes*, A. Hancock and Norman, "On Splanchnotrophus, an undescribed genus of Crustacea parasitic in Nudibranchiate Mollusca." Trans. Linn. Soc., vol. xxiv., p. 55, pl. xvi., figs. 1–6.

Two specimens of this species were found by A. Hancock on as many examples of *Eolis rufibranchialis* from Whitley (see Alder and Hancock, Nudibranchiate Mollusca, p. 26), and others from *Doto coronata* from rock pools at Cullercoats by H. T. Mennell and A. Hancock.

Dr. Thomas Scott has described a parasite of *Lomanotus genei* under the name *Lomanoticola insolens*, which is very closely allied to, if not the same as the foregoing (Ann. and Mag. Nat. Hist., ser. 6, vol. xvi., 1895, p. 360, pl. xvii., figs. 1, 2). N.

Fam. 2.—CHONDRACANTHIDÆ

Chondracanthus lophii Johnston.

On the angler at Cambois (G. S. B.) N.

Chondracanthus annulatus Olsson.

1860. *Chondracanthus annulatus*, Olsson, Prod. faunæ Copep. parasit. Scandinaviæ. Lund. Univ. Arsskift, p. 30, pl. ii., figs. 13–15.

1886. *Chondracanthus laeviraie*, Valle (A.), Crost. parassit. dei Pesci del Mare Adriatico. Boll. Soc. Adriat. Sc. Nat., vol. vi., p. 73.

1900. *Chondracanthus annulatus*, T. Scott, Eighteenth Report Fishery Board for Scotland, p. 164, pl. vii., figs. 46–51.

1909. *Chondracanthus inflatus*, Bainbridge (May E.), Notes on some Parasitic Copepoda. Trans. Linn. Soc., ser. 2, vol. xi., p. 47, pl. ix., figs. 9–15.

A single immature specimen found on the gills of *Raia radiata*, North Shields (Miss Lebour).

We cannot doubt that Miss Bainbridge's species is *C. annulatus* of Olsson. We (A. M. N.) have cotypes of that species in our collection, and also cotypes of *Chondracanthus pallidus* received from Prof. E. Van Beneden, which seems to be the same species; but at this moment we fail to call to mind where the description of that author is to be found. N.

FAM. 3.—LERNÆOPODIDÆ

LERNÆOPODA SALMONEA (Linné).

1850. *Lernæopoda salmonea*, Baird (1), p. 335, pl. xxxv., fig. 6.

1872. *Lernæopoda salmonea*, A. Fric, Die Krustenthiere öhmens, p. 214, and woodcut.

1900. *Lernæopoda salmonea*, T. Scott, Eighteenth Report Fishery Board for Scotland, p. 173, pl. viii., fig. 26.

From the gills of a salmon taken in the Coquet, 1908 (E. L. Gill). N.

LERNÆOPODA CLUTHÆ T. Scott.

1900. *Lernæopoda cluthæ*, T. Scott, Eighteenth Report Fishery Board for Scotland, p. 173, pl. viii., figs. 27–37.

1909. *Lernæopoda cluthæ*, Bainbridge, *loc. cit.*, p. 49, pl. x., figs. 24–27.

About twelve females were taken from the gills of *Raia radiata* from North Shields by Miss Lebour.

BRACHIELLA PASTINACA P. J. Van Beneden.

1909. *Brachiella pastinaca*, Bainbridge, *loc. cit.*, p. 50, pl. viii., figs. 6, 7, pl. ix., fig. 8.

A single specimen of what Miss Bainbridge takes to be this species was found by Miss Lebour in the spiracle of the piked dogfish *(Acanthias vulgaris)*. The species was added to the British fauna by Mr. T. Scott in 1904. N.

?BRACHIELLA PARKERI G. M. Thompson.

? 1889. *Brachiella Parkeri*, G. M. Thompson, Trans. New Zealand Instit., vol. xxii., p. 374, pl. xxviii., fig. 8 a, b.

1909. *Brachiella Parkeri*, Bainbridge, *loc. cit.*, p. 52, pl. ix., figs. 16, 17, pl. x., figs. 18–23.

"One specimen of what I take to be this species, or one closely allied to it, was obtained by Miss Lebour from the gills of the long-nosed skate *(Raia oxyrhynchus)*" (Bainbridge). N.

ANCHORELLA UNCINATA (O. F. Müller).

Common on the gills of cod and haddock. N.D.

ANCHORELLA RUGOSA Kröyer.

1900. *Anchorella rugosa*, T. Scott, Eighteenth Annual Report Fishery Board for Scotland, p. 176, pl. viii., figs. 45–48.

1909. *Anchorella rugosa*, Bainbridge, *loc. cit.*, p. 55, pl. x., figs. 28–32, pl. xi., figs. 33–37.

Fairly common on the gills of the catfish *(Anarrhichus lupus)*, North Shields (Miss Lebour). N.

FAM. 4.—LERNÆIDÆ

LERNÆA BRANCHIALIS Linné.

Common on cod.

ORDER X.—CIRRIPEDIA

SECTION I.—THORACICA

DIVISION 1.—OPERCULATA

FAM. 1.—BALANIDÆ

BALANUS TINTINNABULUM (Linné).

Ship's bottom, Shields (J. Alder). D.

BALANUS PORCATUS Da Costa.

Common and often very fine off the coast on "*Fusi*," *Modioli*, *Balanus Hameri*, etc. A specimen in Mr. Alder's collection measured $1\frac{1}{3}$-in. high and $1\frac{3}{4}$-in. wide. N.D.

BALANUS CRENATUS Bruguiére.

Attached to shells, *Modioli*, etc., in deep water. N.D.

BALANUS BALANOIDES (Linné).

Common on rocks between tidemarks. N.D.

BALANUS HAMERI (Ascanius).

In deep water attached to shells, sticks, etc. More especially on "*Fusi*" and *Modioli*. Magnificent groups sometimes occur; and in such a group in Mr. Hancock's collection one Balanus measured $3\frac{1}{2}$ inches high and $1\frac{9}{10}$ inches broad. N.D.

FAM. 2.—VERRUCIDÆ

VERRUCA STRŒMIA (O. Müller).

On *Balanus Hameri* and *porcatus*, and on shells. N.D.

DIVISION 2.—PEDUNCULATA

FAM. 3.—LEPADIDÆ

LEPAS ANATIFERA Linné.

On ships' bottoms, etc. A specimen in Mr. A. Hancock's collection measured 10½ inches long, with the capitulum 1¼ inches long, and rather more than ¾-inch broad. N.D.

LEPAS ANSIFERINA Linné.

On ships' bottoms; a large number of specimens were in Mr. Hancock's collection. N.D.

LEPAS FASCICULARIS Ellis and Solander.

In 1857 large numbers of this species were cast up on the shore at Marsden and all along the Whitley sands (*fide* J. Alder and A. Hancock). In the Newcastle Museum are examples from Tynemouth, August, 1878 (Dr. W. B. Clarke); and a cluster attached to a floating bottle from the Northumberland coast, 1894. N.D.

CONCHODERMA AURITA (Linné).

From ship's bottom (A. Hancock). N.D.

CONCHODERMA VIRGATA (Spengler).

From ship's bottom (A. Hancock). N.D.

SCALPELLUM VULGARE Leach.

Common in deeper water attached to branching Polyzoa and Hydroids. N.D.

SECTION II.—CRYPTOSOMATA

TRYPETESA LAMPAS (A. Hancock).

1849. *Alcippe lampas*, A. Hancock, Note on the occurrence on the British coast of a Burrowing Barnacle belonging to a new order of the Class Cirripedia. Ann. and Mag. Nat. Hist., ser. 2, vol. iv., p. 305, pls. viii., ix.

1854. *Alcippe lampas*, C. Darwin, Mon. Cirripedia, Balanidæ, pp. 530 and 630, pl. xxii.

1903. *Trypetesa lampas*, Norman, New generic names for some Entomostraca and Cirripedia. Ann. and Mag. Nat. Hist., ser. 7, vol. xi., p. 369.

The name *Alcippe* having previously, in 1847, been employed by Blyth for a genus of birds, it has been necessary to change it for the Cirriped.

Burrowing in shells of *Buccinum* and of "*Fusi*," in deep water off the coasts (A. Hancock and A. M. N.) N.D.

Section III.—RHIZOCEPHALA Fr. Müller.

Peltogaster paguri H. Rathke.

1843. *Peltogaster paguri*, H. Rathke, Beiträge zur Fauna Norwegens, p. 245, pl. xii., fig. 17.

1859. *Peltogaster paguri*, Lilljeborg, Les Genres Liriope et Peltogaster (Extr. Nov. Act. Reg. Soc. Sci., Upsala, ser. 3, vol. iii.), p. 25, pl. i., figs. 1, 2, pl. ii., figs. 30-55.

1860. *Peltogaster paguri*, Lilljeborg, Supplément au Mémoire sur les genres Liriope et Peltogaster (Extr. Nov. Acta. Reg. Soc. Sci., Upsala, ser. 3, vol. iii.), p. 11, pl. vii., figs. 19, 20, 22–27.

Parasitic on the abdomen of *Pagurus bernhardus* off Sunderland, 1863 (A. M. N.) D.

Peltogaster sulcatus Lilljeborg.

1860. *Peltogaster sulcatus*, Lilljeborg, Supplément au Mémoire sur les genres Liriope et Peltogaster (Extr. des Nov. Act. Reg. Soc. Sci., Upsala, ser. 3, vol. iii.), p. 16, pl. vii., figs. 21-28, pl. viii., figs. 29–38, pl. ix., figs. 39, 40.

Gregariously parasitic on the abdomen of *Anapagurus lævis* off Sunderland, 1863 (A. M. N.) D.

Clistosaccus paguri Lilljeborg.

1860. *Clistosaccus paguri*, Lilljeborg, l.c., p. 9, pl. vi., fig. 15, pl. vii., figs. 16–18.

On *Anapagurus lævis* off Seaham, 1863 (A. M. N.) D.

Sacculina carcini I. V. Thompson.

Occasionally found on *Carcinus mænas*, and dredged off Berwick in 1863 on abdomen of *Portunus holsatus* (A. M. N.) N.D.

DESCRIPTION OF PLATES

PLATE VIII.

Fig. 1. Diastylis Bradii, Norman, female from above.
2. ,, ,, from the side.

PLATE IX.

Fig. 1. Diastylis Bradii, Norman, male.
2. ,, ,, female, third maxilliped.
3. ,, ,, ,, first peræopod.
4. ,, ,, ,, second peræopod.
5. ,, ,, ,, last peræopod.
6. ,, ,, ,, telson and uropods.

The serration of the lateral line in the figure of the male is too strongly indicated. Differing from that of allied species, it is so minute that it is with difficulty discernible under the microscope.

PLATE IX. (A).

Microcancerilla cœruleocruciata, nov. gen. et sp.

Fig. 1. Female × 186.
2. Urosome and last thoracic segment × 300.
3. Antennule × 300.
4. Mandible × 500.
5. Maxilla × 500.
6. Anterior maxilliped × 300.
7. Posterior maxilliped × 300.
8. One of the swimming feet × 300.

CORRIGENDA

The list of Crustacea of the two counties given on p. 7 has been influenced by additions or otherwise during the publication of the catalogue. The following is a summary of species as now known :—

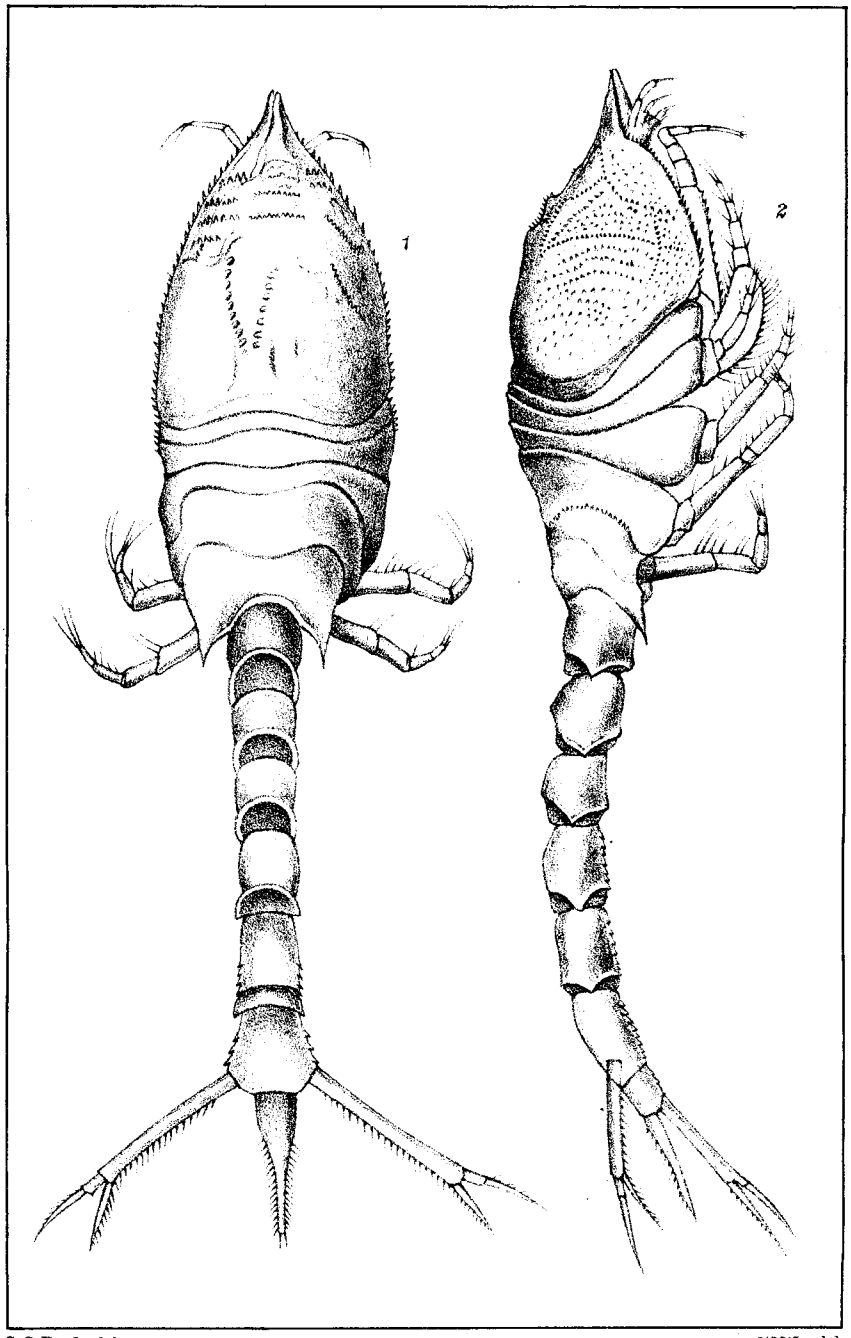
Brachyura	22	Phyllocarida	1
Anomura	15	Cladocera	49
Macrura	22	Ostracoda	121
Schizopoda	14	Copepoda	169
Sympoda	26	Cirripedia	17
Isopoda	57		
Amphipoda	131		644

Page 112 to 115.—Date of publication of parts of Sars's work quoted should be 1902 (not 1901).

Page 116.—Date of part of Sars's work quoted should be 1903 (not 1901).

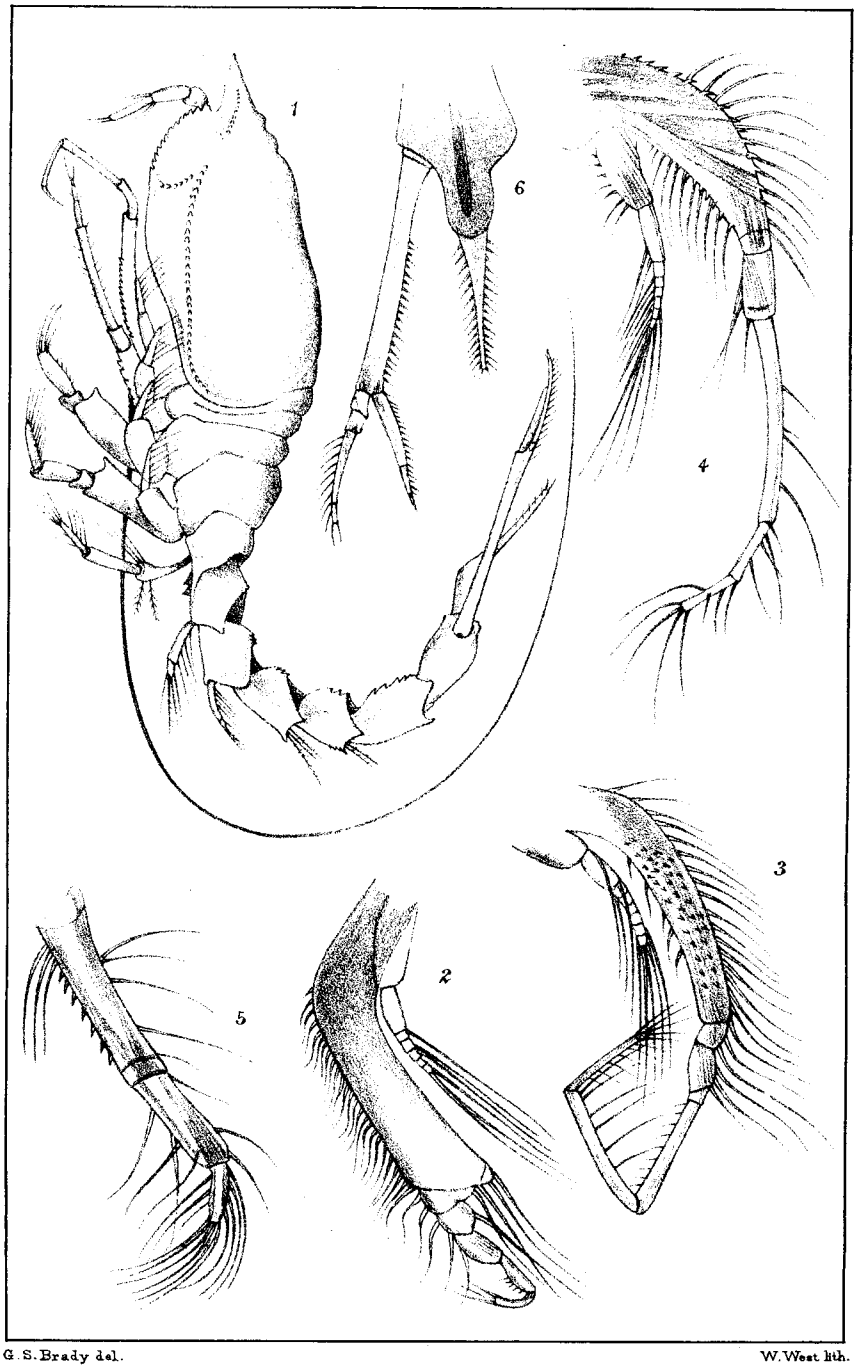
INDEX TO GENERA

Names printed *in italics* refer to synonyms.



G. S. Brady del. W. West lith.

DIASTYLIS BRADYI ♀.



G. S. Brady del. W. West lith.

DIASTYLIS BRADYI ♂.