

LAND, FRESH-WATER, AND MARINE CRUSTACEA.

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ORDER PODOPHTHALMA.

AUTHORITIES AND REFERENCES.

- (F. S. G.)=The Statistics of the work of the Fishery Board, S.S. "Garland."
- (H.)=Prof. J. R. Henderson "The Higher Crustacea of the Clyde" (*N. H. Soc. Glasg. Trans.*, vol. i. (N. S.) p. 315.
- (M.)=MS. records of Sir John Murray's S. Y. "Medusa."
- (A. M. N.)=Rev. Canon A. M. Norman, F.R.S., "A Revision of the British species of Schizopoda" (*Ann. and Mag. N. H.*, 1892).
- (R.)=Records of the late Dr. Robertson, Millport.
- (C.)=Dr. W. Y. Calman, Dundee, "On the genus *Pandalus*."
- (S.)=Thomas Scott, F.L.S.

NOMENCLATURE AND CLASSIFICATION FOLLOWED.

Rev. T. R. R. Stebbing, "History of the Crustacea," 1893 (Intern. Scient. Ser.)

Shall. w.=shallow water; l. m. w.=low water of ordinary or spring tides; d. w.=deep water; bet. t. m.=between tide marks; h. w.=high water.  
[Insufficiently attested or doubtful species are enclosed within square brackets.]

Sub-Order Brachyura.

Fam. Cancridae.

- Cancer pagurus*, *Lin.*—C. on rocky shores (H.).
- Xantho hydrophilus* (*Herbst.*)—One captured at mouth of estuary 15/6/1899 (F. S. G.). Fishery Board's Coll., Aberdeen.
- Pilumnus hirtellus*, (*Lin.*)—Portloy, Cumbræ, under stones at l. w. (R.). Apparently r.

Fam. Portunidae.

- Carcinus maenas* (*Penn.*)—C. bet. t. m., and in shall. w. inshore; sometimes in 10-20 f. upwards.
- Portunus puber* (*Lin.*)—Cumbræ; Lamlash B.; L. Fyne (H.); Shallow Bays, Barmore (S.).
- P. depurator* (*Lin.*)—The most c. *Portunus* in the Clyde (H.).
- P. corrugatus* (*Penn.*)—One off Tan Buoy, 8 f. (H.).
- P. arcuatus*, *Leach.*—F. of Clyde, not r.
- P. pusillus*, *Leach.*—Mod. c.; hard ground, down to 30 f. (H.); nr. Fort Matilda, Greenock (S.).

*P. marmoreus*, *Leach.*—Several localities (H.).  
*Portunus latipes* (*Penn.*)—Washed ashore, Irvine sands (R.).

**Fam. Corystidae.**

*Corystes cassivelaunus*, (*Penn.*)—Kames B., Cumbrae, sand below l. w. m. (R.): small male at mouth of estuary, 15/6/99 (F. S. G.).  
*Atelecyclus septemdentatus* (*Mont.*)—One from Alland Bank, Millport B. (R.).

**Fam. Ocypodidae.**

*Gonoplax rhomboides* (*Lin.*)—Ayrshire coast (G. & M.): nr. Ailsa Craig (trawled, F. S. G.): shore, Ardeer (J. Smith).

**Fam. Pinnotheridae.**

*Pinnotheres pisum* (*Lin.*)—Not unc. in *M. modiolus*, occasionally in *C. edule* (H.).

**Fam. Inachidae.**

*Macropodia rostratus* (*Lin.*)—Not unc. in lower Clyde.  
*M. longirostris* (*Fabr.*)—Mod. c., gen. dist.; more c. than *M. rostratus*.  
 [*Achaeus cranchii*, *Leach.*—One, off Cumbrae by Mr. Kennedy (R.): U. L. Fyne, 10 f. (M.).]  
*Inachus dorsettensis* (*Penn.*)—C. and gen. dist.  
*I. dorynchus*, *Leach.*—Gen. dist., less c. than *I. dorsettensis*.  
*I. leptochirus*, *Leach.*—F. of Clyde (A. M. N.): bet. Cumbrae and Bute, 20 f., r. (R.).

**Fam. Maiidae.**

[*Maia squinado* (*Herb.*)—Off Dunoon, 1878 (Fleming): off Ardrossan (Maj. Martin): W. of Bute (Grieve) (See H.).]  
*Hyas araneus* (*Lin.*)—C. and gen. dist., esp. inshore.  
*H. coarctatus*, *Leach.*—C. and gen. dist., esp. in d. w.

**Fam. Parthenopidae.**

*Eurynome aspera* (*Penn.*)—Not c.; 10-60 f.; usually hard ground (H.): off Fort Matilda 10 f. (S.).

**Fam. Leucosiidae.**

*Ebalia tuberosa* (*Penn.*)—Gen. dist.; usually hard ground, 5-50 f. (H.): off Fort Matilda (S.).  
*E. tumifacata* (*Mont.*)—Lamlash B. (G.; H.): Alland Bank, Millport B. (R.): Kilbrennan Sd., 15 f. (Brook).  
*E. cranchii*, *Leach.*—Lamlash B. (L.: M.): off Lion Rock Cumbrae (Alex. Patience)!

*Sub-Order Macrura.*

**Fam. Lithodidae.**

*Lithodes maia* (*Lin.*)—D. w. L. Fyne, and Clyde; gen. dist.; somewhat r. (H.; F. S. G.).

**Fam. Paguridae.**

*Eupagurus bernhardus* (*Lin.*)—Abund., more inshore than in d. w.  
*E. prideauxi* (*Leach.*)—Mod. c., more in d. w. than inshore.  
*E. cuanensis* (*Thomp.*)—Skelmorlie Bank; off Portincross; Cumbrae; Lamlash B.; not very c. (H.).  
*E. pubescens* (*Kr.*)—Mod. c.; hard ground; usually enveloped by *Hymeniacidon tuberea* (H.).  
*Anapagurus hyndmanni* (*Thomp.*)—F. of Clyde, 10-15 f. (A. M. N.): off Cumbrae (R.): E. L. Tarbert (S.).

*A. laevis* (Thomp.).—Gen. dist., 10-105 f. (H.): mod. freq. in Clyde and L. Fyne.

*A. chiroacanthus* (Lillj.).—Skelmorlie Bank; off Portincross; Tan Buoy; Lamlash B. (H.): E. L. Tarbert (S.).

**Fam. Porcellanidae.**

*Porcellana platycheles* (Penn.).—Under stones, nr. Cumbrae; Lamlash B. (H.): Lunderston B. (S.).

*P. longicornis* (Lin.).—C. and gen. dist., more freq. inshore; usually hard ground.

**Fam. Galatheididae.**

*Galathea squamifera*, Leach.—Under stones l. w., Cumbrae; Lamlash B.; off Fairlie (H.): U. L. Fyne (M.); E. L. Tarbert; Lunderston B.

*G. nexa*, Embleton.—L. Fyne, 20-40 f.; Tan Buoy, 7-8 f.; Lamlash B.; Skelmorlie Bank; etc. (H.); U. L. Fyne (M.).

*G. dispersa*, Bate.—Mod. c. and gen. dist.; usually hard ground.

*G. intermedia*, Lillj.—C. hard ground, 10-20 f. (H.): L. Fyne 10-20, f. (M.).

*G. strigosa*, Fabr.—Under stones at l. w. spring tides, Cumbrae; young dredged off Roseneath Pt., 15 f., hard ground (H.): Strachur B. (S.).

*Munida rugosa* (Fabr.).—Gen. dist. and mod. c., usually d. w.

**Fam. Thalassinidae.**

*Jaxea nocturna*, Nardo.—Adult fragments twice (1899) in fish stomachs nr. Ailsa Craig (F. G. Pearcey): Young at times freq. in bottom tow-net (F. S. G.).

**Fam. Thaumastochelidae.**

*Calocaris macandreae*, Bell.—L. Fyne, 40-105 f.; off Tarbert; off Wemyss B., 40 f.; off Brodick B., 93 f. (H.).

**Fam. Palinuridae.**

*Palinurus vulgaris*, Latr.—Off Campbeltown; L. Fyne (H.): r.

**Fam. Nephropsidae.**

*Nephrops norvegicus* (Lin.).—C., usually d. w.

*Astacus gammarus* (Lin.).—Rocky shores nr. mouth of Firth, c., (H.): E. L. Tarbert, etc.

**Fam. Crangonidae.**

*Crangon vulgaris* (Lin.).—Mod. c.; shall. w. inshore, on sandy, weedy bottom.

*C. allmanni*, Kinahan.—C. and gen. dist., mostly in d. w.

*Egeon sculptus* (Bell.).—Lamlash B., 5 f., two (A. M. N.); off Muggie Pt., L. Cumbrae, 20 f., one (H.).

*Pontophilus spinosus*, Leach.—Not c.; many localities as far up as Cloch L. H., usually soft ground 20-60 f. (H.).

*Cheraphilus nanus* (Kr.).—Off Cumbrae (R.): Ballantrae Bank (F. S. G.).

*C. echinulentus*, M. Sars.—Off Skate I., L. Fyne, 105 f., one (H.): not very r. at mouth of estuary (F. S. G.).

*C. neglectus*, G. O. Sars.—Occasionally in E. L. Tarbert and vicinity, 5-20 f. (S.).

**Fam. Nikidae.**

*Nika edulis*, Risso.—One off Skate I., 105 f.; one off Brodick 93 f. (H.): occasionally in shrimp-trawl in seaward part of estuary (F. S. G.).

**Fam. Hippolytidae.**

*Caridion gordonii* (Bate).—Lamlash B. (A. M. N.): not c. throughout Firth; d. w. (H.).

- Hippolyte varians*, *Leach*.—C.; rock pools l. w., and lam. zone (H.): c. E. L. Tarbert.  
*H. prideauxiana*, *Leach*.—Shrimp trawl nr. mouth of estuary, 11/96 (F. S. G.).  
 [*H. fascigera*, *Gosse*.—E. L. Tarbert, amongst *zostera*, not r. Now considered to be a form of *H. varians*.]  
*Spirontocaris spinus* (*Sowerby*), var. *Hippolyte securifrons*, *Norm*.—Is mod. c. Typical *S. spinus* at mouth of estuary, but r. (*vide* Stebbing).  
*S. cranchii* (*Leach*).—L. Fyne; off Cumbrae; off Craigmore; Hawk's Neb, Bute (H.): E. L. Tarbert (S.).  
*S. pusiola* (*Kr.*).—Off Cumbrae (R.): L. Goil; L. Long (H.).  
*S. gaimardii* (*M. Edw.*).—Gen. dist., prob. not very r. (H.).

## Fam. Pandalidae.

- Pandalus montagui*, *Leach*.—C. and gen. dist.; largest and most highly coloured from d. w.  
*P. bonnieri*, *Caullery*.—L. Fyne; L. Long (Calman).  
*P. propinquus*, *G. O. Sars*.—L. L. Fyne; L. Long, 40 f. (Calman).  
*Pandalina brevisrostris*, (*Rathke*).—C. and gen. dist. (H.).

## Fam. Palaemonidae.

- Leander squilla* (*Lin.*).—C.; rock pools (H.).  
*Palaemonetes varians* (*Leach*).—Cumbrae at l. w. (R.): Inverkip (S.)

## Fam. Pasiphaeidae.

- Pasiphaea sivado* (*Risso*).—Off Skate I. 105 f. (H.): off Strachur 70 f. (M.): mid-water tow-net, L. L. Fyne; not r. at mouth of estuary (F. S. G.).

## Sub-Order Schizopoda.

## ARRANGEMENT AND NOMENCLATURE FOLLOWED.

Rev. Canon A. M. Norman, F.R.S., D.C.L., "Revision of the Brit. Species of Schizopoda" (*Ann. and Mag. N. H.*, Ser. 6, vol. ix., pp. 454-464, and Ser. 6, vol. x., pp. 143-166; and pp. 241-263, 1892).

## Fam. Euphausiidae.

- Rhoda raschii* (*M. Sars*) (= *Boreophausia raschii*).—Gen. dist., sometimes c. esp. in L. Fyne.  
*R. inermis* (*Kr.*).—Clyde (Brook; Hoyle). Off Sanda I. 20-27 f. (F. S. G., 15/12/98).  
*Nyctiphanes norvegica* (*M. Sars*).—Gen. dist., usually more c. in L. Fyne than elsewhere.  
*Thysanoessa neglecta* (*Kr.*).—In bottom tow-net bet. Ailsa Craig and Sanda I. 20 f. (F. S. G., 16/1/99).

## Fam. Mysidae.

- Siriella clausii*, *G. O. Sars*.—E. L. Tarbert; L. Gilp; r. (F. S. G.).  
*S. brooki*, *Norman*.—E. L. Tarbert, 1886 (S.).  
*S. armata* (*M. Edw.*).—Cumbrae, in surface tow-net, r. (R.): E. L. Tarbert; L. Gilp (S.).  
*Gastrosaccus spinifer* (*Goës*).—F. of Clyde (R.); nr. Sanda I.; nr. Ailsa Craig 20-30 f.; S. of Davaar I. 7-10 f. (F. S. G.).  
*Anchialus agilis*, *G. O. Sars*.—Nr. Sanda I. 20-27 f. (F. S. G., 15/12/98).  
*Heteromysis formosa*, *S. I. Smith*.—Dredged, Tarbert Bank, L. L. Fyne (F. S. G., 1899): r.  
*Erythroops elegans*, *G. O. Sars*.—Gen. dist. from U. L. Fyne to seaward limits of estuary; rarely captured except in bottom tow-net.  
*E. serratus*, *G. O. Sars*.—Dist. somewhat similar to *E. elegans*.



- Mysidopsis didelphys* (Norman).—Off Cloch L.H. 43 f. (H.): dist. from U. L. Fyne to mouth of estuary.
- M. gibbosa*, *G. O. Sars.*—Gen. dist. but not very c.
- M. angusta*, *G. O. Sars.*—L. Fyne and nr. Ailsa Craig; not c. (F. S. G.)
- Leptomysis gracilis*, *G. O. Sars.*—U. L. Fyne; nr. Ailsa Craig, etc.
- L. lingvura*, *G. O. Sars.*—Gen. dist., but not very c.
- Hemimysis lamornae* (Couch).—Port Glasgow; L. Goil (R.): E. L. Tarbert; nr. Ailsa Craig; Davaar I. (F. S. G.).
- Praunus flexuosus* (Müller).—More or less c.; usually more so inshore than in d. w.
- P. inermis* (Rathke).—Cumbrae in Lam. zone (H.): E. L. Tarbert, etc. (F. S. G.).
- [*P. neglectus* (*G. O. Sars.*)—Mouth of L. Fyne 60 f. (H.): never met with by (S.).]
- Schistomysis spiritus*, Norman.—E. of Sanda I., surface tow-net 24/1/99 (F. S. G.).
- S. ornata*, (*G. O. Sars.*)—Head of L. Fyne; bet. Ailsa Craig and Sanda I.; scarce.
- S. arenosa* (*G. O. Sars.*)—E. L. Tarbert; shallow water, not r.; Ettrick B., Bute (1887) (S., A. M. N.).
- Neomysis vulgaris* (*J. V. Thompson.*)—Dhu Loch, nr. Inveraray, not r.; in stomach of 15 spined stickleback nr. head of L. Fyne (S.). (Bell suggests this = *Mysis integer* recorded by Leach from L. Ranza.)

## ORDER EDRIOPHTHALMA.

Sub-Order Sympoda.<sup>1</sup>

## ARRANGEMENT AND NOMENCLATURE.

Prof. G. O. Sars, *Crustacea of Norway*, vol. iii.

## AUTHORITIES.

- (R.)=Dr. Robertson, F.G.S., "Thirteen Cumacea from the Firth of Clyde" (*Nat. Hist. Soc. Glas. Trans.*, vol. iii. (N. S.), p. 47, 1889).
- (S.)=Thomas Scott, F.L.S., "Scottish Cumaceans" (*Ann. Scot. N. H.*, Oct. 1900). Rev. T. R. R. Stebbing, *A History of the Crustacea*.
- (A. M. N.)=Rev. Canon A. M. Norman, D.C.L., F.R.S., "On a Crangon, some Schizopoda and Cumacea, new or rare in the British Seas" (*4th Ann. Rep. Fish. Bd. for Scot.*, 1886).

<sup>1</sup> See Stebbing on change of "Cuma" and "Cumacea" to "Bodotria," and "Sympoda," in *Memoir On Crustacea brought by Dr. Wüley from the South Seas* (Camb. Univ. Press) Dec. 1900].

## Fam. Bodotriidae.

- Bodotria arenosa*, *Goodsir.*—Blackwaterfoot, Arran, 4-5 f. (R.).
- B. scorpioides* (Mont.).—Dredged, Ballantrae Bank, 6/9/98 (S.).
- B. pulchella*, *G. O. Sars.*—Dredged nr. Sanda I. (S.).
- Iphinoë trispinosa* (*Goodsir.*)—Plentiful Kames B., Millport; L. Ranza (R.): U. L. Fyne; Kilbrennan Sd. (S.).
- I. serrata*, Norman.—Kames B., Bute, 1887; off Ballantrae, 1899 (S.).
- I. tenella*, *G. O. Sars.*—Clyde (Stebbing).
- Cumopsis edwardsii* (*Spence Bate*) (= *C. goodsiri*), *V. Ben.*)—Shore pools Millport (S.).
- C. longipes* (*Dohrn.*)—Shore pools Millport (R.; S.)

## Fam. Vaunthompsoniidae.

- Vaunthompsonia cristata*, *Sp. Bate.*—E. L. Tarbert 1886; Ballantrae Bank, 15-20 f. 1899 (S.).

## Fam. Lampropidae.

- Lamprops fasciata*, *G. O. Sars.*—W. of Helensburgh Pier (R.): E. L. Tarbert; Hunterston Sands (S.), freq.  
*Hemilamprops rosea* (*Norman*).—U. L. Fyne; Kilbrennan Sd. 1899, r. (S.).  
*H. cristata*, *G. O. Sars.*—F. of Clyde 1860 by Robertson (A. M. N.).

## Fam. Leuconidae.

- Leucon nasica*, *Kröyer.*—U. L. Fyne; off Arran, E. side 43 f. (S.).  
*Eudorella emarginata* (*Kröyer*).—Rothesay B., 12 f. (R.): d. w. bet. Arran and Ayrshire (S.).  
*E. truncatula* (*Sp. Bate*).—L. Fyne; nr. Ailsa Craig (S.).  
*Eudorellopsis deformis* (*Kröyer*).—Nr. Ailsa Craig; off Sanda I. (S.).

## Fam. Diastylidae.

- Diastylis rathkii* (*Kröyer*).—E. L. Tarbert, 1886-87 (S.), r.  
*D. rugosa*, *G. O. Sars.*—L. Ranza, 5 f.; Blackwaterfoot, Arran, 20 f. (R.): E. L. Tarbert, 1886 (S.).  
*D. lucifera* (*Kröyer*).—Clyde district, mod. r. (S.).  
*D. rostrata* (*Goodsir*).—Blackwaterfoot, 20 f. (R.): Kames B., Bute, 15 f. (S.).  
*D. tumida* *Lillj.*—R., Blackwaterfoot, 20 f. (R.).  
*D. spinosa*, *Norman.*—Dredged Blackwaterfoot; W. side of Helensburgh Pier l. w. (R.).  
*Diastylodes biplicata*, *G. O. Sars.*—Blackwaterfoot, 20 f. (R.): L. Fyne; off E. of Arran 40 f.; nr. mouth of estuary 64 f. (S.).  
*Leptostylis villosa*, *G. O. Sars.*—Bet. Arran and Ayrshire coast, 40 f. 1896 (S.).

## Fam. Pseudocumidae.

- Pseudocuma cercaria* (*V. Ben.*).—Kames B., Millport (R.): freq. and gen. dist.  
*P. similis*, *G. O. Sars.*—D. w. nr. seaward limit of estuary, 12/1899 (S.).

## Fam. Nannastacidae.

- Nannastacus unguiculatus*, *Sp. Bate.*—Kames B., Millport, m. c. (R.): L. Fyne; Kilbrennan Sd., &c. (S.).  
*Cumella pygmaea*, *G. O. Sars.*—Cumbrae (R.): L. Fyne; Whiting B.; Kilbrennan Sd., &c. (S.).

## Fam. Campylaspidae.

- Campylaspis rubicunda* (*Lillj.*).—U. L. Fyne, 30-40 f.; E. of Arran, 40 f.; E. of Sanda I., 30 f. (S.).  
*C. sulcata*, *G. O. Sars.*—Single specimen off Cumbrae 20 f., 15/8/88 (A. M. N.).  
*C. costata*, *G. O. Sars.*—U. L. Fyne 30-40 f.; Kames B., Bute, 15-20 f. (S.): off Cumbrae, 20 f. (A. M. N.).

## Sub-Order Isopoda.

## ARRANGEMENT AND NOMENCLATURE.

Sars, Prof. G. O., *Crustacea of Norway*, vol. ii.

## AUTHORITIES.

- (R.)=Robertson, Dr. D., F.G.S., F.L.S., "Catalogue of the Amphipoda and Isopoda of the Clyde," Parts i. and ii. (*N. H. Soc. Glas. Trans.*, vol. ii. iii. (N. S.).  
 Stebbing, Rev. T. R. R., *History of the Crustacea*.  
 (A. M. N.)=Norman, Rev. Canon, A.M., D.C.L., F.R.S., "British Isopoda Chelifera" (*Ann. and Mag. N. H.*, Ser. 7, vol. iii., 1899).

(S.)=Scott, Thos., F.L.S., "Notes on some Scottish marine Isopods" (*Ann. Scot. N. H.*, 1898).

## EXPLANATION OF ABBREVIATIONS.

(R. I, 70)=reference to page 70, Part I. of Robertson's Catalogue.  
(R. I, 24, 73, II, 15.)=recorded three times under different or corrected names.  
This formula used both in Isopoda and Amphipoda.

## Fam. Apseudidae.

*Apseudes talpa* (*Mont.*)—Roots of *Laminaria* Tan, Cumbrae, 7 f. (R. II, 28).

## Fam. Tanaidae.

*Tanais cavolinii*, *M.-Edw.* (*T. vittatus*, *Bate and Westw.*)—Farland Pt., Cumbrae (A. M. N.): amongst barnacles at l. w. E. L. Tarbert (S.): Cumbrae (R. I, 70).

*Paratanais batei*, *G. O. Sars.*—Cumbrae (R. I, 70): L. L. Fyne; Whiting B. (S.).

*Leptognathia longiremis*, (*Lillj.*)—L. Fyne (S.).

*L. rigida*, (*Bate & Westw.*)—Nr. Tan Buoy 7-8 f. (R. I, 70).

*L. breviremis* (*Lillj.*)—Bet. Arran and Ayrshire, 40 f.; Tarbert Bank; L. L. Fyne, 25 f. (S.).

*L. brevimana* (*Lillj.*)—Off Sanda I. 20-30 f.; Ballantrae Bank, 14 f. (S.).

*Tanaopsis laticaudata*, *G. O. Sars.*—Nr. Cumbrae (A. M. N.: R. II, 29): L. Gair (L. Fyne), 2-3 f.; Campbeltown L. 5 f. (S.).

*Pseudotanaeis forcipatus* (*Lillj.*)—Tarbert Bank; L. L. Fyne 25 f. (S.).

## Fam. Gnathiidae.

*Gnathia maxillaris* (*Mont.*)—Gen. dist.; female more c. than male.

*G. halidaii* (*Sp. Bate.*)—Kames B., Cumbrae (R. I, 71).

## Fam. Aegidae.

*Aega tridens*, *Leach.*—Off S. end of Cumbrae; nr. Arran (R. I, 72): Rothesay B. (S.): parasitic on fishes.

[*Ae. rosacea* (*Risso*), (*Ae. bicarinata*, *Leach.*)—L. Fyne 15 f. (R. I, 72).]

## Fam. Cirolanidae.

*Cirolana borealis* (*Lillj.*), (*C. spinipes*, *Bate and Westw.*)—Cumbrae; L. Cumbrae, N. side, 27 f.; mouth of L. Fyne 37 f. (R. I, 73): not r. from d. w.

*C. cranchii*, *Leach.*—Farland Pt., Cumbrae, 14 f. r. (R. I, 72).

*Conilera cylindracea* (*Mont.*)—Bet. Bute and Cumbrae, 50 f. (R. I, 73): F. of Clyde (A. M. N.).

*Eurydice achata* (*Slabber*), (*E. pulchra*, *Leach.*)—Fairly freq. shall. sandy bays (R. I, 74).

## Fam. Sphaeromidae.

*Sphaeroma serratum* (*Fabr.*)—Taken on Ayr sands (R. I, 81).

*S. curtum*, *Leach.*—Off Portincross, Ayrshire, 6 f. (R. I, 82).

*S. rugicauda*, *Leach.*—Brackish pools; Hunterston (R. I, 82): Inverkip; Langbank, c. (S.).

*S. hookeri*, *Leach.*—Brackish pool, S. side of L. Cumbrae (R. II, 29).

*Dynamene rubra*, *Mont.*—Cumbrae (A. M. N. vide R. I, 82).

*D. viridis*, *Leach.*—Bet. t. m., Portloy, Cumbrae (R. II, 29).

*Naesa bidentata* (*Adams*)—With the last at Portloy (R. I, 84). [Note.—For last three species and *D. montague*, *Leach.*, vide Stebbing, p. 361.]

## Fam. Limnoriidae.

*Limnoria lignorum* (*Rathke*)—C. on woodwork of piers and jetties (R. I, 77).

## Fam. Idotheidae.

- Idothea baltica* (Pallas), (*I. tricuspida*, R.).—C. and gen. dist. (R. I, 79).  
*I. pelagica*, Leach.—Amongst weeds at l. w. Cumbrae (R. I, 79): rocks nr. l. w., E. L. Tarbert (S.).  
*I. emarginata* (Fabr.).—Amongst weeds at l. w., Cumbrae (R. I, 80).  
*I. linearis* (Pennant).—In a sandy pool at l. w., Cumbrae (R. I, 80).  
*Zenobiana prismatica*, Risso, (*Idotea parallela*, R.).—Dredged bet. Tan Buoy and Hawk's Neb, Bute, 50 f. (R. I, 80).  
*Stenosoma acuminata* (Leach), (*Idotea acuminata*, R.).—Nr. l. w., Cumbrae; sandy pools, Kilchattan B. (R. I, 81).

## Fam. Astacillidae.

- Astacilla longicornis* (Sowerby), (*Arcturus longicornis*, R.).—gen. dist. (R. I, 78).  
 [A. *gracilis* (Goodsir).—(R. I, 78), is the male of *A. longicornis* (Sars.).]  
*Arcturella dilatata*, G. O. Sars. (*Leacia dilatata*, R.).—Off Blackwaterfoot, Arran, 20 f. (R. II, 28).

## Fam. Asellidae.

- Asellus aquaticus* (Lin.).—C., in fresh-water ponds, canals, &c. (R. I, 77)

## Fam. Janiridae.

- Janira maculosa*, Leach.—L. w., Portloy, Cumbrae; mouth of L. Fyne 40-60 f.; off Dunoon 13 f. (R. I, 76): E. L. Tarbert; Campbeltown L., &c. (S.).  
*Jaera marina* (Fabr.).—C. in shall. w., and under stones bet. t. m. (R. I, 74).  
 [J. *nordmanni* (Rathke).—(R. I, 75). Sars suggests that the form described by Spence Bate under this name may not be the true Rathkian species but the male of *I. marina*.]

## Fam. Munnidae.

- Munna boeckii*, Kr.—Whiting B. (S.).  
*M. kroyeri*, Goodsir.—Cumbrae, from nests of *Lima hians* (R. I, 76).  
 [M. *Whiteana*, Sp. Bate.—(R. I, 75), is the female of *M. kroyeri* (Sars.).]  
*Paramunna bilobata*, G. O. Sars.—F. of Clyde (A. M. N.): E. L. Tarbert; Kilbrennan Sd., &c. (S.).  
 [Leptaspidia *brevipes* (Sp. Bate).—Off Cumbrae (R. I, 76). Norman suggests this is a *Pleurogonium*.]  
*Pleurogonium rubicundum*, G. O. Sars.—F. of Clyde (A. M. N.). At mouth of estuary 64 f. Dec. 7th, 1899 (F. S. G.).  
*P. inermis*, G. O. Sars.—Off Farland Pt., Cumbrae, 23 f. (R. II, 29): Kilbrennan Sd.; Campbeltown L. (S.).  
*P. spinosissimum*, G. O. Sars.—Off Farland Pt., Cumbrae (R. II, 29).

## Fam. Munnopsidae.

- Eurycope phallangium*, G. O. Sars.—L. Fyne, r., 30-40 f. (S.).

## Fam. Oniscidae.

- Ligia oceanica* (Lin.).—Under stones, &c.; more or less c. in various places. (Note:—This and the following eight species are land Isopods, and may be found under stones, old wood, &c.)

## Fam. Trichoniscidae.

- Trichoniscus pusillus*, Brandt.—Cumbrae (R. I, 86): Rothesay, nr. Aquarium (S.). Prob. not unc. if carefully sought for.  
*T. roseus*, Koch.—E. Tarbert (S.)



## Fam. Oniscidae.

- Oniscus asellus* (Lin.).—Gen. dist. and mod. c.  
*Philoscia muscorum* (Scopoli).—Widely dist. and not very unc. (R. I, 85).  
*Porcellio scaber*, Latr.—C. and gen. dist.  
*P. pictus*, Brandt.—Cumbrae (R.): Ayrshire (Smith): nr. Campbeltown, 1896 (S.).  
*Cylisticus convexus* (De Geer), (*Porcellio armadilloides*, R.).—Kilwinning (Smith, vide R. I, 88): Lanarkshire; Rothesay (S.).  
*Armadillidium vulgare* (Latr.).—Mouth of Garnock (Smith, see R. I, 88).

## Fam. Bopyridae.

- Cryptothir balani* (Sp. Bate).—One taken from a *Balanus*, on shore, E. L. Tarbert, 1886 (S.).  
*Pseudione affinis*, G. O. Sars.—On a *Pandalus montagui* in shrimp trawl nr. Sanda I., 5/97 (F. S. G.).  
*P. hyndmanni* (Bate & Westw.).—L. Fyne, 1886; and Clyde (S.).  
*P. crenulata*, G. O. Sars.—From a small *Munida rugosa* in shrimp trawl, nr. Sanda I., 5/97 (F. S. G.).  
*Pleurocrypta hendersonii*, Giard & Bonnier.—On *Galathea dispersa*. Clyde (Henderson, vide Stebbing).  
*Atheleges paguri* (Rathke).—On *Eupagurus bernhardus*, L. Fyne; E. L. Tarbert.  
*Phryxus abdominalis* (Kr.).—On *Spirontocaris spinus* in shrimp trawl, nr. Sanda I. (F. S. G.).

## Fam. Dajidae.

- Aspidophryxus peltatus*, G. O. Sars.—On backs of *Erythropus* nr. Davaar I., &c.

NOTE.—A recent monograph on the Bopyridae by M. Jules Bonnier gives the following Clyde records. Bonnier often differs from Sars as to what are distinct species.

- Bopyroides sarsi*, Bonnier.—Branchial cavity of a typical *Spirontocaris spinus* (Sowerby), dredged nr. mouth of Clyde estuary (F. S. G., Aug. 30th, 1899). Distinct from *B. hippolytes* (Kr.).  
*Pseudione affinis*, G. O. Sars.—Branchial cavity of *Pandalus leporhynchus*, Kinahan. Firth of Clyde (Hoyle).  
*P. hoylei* (Giard & Bonnier).—Branchial cavity of *Pandalus montagui*, Leach. Firth of Clyde (Henderson; Hoyle; F. S. G.; Patience). According to Sars *P. hoylei* is identical with *P. affinis*.  
*P. hyndmanni* (Bate & Westwood).—Branchial cavity of *Eupagurus bernhardus* (Lin.). Clyde (Henderson and myself). See remarks by Prof. Sars and M. Bonnier.  
*P. insignis* (Giard & Bonnier) (= *P. crenulata*, G. O. Sars, of my list).—According to M. Bonnier the *Pseudione* of *Munida rugosa* is a different sp. from *P. crenulata*, G. O. Sars, found on *Munida tenuimana*; Sars considers them the same species.  
*P. sp.*—From the branchial cavity of *Pandalina brevirostris* (Rathke). Clyde (Henderson, as *Bopyrus sp.*).  
 (?) *P. sp.*—From the branchial cavity of *Eupagurus prideauxi* (Leach). Clyde (Henderson, as *Bopyrus sp.*).  
*Pleurocrypta hendersoni*, Giard & Bonnier (= *P. marginata*, G. O. Sars. Scott, in 18th Ann. Rept. Fishery Board for Scotland, Pt. III., p. 403). From branchial cavity of *Galathea dispersa*, Bate. F. of Clyde (Henderson; F. S. G.; Patience). According to M. Bonnier the *P. marginata*, G. O. Sars, from Norwegian specimens is different from that on English specimens of the same decapod.

- P. intermedia**, *Giard & Bonnier* (= **P. microbranchiata**, *G. O. Sars*).—Branchial cavity of *Galathea intermedia*, *Lillj.*, F. of Clyde (Henderson, as *Bopyrus sp.*).
- Atheleges paguri** (*Rathke*).—On abdomen of *Eupagurus bernhardus* (*Lin.*). F. of Clyde (Henderson (as *Phryxus paguri*); F. S. G.).
- Phryxus abdominalis** (*Kr.*).—On abdomen of *Spirontocaris spinus* (*Sowerby*), *S. securifrons*, *Norm.*, and *Pandalus montagui*, *Leach*. F. of Clyde (Henderson; F. S. G.; Patience). M. Bonnier doubts whether the *Phryxus* found on these species are identical with *abdominalis*, *Kroyer*, found on *Spirontocaris gaimardi* (*M.-Edw.*). Prof. G. O. Sars, on the other hand, regards them as belonging to that species.
- P. cranchii**, *Giard & Bonnier*.—On abdomen of *Hippolyte cranchii*, *Leach*. F. of Clyde (Henderson as *Phryxus sp.*).

*Sub-Order Amphipoda.*

ARRANGEMENT FOLLOWED.

Prof. G. O. Sars, *Crustacea of Norway*, vol. i.

AUTHORITIES.

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- Norman, Rev. Canon A. M., D.C.L., F.R.S., “A Revision of the British Amphipoda,” *Ann. and Mag. N. H.*
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Fam. Hyperiidæ.

- Hyperia galba** (*Mont.*).—In folds of *Rhizostoma pulmo*, Cumbrae (R. I, 64): E. L. Tarbert (S.). F. of Clyde (A. M. N.).
- Hyperoche tauriformis** (*B. & W.*).—Off Sanda; nr. Ailsa Craig; Kilbrennan Sd.; U. L. Fyne (S.).
- Parathemisto oblivia** (*Kr.*).—Nr. Sanda, in surface net (R. I, 65): off Ailsa Craig (F. S. G.).

Fam. Orchestiidae.

- Talitrus locusta** (*Pallas*).—Sandy shores, abund. (R. I, 10). U. L. Fyne (S.).
- Orchestia littorea** (*Mont.*).—Under stones nr. and above h. w. m., freq. (R. I, 11).
- O. mediterranea**, *Costa*.—Cumbrae; mouth of R. Garnock (R. I, 13): bet. Fairlie and Hunterston (S.). Inveraray (A. M. N.).
- Hyale nilssoni** (*Rathke*).—Kames B., Millport (R. I, 13).
- H. lubbockiana** (*Bate*).—Largs Pier; tide pools Cumbrae (R. I, 13-14): E. L. Tarbert; Fintry B., Bute (S.).

Fam. Lysianassidae.

- Normanion quadrimanus** (*B. & W.*).—Off Farland Pt., Cumbrae (R. II, 12): Nr. Davaar Is., 1898; Tarbert Bank, L. L. Fyne, 1901 (F. S. G.).
- Acidostoma obesum** (*Bate*).—Off Farland Pt., Cumbrae (R. I, 17).
- Lysianax septentrionalis**, *Della Valle*.—Cumbrae; off Skelmorlie Buoy; W. end of L. Cumbrae (R. I, 15-16): E. L. Tarbert; U. L. Fyne (F. S. G.).
- L. ceratinus** *A. O. W.*.—F. of Clyde (A. M. N.).
- L. atlanticus** (*M. Edw.*).—Nr. Tan Buoy, Cumbrae (R. I, 17).
- Socarnes vahli** (*Kr.*).—N. side of Clach Rock, Cumbrae, 6 or 7 f. (R. II, 5).
- S. erythropthalmus**, *Robertson*.—Tan, Cumbrae; Castle-B., L. Cumbrae; Rothesay; Millport B. (R. II, 6).

- Sophrrosyne robertsoni*, *Stebbing and Robertson*—(Clyde R. II, 9): U. L. Fyne (M.).
- Perrierella audouiniana* (*Bate*).—In a sponge, mouth of L. Fyne, 40-60 f. (R. I, 16; II, 7): U. L. Fyne (M.): Tarbert Bank; E. of Sanda, 30 f. (F. S. G.).
- Callisoma hopei*, *A. Costa* [= *Callisoma crenata* (*Bate*)].—L. Fyne, 80 f.; Kilchattan B., 30 f. (R. I, 19). Gen. dist.
- Hippomedon denticulatus* (*Bate*).—Nr. Tan Buoy; Castle-B., L. Cumbrae, &c. (R. I, 18; II, 9). Gen. dist.
- Orchomene humilis* (*A. Costa*) (= *Anonyx edwardsii*, *Bate and Westwood*).—Tan Buoy; L. Striven; L. Goil; L. Fyne (R. I, 17; II, 11); Whiting B. (S.).
- Tryphosa pinguis* (*Boeck*).—Dredged w. of Tan Buoy, 18 f. (R. II, 9).
- T. nana* (*Kr.*).—W. of Tan Buoy, 14 f. (R. II, 10): off Ballantrae, rather r. (F. S. G.).
- T. minuta* (*Kr.*).—Minard, U. L. Fyne (M.).
- Tryphosella sarsi*, *Bonnier*.—Off Farland Pt., Cumbrae, 23 f. (R. II, 11): off Largabruach; off Inveraray, U. L. Fyne (F. S. G.).
- T. horingii*, (*Boeck*).—Cumbrae, on back of a codfish (R. I, 92).
- T. nanoides* (*Lillj.*).—Cumbrae, on back of a codfish (R. I, 92).
- [*T. pusilla*, *G. O. Sars.*—Tan buoy 12 f. (R. II, 12).]
- Tryphosites longipes* (*Bate*).—Off N.E. corner of L. Cumbrae 14 f.; bet. Kilchattan and Cumbrae 66 f. (R. I, 18): Kilbrennan Sd.; E. L. Tarbert, &c. (F. S. G.).
- Hoplonyx cicada* (*Fabr.*).—Bet. the Allans, Cumbrae, 2-4 f. (R. I, 18): Tarbert Bank, L. L. Fyne, 20-25 f.; rather r. (F. S. G.).
- H. similis*, *G. O. Sars.*—Off Farland Pt., Cumbrae (R. II, 12).
- Lepidepecreum carinatum* (*Bate*).—L. Ranza B. 5 f.; S. E. of Bute 10-12 f. (R. I, 91).
- Euonyx chelatus*, *Norman*.—Off Mull of Kintyre 49 f. (R. I, 90): several dredged nr. mouth of estuary, 11/95 (F. S. G.).

## Fam. Pontoporeiidae.

- Bathyporeia pelagica*, *Bate*.—Sandy shores bet. t. m., various places (R. I, 42): Cumbrae (A. M. N.).
- B. norvegica*, *G. O. Sars.*—Cumbrae (A. M. N.).
- B. robertsoni*, *Bate*.—Cumbrae (A. M. N.).
- Haustorius arenarius* (*Slabber*).—Sandy shores nr. l. w. m., mod. c. (R. I, 23): Cumbrae (A. M. N.).
- Urothoe elegans*, *Bate*.—Cumbrae (A. M. N.).
- U. marinus*, *Bate*.—Bet. t. m. Irvine and Fairlie; Lamdash B.; Kames B.; Fintry B.; Balloch B., Cumbrae (R. I, 29-30): Barmore, L. L. Fyne (S.).
- U. brevicornis*, *Bate*.—F. of Clyde (R., vide A. M. N.).
- Argissa hamatipes* (*Norman*).—Kilchattan B., Bute, 8-9 f. (R. II, 12): not unc. in seaward part of estuary.

## Fam. Phoxocephalidae.

- Phoxocephalus holbölli* (*Kr.*).—Dredged bet. the Allans, taken nr. l. w. m. Balloch B., Cumbrae (R. I, 24): Millport B. bet. t. m. (A. M. N.).
- P. fultoni*, *T. Scott.*—Cumbrae, l. w. m. (R.): L. Ryan (Fullerton): F. of Clyde (A. M. N.).
- P. simplex* (*Bate*).—Tan Buoy 6 f. (R. I, 23).
- P. oculatus*, *G. O. Sars.*—(I think R. obtained this sp. in the Clyde).
- Harpinia neglecta*, *G. O. Sars.*—L. Ranza, 6-8 f.; L. Fyne 80 f. (R. I, 24): Clyde, gen. dist. (A. M. N.).
- H. crenulata*, *G. O. Sars.*—Campbeltown L. (S.): off Farland Pt.; Cumbrae (A. M. N.): r.

## Fam. Ampeliscidae.

- Ampelisca typica* (Bate).—R. records this as *A. gaimardii* (Spence Bate) from various places (R. I, 20): Cumbrae (A. M. N.).
- A. tenuicornis*, Lillj.—L. Fyne 80 f.; bet. Tan Buoy and Bute; L. Goil 12 f. (R. I, 21-22): Campbeltown L. (A. M. N.).
- A. assimilis*, Boeck.—Row B., Gareloch, 10-12 f. (R. I, 22): off Sanda (F. S. G.).
- A. brevicornis* (A. Costa).—Off S. shore, Cumbrae; opposite Largs, 15 f.; off Fairlie 20 f.; l. w. Crarae, L. Fyne, &c. (R. I, 21): nr. Ailsa Craig; off Sanda I. (F. S. G.).
- A. macrocephala*, Lillj.—Off Brodick 80 f. (R. I, 22): Cumbrae (A. M. N.).
- A. spinipes*, Boeck.—Off Cumbrae L.H. 60 f.; off Holy I. 36 f.; nr. Skate I. 80-100 f. (R. I, 91): Cumbrae (A. M. N.).
- Haploops tubicola*, Lillj.—Off L. Cumbrae 60 f.; L. Striven 35 f.; off Dunoon 15-25 f.; off Fairlie 6-8 f. (R. I, 22, 92): off Sanda I. (A. M. N.).
- H. setosa*, Boeck.—Off Skate I., L. Fyne, 100 f., two specimens (R. I, 23).

## Fam. Stegocephalidae.

- Stegocephaloides christianiensis* (Boeck).—L. Fyne 40-70 f. (R. II, 20): nr. head of L. Fyne (F. S. G.).

## Fam. Amphilochidae.

- Amphilochus manudens*, Bate.—Off Tan Buoy 7-8 f.; off Cumbrae L.H., 60 f. (R. I, 28).
- A. tenuimanus*, Boeck.—Off Farland Pt., Cumbrae, 17 f. (R. I, 28): Ballantrae Bank (F. S. G.).
- Amphilochoides serratipes* (Norman).—Off Blackwaterfoot 20 f.; off Clach Rock, Cumbrae (R. II, 20-22): off Sanda; at Ballantrae Rk.; off Ailsa Craig (F. S. G.).
- Gitanopsis bispinosa* (Boeck).—Off Blackwaterfoot 20 f. (R. II, 20).
- Gitana sarsii*, Boeck.—Kilchattan B. 5 f. (R. II, 2): Whiting B., Arran; off Sanda I. 20 f. (F. S. G.).
- Cyproidia damnoniensis*, Stebbing.—Off Blackwaterfoot; off Farland Pt., Cumbrae (R. II, 21).
- Stegoplax brevirostris* (T. and A. Scott).—Tarbert Bank, L. Fyne, r. (S.).

## Fam. Stenothoidae.

- Stenothoe marina*, Bate.—Cumbrae at l. w.; off Dunoon (R. I, 15): Whiting B.; off Ailsa Craig (F. S. G.).
- S. monoculoides* (Montagu).—Various places about Cumbrae (R. I, 14): F. of Clyde (A. M. N.).

## Fam. Metopidae.

- Metopa alderi* (Bate).—Bet. Cumbrae L. H. and Arran (R. I, 90).
- M. borealis*, G. O. Sars.—Off Farland Pt., Cumbrae, 20 f. (R. II, 21): E. of Arran 30-40 f. (F. S. G.).
- M. rubrovittata*, G. O. Sars.—Off the N. side of L. Cumbrae, 10-15 f. (R. II, 21).
- [*M. affinis*, Boeck.—W. of Tan Buoy; Mull of Kintyre (R. I, 90).]
- M. pusilla*, G. O. Sars.—Off Farland Pt., Cumbrae, 20-24 f. (A. M. N.).
- Metopella nasuta*, (Boeck).—Off Farland Pt., Cumbrae, 19 f. (R. II, 22).

## Fam. Cressidae.

- Cressa dubia*, Bate.—W. of Tan Buoy, 7-8 f. (R. I, 15): Whiting B.; off Sanda I. (F. S. G.): Cumbrae (A. M. N.).



## Fam. Leucothoidae.

- Leucothoë spinicarpa* (*Abilgaard*).—Nr. Tan Buoy, 5 f.; L. Fyne, 92 f. (R. I, 39); Whiting B. (F. S. G.).  
 [*L. incisa*, *Robertson*.—L. w. Balloch B.; Farland Pt., Cumbrae, 20 f. (R. II, 23) (?): L. Gair (L. Fyne) (F. S. G.). Norman considers this only a form of the next species.]  
*L. lilljeborgii*, *Boeck*.—L. Gair; head of U. L. Fyne; r. (F. S. G.).

## Fam. Oediceridae.

- Monoculodes carinatus*, *Bate*.—Several places about Cumbrae (R. I, 25).  
*M. borealis*, *Boeck*.—Off Blackwaterfoot, (R. II, 15).  
*M. tuberculatus*, *Boeck*.—In d. w. E. of Arran, r. (F. S. G.).  
*M. packardi*, *Boeck*.—L. Striven, 40 f. (R. II, 14); L. Fyne, 30-60 f.; E. of Arran, 40 f.; not very r. (F. S. G.).  
*Perioculodes longimanus* (*Bate*).—Gen. dist., not unc. in d. w. (*vide* R. I, 26).  
*Pontocrates altamarinus* (*Bate*).—Callum's Bay, Bute, 16 f. (R. I, 27); U. L. Fyne (S.).  
*P. norvegicus*, *Boeck*.—Shall. w. in sandy bays freq. (R. I, 26).  
*Synchelidium brevicarpum* (*Bate*).—Nr. Cumbrae; L. Fyne; Blackwaterfoot (R. I, 25; II, 16).  
*Halimedes parvimanus* (*Bate*).—Various places (R. I, 24, 93; II, 15): gen. dist.; not r. in d. w.

## Fam. Pleustidae.

- Paramphithoë bicuspis* (*Kr.*).—In surface tow-net after sunset, Cumbrae (R. I, 36).  
*P. monocuspis*, *G. O. Sars*.—Off Sanda I., r. (F. S. G.).  
*P. assimilis*, *G. O. Sars*.—Off Cumbrae, 15-20 f. (R. I, 94).  
*Stenopleustes nodifer*, *G. O. Sars*.—Off N. side of L. Cumbrae, 20 f.; off Fairlie Perch, 20 f. (R. II, 18).

## Fam. Epimeridae.

- Epimeria cornigera* (*Fab.*).—Not unc. in d. w. (R. I, 32). Mouth of estuary, and in d. w. bet. Arran and Ayrshire coast (F. S. G.).

## Fam. Iphimedidae.

- Iphimedia obesa* (*Rathke*).—Gen. dist.; not very r.  
*I. minuta*, *G. O. Sars*.—Off Farland Pt., Cumbrae, 20 f. (R. II, 23).  
*I. elbanae*, *Bate*.—Dredged nr. mouth of estuary (F. S. G.).  
*Odius carinatus* (*Bate*).—Off Garnock Beacon, 5½ f. (R. II, 31).

## Fam. Laphystiidae.

- Laphystius sturionis* (*Kr.*).—Kilbrennan Sd. (R. I, 93): Rothesay B. (S.). Parasitic on Cod, Anglerfish, etc.

## Fam. Syrrhoidae.

- Syrrhoë fimbriatus*, *Stebbing and Robertson*.—Clyde (R. II, 22).  
*Bruzelia typica*, *Boeck*.—W. of Tan Buoy, 12-20 f. (R. II, 22).

## Fam. Eusiridae.

- Eusirus longipes*, *Boeck*.—W. of Tan Buoy, 10 f.; L. Gail, 12 f. (R. I, 38): nr. Sanda I.; head of L. Fyne, etc. (F. S. G.).

## Fam. Calliopiidae.

- Apherusa bispinosa* (*Bate*).—C. in Clyde (R. II, 17): Kilbrennan Sd.; off Ailsa Craig, etc. (F. S. G.).  
*A. jurinii* (*M. Edw.*).—Bet. t. m., Farland Pt., Cumbrae (R. II, 17).

- Calliopius laeviculus* (Kr.).—Mod. c., Kames B., Balloch B., Cumbrae (R. I, 37, 39, 94).  
*C. rathkei* (Zaddoch).—Amongst weedy stones at l. w. Cumbrae (R. I, 38).

## Fam. Atylidae.

- Paratylus swammerdami* (M.-Edw.).—C. and gen. dist.  
*P. vedlomensis* (Bate).—Not unc. in Clyde (R. I, 36).  
*P. uncinatus*, G. O. Sars.—Kilbrennan Sd., 4/96 (F. S. G.)

## Fam. Dexaminidae.

- Dexamine spinosa* (Mont.).—Mod. c. all round our shores (R. I, 32).  
*D. thea*, Boeck.—Portloy, Cumbrae; Clach Rock, and off Hunterstone, opposite Millport (R. I, 33, 34): head of L. Fyne (F. S. G.).  
*Tritaeta gibbosa* (Bate).—Freq., by dip-net among seaweed, &c. (R. I, 34): nr. Davaar I. (F. S. G.).  
*Guerneia coalita* (Norm.).—Taken twice off Millport (R. II, 24): gen. dist. esp. in d. w., scarce (F. S. G.).

## Fam. Melphidippidae, Stebbing (1899).

- Melphidippa goesi*, Stebbing.—On N. side of L. Cumbrae 20 f. (R. II, 19).  
*Melphidippella macera* (Norm.).—N. side of L. Cumbrae (R. II, 19): Kilbrennan Sd.; off Ailsa Craig (F. S. G.).

## Fam. Gammaridae.

- Amathilla homari* (Fabr.).—In surface-net after sunset, Cumbrae, and Sanda B. (R. I, 41, 92): Bet. t. ms., E. L. Tarbert (S.).  
*Gammarus marinus*, Leach.—C. under stones bet. t. ms., and in tidal pools (R. I, 50).  
*G. locusta* (Lin.).—Bet. t. ms., and dredged nr. Cumbrae, 6-35 f. (R. I, 50, 94). Gen. dist.  
*G. duebeni* (Lillj.).—Fresh water lochs nr. Campbeltown (S.).  
*G. pulex* (de Geer).—C. in slow streams and ditches (R. I, 52).  
*Melita palmata* (Mont.).—Clyde (A. M. N.) 1889.  
*M. obtusata* (Mont.).—C. and gen. dist. (R. I, 47, 48).  
*M. gladiosa*, Bate.—Taken bet. the Allans, Cumbrae, 4-5 f. (R. II, 18).  
*Eriopisa elongata* (Bruzel).—Taken in Clyde by Norman (R. II, 25).  
*Maera othonis* (M.-Edw.).—In various parts of Clyde and L. Fyne (R. II, 53): nr. Davaar I. (F. S. G.).  
*M. semiserrata* (Bate).—Dredged twice at Tan Buoy (R. I, 52).  
*M. loveni* (Bruzel).—Off L.H., L. Cumbrae, 55-60 f.; off Arran, 80 f. (R. I, 52).  
*Gammarella brevicaudata*, (M.-Edw.).—Off Hunterstone (R. I, 47; II, 24).  
*Megaluropus agilis*, Norm.—Garrison B., and Kames B., nr. Millport (R. II, 25): nr. Sanda I, 5/9/99 (F. S. G.).  
*Cheirocratus sundewalli* (Rathke).—Various places (R. I, 45, 46): nr. LARGABRUACH, U. L. Fyne; Tarbert Bank (F. S. G.).  
*C. intermedius*, G. O. Sars.—E. L. Tarbert (S., 1886): L. Gair, (L. Fyne); Tarbert Bank, 17-20 f. (F. S. G.).  
*C. assimilis*, (Lillj.).—L. L. Fyne, 104 f.; off Farland Pt., Cumbrae, 20 f. (R. II, 18): Tarbert Bank, 20-25 f. (F. S. G.).

## Fam. Lilljeborgiidae.

- Lilljeborgia pallida*, Bate.—Off Farland Pt., Cumbrae, 20 f. (R. II, 23).  
*L. kinahani* (Bate).—Nr. Tan Buoy, 7 f. (R. I, 46): Tarbert Bank, 20 f. (F. S. G.).

## Fam. Aoridae.

- [*Phaedra antiqua* (Bate).—In surface-net off the Allans, Millport B., after sunset (R. I, 94).]

- Microdeutopus anomalus* (Rathke).—Off Tan Buoy, &c., Cumbrae (R. I, 41).  
Whiting B. (S.).  
*M. versiculatus* (Bate).—Dredged a little beyond l. w., Cumbrae (R. I, 42).  
*M. danmoniensis* (Bate).—One S. of Tan Buoy (R. I, 40): on E. side and in  
centre of U. L. Fyne 10-17 f. (M.).  
*Aora gracilis* (Bate).—Gen. dist., but mod. r.  
*Autonoë websteri* (Bate).—Under stones nr. l. w., Portloy, Cumbrae,  
(R. I, 40).

## Fam. Photidae.

- Leptocheirus hirsutimanus* (Bate).—Clach Rock, nr. Tan Buoy; bet. Fairlie  
and Millport (R. I, 42): off Sanda I. (F. S. G.).  
*L. pilosus*, Zaddach.—Castle B., L. Cumbrae, 2-3 f. (R. II, 27): Tarbert  
Bank, L. L. Fyne, 20-25 f. (F. S. G.).  
*Gammaropsis maculata*, Johnstone.—Otter Spit, L. Fyne; nr. Cumbrae  
(R. I, 48). Gen. dist.  
*G. palmata* (Stebbing and Robertson).—Cumbrae; Clyde one (Steb. and Rob.):  
off Ballantrae, 24/9/98; Kilbrennan Sd. (F. S. G.).  
*Megamphopus cornutus*, Norm.—Off Farland Pt.; Castle B., Cumbrae; off  
Blackwaterfoot (R. II, 24, 26).  
*Microprotopus maculatus*, Norm.—Garrison B.; Kames B., Cumbrae  
(R. II, 26).  
*Photis longicaudata* (Bate).—Millport B.; Clach Rock, Cumbrae; off S. end  
of Bute, 16 f. (R. I, 95); Kilbrennan Sd. (F. S. G.).  
*Podoceroopsis sophiae*, Boeck.—Skelmorlie Bank, 10 f.; off Skelmorlie Pt.,  
39 f.; S. of L. Cumbrae (R. I, 60, 61).  
*P. excavata* (Bate).—Gen. dist. and mod. c. (R. I, 60).

## Fam. Amphithoidae.

- Amphithoë rubricata* (Mont.).—Mod. c.: gen. dist. (R. I, 53, 54).  
*Pleonexes gammaroides*, Bate.—Portloy and Kames B., Cumbrae; off  
L. Cumbrae 8 f. (R. I, 56; II, 27).

## Fam. Ischyroceridae.

- Ischyrocerus minutus*, Lillj.—W. of Clach Rock; off Farland Pt.; on the  
Allans, Cumbrae (R. II, 28).  
*Jassa pusilla* (G. O. Sars).—Amongst algae on Millport pier (R. II, 27). Off  
Sanda I. (F. S. G.).  
*J. falcata* (Mont.).—Millport pier, amongst algae; on Tan Buoy; Portloy  
and bet. the Allans, Cumbrae; off Dunoon 4 f. (R. I, 57).  
*J. dentex* (Czerniawski) (= *Podocerus herdmanni*, A. O. Walker).—Off  
Sanda I. [A. O. Walker now thinks this is only a form of *J. falcata*.]  
*J. oia* (Bate).—N. of Tan Buoy 8 f.; off Clach Rock 6 f. (R. I, 58).  
*Microjassa cumbrensis* (Stebbing and Robertson).—Off Farland Pt. 20 f.  
(R. II, 27).  
*Parajassa pelagica* (Leach) [= *Janassa capillata* (Rathke)].—On Millport  
pier; Kames B.; Tan Buoy, Cumbrae; off Dunoon (R. I, 57).  
*Erichthonius abditus* (Templeton).—N. of Cloch L.H. 6 f. (R. I, 58): Camp-  
beltown L.; nr. Ailsa Craig (F. S. G.).  
*E. difformis*, M.-Echw.—L. w., Portloy; off Farland Pt. Cumbrae 17 f.,  
(R. I, 59).

## Fam. Corophiidae.

- Siphonocetes colletti*, Boeck.—W. of Cumbrae 10 f. (R. I, 59).  
*Corophium grossipes* (Lin.).—Brackish water; Langbank; Roseneath;  
Balloch B., Cumbrae; mouth of Garnock (R. I, 61): Inverkip, c. (S.).  
*C. crassicornis*, Bruzel.—Balloch B., Cumbrae; shore pool, L. Cumbrae, c.  
(R. I, 62): Campbeltown L. (F. S. G.).

- C. bonelli*, *M.-Edw.*—Gen. dist. (Whiting B. etc.).  
*C. affine*, *Bruzel.*—Clyde (A. M. N.): E. L. Tarbert (S.).  
*Unciola planipes*, *Norm.*—Off Sanda I. (F. S. G., 1/9/98).

## Fam. Cheluridae.

- Chelura terebrans*, *Philippi.*—All round coasts in submerged timbers of piers and jetties (R. I, 63).

## Fam. Dulichiidae.

- Dulichia porrecta*, *Bate.*—Off Farland Pt., Cumbrae (R. II, 28).  
*D. monacantha*, *Metzger.*—One found in stomach of haddock caught in Clyde (1897) (S.).  
*D. tuberculata*, *Boeck.*—Dredged nr. Mull of Kintyre 49 f. (R. I, 95).

## Fam. Caprellidae.

- Phtisica marina*, *Slabber.*—Gen. dist. (R. I, 65, 66): freq. Tarbert Bank (F. S. G.).  
*Protella phasma* (*Mont.*)—Gen. dist., and not very r. (R. I, 66): Tarbert Bank freq. (F. S. G.).  
*Pariambus typicus* (*Kr.*)—Gen. dist., not unc. on *Asterias rubens* (R. I, 69).  
*Caprella linearis* (*Lin.*)—Cumbrae among weedy stones l. w.; off Garroch-head, Bute 15 f. (R. I, 67).  
*C. septentrionalis* (*Kr.*)—Cumbrae (R.).  
*C. acanthifera*, *Leach.*—Cumbrae bet. the Allans amongst zostera, plentiful (R. I, 68).  
[*C. tuberculata*, *Guerin.*—Cumbrae, rare (R. I, 69).]

## ORDER BRANCHIOPODA.

## Sub-Order Phyllocarida.

## Fam. Nebaliadae.

- Nebalia bipes* (*Fabr.*)—Clyde; L. Fyne, various places (S.).

## Sub-order Cladocera.

## ARRANGEMENT FOLLOWED.

- Prof. C. L. Herrick, *Crustacea of Minnesota*, 1884.

## AUTHORITIES.

- Baird, W., *Monog. of the Brit. Entomostraca*, 1849.  
(A. M. N.) Norman, Rev. Canon A. M., and Prof. G. S. Brady, *A Monograph of Brit. Entomostraca belonging to the Bosminidae, Macrothricidae, and Lynceidae*, 1867.  
Brady, Prof. G. S., on *The Brit. species of Entomostraca belonging to the Daphnia and other allied species*, 1898.  
Scott, Thomas, F.L.S., "The Fauna of the inland waters of Scotland" (*Ann. Repts. Fish. Bd. for Scotland*).

## Fam. Sididae.

- Sida crystallina* (*Müller.*)—Bardowie L., nr. Glasgow; L. Lomond; Greenan L., Bute; Park L., Campbeltown; L. Doon, Ayrshire.  
*Diaphanosoma brachyurum* (*Lievin.*)—Bardowie L.; Park L.

## Fam. Holopedidae.

- Holopedium gibberum*, *Zaddach.*—L. Arklet; L. Doon, c. during summer.



## Fam. Daphnidae.

- Ceriodaphnia reticulata* (*Jurine*).—Possil Marsh.  
*C. quadrangula*, *Müller*.—Bardowie L.; St. Germain's L., Glasgow; Dhu Lochan, nr. L. Lomond; Park L., nr. Campbeltown.  
*C. laticaudata*, *Müller*.—Possil Marsh, rather r.  
*C. sp.*—L. Lomond; L. Doon; appears to be r.  
*Scapholeberis mucronata*, *Müller*.—Bardowie L.; Dhu Lochan, not c.  
*Simocephalus vetulus*, *Müller*.—Possil Marsh; L. Lomond; Greenan L.; Park L.; L. Doon.  
*Daphnia lacustris*, *G. O. Sars.*—L. Lomond, with and without a vertex tooth.  
 var. *aquilina*, *G. O. Sars.*—L. Arklet, freq.  
*D. (?) longispina*, *Leydig.*—L. Fad, Bute.  
 var. *nasuta*, *G. O. Sars.*—L. Doon, Ayrshire.  
*D. (?) jardinii*, *Baird.*—St. Germain's L., Glasgow. A crested form which may belong either to this or to *D. galeata*, *G. O. Sars.*

## Fam. Bosminidae.

- Bosmina longirostris* (*Müller*).—Gen. dist. esp. in smaller lochs and ponds.  
*B. longispina*, *Leydig.*—Not unc. in larger lochs, as L. Lomond and L. Doon.

## Fam. Macrothricidae.

- Lathonura rectirostris* (*Müller*).—L. Doon—the shore on W. side.  
*Streblocercus minutus*, *G. O. Sars.*—Dhu Lochan, nr. L. Lomond, r.  
*Drepanothrix dentata* (*Euren*).—Cumbrae (R.): L. Arklet; L. nr. L'ranza; L. Doon, &c., not unc.  
*Acantholeberis curvirostris* (*Müller*).—Cumbrae (R.): L. Arklet; L. nr. L'ranza, not r.  
*Ilyocryptus sordidus* (*Lieven*).—Cumbrae (R.): Possil Marsh; L. Arklet; L. Doon; Park L., Campbeltown, not r.

## Fam. Lynceidae.

- Eurycercus lamellatus* (*Müller*).—C. and gen. dist.  
*Acroperus harpae*, *Baird.*—Gen. dist. and mod. c.  
*Camptocercus macrurus* (*Müll.*).—L. Lomond; L. Doon, freq. The *Camptocercus* found in Scotland is usually ascribed to *C. macrurus*, *Müll.*, but seems to agree better with *Schoedlers' C. rectirostris*.  
*Alonopsis elongatus*, *G. O. Sars.*—C. and gen. dist.  
*Ledigia quadrangularis* (*Leydig*).—Pond nr. Rutherglen (J. Steel)! St. Germain's L., not c.  
*Graptoleberis testudinaria* (*Fischer*).—L. Arklet; L. Doon; freq.  
*Alona guttata*, *G. O. Sars.*—Gen. dist., freq.  
*A. costata*, *G. O. Sars.*—St. Germain's Loch; L. Lomond (shore nr. Balmaha); not c.  
*A. quadrangularis* (*Müller*).—Gen. dist., mod. c.  
*A. affinis* (*Leydig*).—L. Lomond; L. Doon; L. behind L'ranza; Park L., Campbeltown &c., freq.  
*A. intermedia*, *G. O. Sars.* (= *A. neglecta*, *T. S.*)—L. Arklet; L. Doon, not c.  
*A. rustica*, *T. Scott.*—L. Arklet; L. Lomond; L. Doon; Park L.  
*A. rectangula*, *G. O. Sars.*—Nr. E. Tarbert, L. Fyne; Park L., Campbeltown.  
*Alonella exigua* (*Lilljeborg*).—C. and gen. dist.  
*A. nana*, *Baird.*—L. Arklet; L. Lomond; L. Doon, &c., not r., but being so small is easily overlooked.  
*Pleuroxus trigonellus* (*Müller*).—L. Lomond; L. Doon, not r.  
*P. laevis*, *G. O. Sars.*—Possil Marsh is the only station I know of.

- P. uncinatus*, Baird.—Pond nr. Rutherglen (J. Steel): Possil Marsh; L. Lomond.  
*Harporhynchus falcatus*, G. O. Sars.—L. Arklet; L. Lomond; L. Doon, not r.  
*Peracantha truncata* (Müller).—L. Arklet; Dhu Lochan; Greenan L., Bute; L. Doon.  
*Chydorus sphaericus*, Müller.—C. and gen. dist.  
*C. globosus*, Baird.—Possil Marsh; Bardowie L., nr. Glasgow; L. Lomond; Park L., nr. Campbeltown.  
*C. (?) latus*, G. O. Sars.—Only observed in L. Arklet.  
*C. barbatus* (G. S. Brady).—In most Lochs within Clyde area.  
*D. coelatus*, Schoedler.—L. Arklet; L. Doon; Park L., not c.  
*Anchistropus emarginatus*, G. O. Sars.—Paisley Canal in 1863 (R.). Not observed since.  
*Monospilis tenuirostris* (Fischer).—L. Lomond (shore bet. Balmaha and mouth of R. Endrick), rather r.

## Fam. Polyphemidae.

- Polyphemus pediculus* (Lin.).—Possil Marsh; L. Arklet; L. Lomond; Park L.  
*Bythotrephes longimanus*, Leydig.—L. Arklet; L. Lomond; L. Doon, not unc.  
*Podon polyphemoides*, Leuckart.—F. of Clyde; L. Fyne, sometimes pretty abund.  
*P. intermedius*, Lilljeborg.—Dist. similar to preceding but much less c.  
*Evadne nordmanni*, Loren.—Dist. similar to *Podon*; c., sometimes very abund.

## Fam. Leptodoridae.

- Leptodora hyalina*, Lilljeborg.—L. Arklet; L. Lomond; L. Doon, not unc., esp. during summer.

## Sub-Order Branchiuru.

- Argulus foliaceus*, Lin.—Plentiful a few years ago on the Greyling, *Thymallus vulgaris* in the upper waters of R. Clyde (Jas. Steel)!

## ORDER OSTRACODA.

## ARRANGEMENT AND NOMENCLATURE FOLLOWED.

- (B. & N.)=Prof. G. S. Brady and Rev. Canon A. M. Norman, "The marine and fresh water Ostracoda of the N. Atlantic and North-Western Europe (*Roy. Soc. Dub. Sci. Trans.*, vol. iv. (S. ii.) Pt. ii. and vol. v. (S. ii.) Pt. xii.).  
 R.=Robertson, Dr. D., F.G.S., F.L.S. Ostracoda in "Notes on the fauna and flora of the W. of Scotland," 1876.  
 "Fresh and Brackish water Ostracoda" (*N. H. Soc. Glas.*, vol. iv., 1879).  
 B. & R.=Brady and Robertson.  
 B. C. & R.=Brady, Crosskey, and Robertson.

## Fam. Cyprididae.

- Cypria exculpta* (S. Fischer).—Somewhat local but not very r.; Possil Marsh (R.); Cumbrae (B. & N.); Dalry (J. Smith); L. Doon, &c. (S.).  
*C. ophthalmica* (Jurine).—C. and gen. dist.  
*Cyclocypris laevis* (O. F. Müller).—Mod. c.; liable to be confounded with next species.  
*C. serena* (Koch).—One of the most c. and gen. dist.

- C. globosa* (*G. O. Sars*).—Nr. L. Ascog and L. Greenan, Bute (B. & N.): L. Lomond; L. Arklet; L. Doon (S.).
- Scottia browniana* (*Jones*).—Marshy ground at side of L. Fad, Bute (B. & N.): Binend L. 1877 (J. Smith).
- Cypris fuscata*, *Jurine*.—Frankfield L., nr. Glasgow; brackish ponds, Cumbrae (R.): Dalry (J. Smith): L. Doon (S.).
- C. incongruens*, *Ramdohr*.—Pond nr. Paisley; brackish pool, Hunterston &c. (R.): sometimes very abund.
- C. virens* (*Jurine*).—Pond nr. Crosshill; Frankfield L.; Callum's Tarn, Bute (R.): Dalry (J. Smith): Pools nr. Fort Matilda, Greenock; L. Ascog, Bute, &c.
- C. reticulata*, *Zaddoch*.—Possil Marsh; side of Paisley Canal (R.).
- C. obliqua*, *Brady*.—Callum's Tarn, Bute; Cragengower Tarn, Cumbrae (R.): Binend L. (J. Smith): L. Lomond (S.).
- C. prasina*, *Fischer*.—Pond on shore at Hunterston; Pond nr. Ferry Ho., Cumbrae (R.): Brackish pools at Langbank (S.).
- Herpetocypris reptans* (*Baird*).—Mod. c. and gen. dist.
- H. strigata* (*Müller*).—Burnside L. nr. Glasgow; ponds at Port Glasgow; Cumbrae, &c. (B. & N.).
- H. tumefacta* (*B. & R.*).—Cumbrae; L. Greenan; L. Fad; L. Ascog, Bute; Tarbert, &c. (B. & N.).
- Ilydromus robertsoni* (*B. & N.*).—Side of L. Fad (B. & N.): L. Doon (S.).
- Cypridopsis villosa* (*Jurine*).—L. Lomond; Frankfield L.; ponds, Cumbrae (R.): Dalry, &c. (J. Smith): L. Fad; L. Ascog, Bute (B. & N.): L. Doon.
- C. newtoni* (*B. & R.*).—Little L. and Pilmuir Dam, Renfrewshire; Cumbrae; Bute (B. & N.).
- C. aculeata* (*Lilljeborg*).—Brackish pools, S.W. end of Cumbrae (R.): Tarbert; Langbank (S.).
- Pionocypris vidua* (*Müller*).—Pond at Paisley; L. Fad (R.): Kilwinning (J. Smith): L. Lomond.
- P. obesa* (*B. & R.*).—L. Lomond; old dam at Govan Colliery, Glasgow (R.): Kilwinning (J. Smith).
- Potamocypris fulva*, *Brady*.—Paisley Canal; Cumbrae; Kilwinning (R.): Dalry; Pilmuir Dam; L. Goin (J. Smith): L. Fad, and Ascog, Bute; Tarbert.
- Paracypris polita*, *G. O. Sars*.—Off Tarbert, 25 f. (B. & N.): Tarbert Bank, 20 f. (S.).
- Notodromus monacha* (*Müller*).—Cumbrae; L. Cumbrae (R.): Kilwinning (J. Smith): Pools nr. L. Fad, Bute (S.).
- Candona candida* (*Müller*).—C. and gen. dist.
- C. lactea*, *Baird*.—Paisley Canal (R.): Pilmuir Dam (J. Smith): Park L. and Achy-Lochy, Campbeltown.
- C. compressa* (*Koch*).—Mod. c.; more or less gen. dist.
- C. rostrata* (*B. & N.*).—Hairmyres, nr. E. Kilbride (B. & N.): Possil Marsh; L. Doon (S.).
- C. fabaeformis* (*Fischer*).—Hairmyres; Crosslea, nr. Paisley; Cumbrae, etc. (B. & N.): Dalry, Eaglesham Dams, etc. (J. Smith): L. Lomond.
- C. acuminata* (*Fischer*).—Kilmuir Dam, Renfrewshire; Tarbert (B. & N.): Eaglesham Dam, Craigton Dam, Harelaw Dam (J. Smith): L. Lomond (S.).
- C. euplectella*, *Robertson*.—Tarn, L. Cumbrae; Callum's Tarn, Bute (R.): Nockewart, Dalry (J. Smith): Pools nr. Pt. Glasgow; Mossclave Pond, nr. Greenock (S.).
- C. hyalina* (*B. & R.*).—Frankfield L.; Possil Marsh, etc. (R.): Long Loch (J. Smith): Loch Lomond; L. Arklet; L. Doon (S.).
- Candonopsis Kingsleii* (*B. & R.*).—Mod. c. and gen. dist.

- Ilyocypris buplicata* (Koch).—Mod. c., but somewhat local.  
*Pontocypris mytiloides* (Norman).—Gen. dist. throughout Estuary.  
*P. acupunctata*, Brady.—Nr. Pt. Glasgow 1892, Campbeltown L. 1897 (S.).  
*P. trigonella*, G. O. Sars.—Gen. dist., not r.  
*Argilloecia cylindrica*, G. O. Sars.—Inveraray; Largs; Campbeltown (R.):  
 off Greenock; L. Long (B. & N.): off Tarbert (S.).

## Fam. Bairdiidae.

- Bairdia inflata*, Norman.—Cumbrae; Lamlash (R.): L. Fyne, off Tarbert;  
 Campbeltown L. (S.).  
*B. complanata*, Brady.—L. Fyne (A. M. N.).

## Fam. Darwinulidae.

- Darwinula stevensoni* (B. & N.).—L. Lomond (shore S. of Balmaha) (S.).

## Fam. Cytheridae.

- Cythere lutea*, Müller.—C. and gen. dist.  
*C. pellucida*, Baird.—Brackish water, freq. (Langbank; Inverkip; Hunterston shore, etc.).  
*C. confusa* (B. & N.).—Mod. c. and gen. dist.  
*C. porcellanea*, Brady.—More or less gen. dist.  
*C. macallana* (B. & R.).—Off Fairlie, 5 f. (A. M. N.): off Cumbrae; Rose-neath (R.).  
*C. tenera*, Brady.—C. (R.). Not very c. (S.).  
*C. (?) semipunctata*, Brady.—L. Fyne, off Tarbert; bet. the Cumbraes, 25 f. (A. M. N.): off Sanda L., mod. r.  
*C. badia*, Norman.—Kames B.; Cumbrae; off Bute (R.).  
*C. crispata*, Brady.—Freq. (R.): L. Tarbert; Campbeltown L., etc.  
*C. gibbosa* (B. & R.).—Kames B., Cumbrae; L. Gilp; L. Tarbert (B. & N.):  
 Brackish pools nr. Langbank (S.).  
*C. rubida*, Brady.—Kames B., Cumbrae; Clachland Pt., Arran (B. & N.).  
*C. albomaculata*, Baird.—Freq. (R.): mod. c. and gen. dist.  
*C. robertsoni*, Brady.—Freq. (R.): Tarbert Bank; Campbeltown L., etc.  
*C. convexa*, Baird.—Freq. and gen. dist.  
*C. marginata*, Norman.—Off Tarbert, L. Fyne, 25 f. (A. M. N.): Tarbert Bank; rather r. (S.).  
*C. limicola*, Norman.—Girvan (R.): Cumbrae; L. Cumbrae (A. M. N.):  
 Campbeltown L. (S.).  
*C. cunieformis*, Brady.—Freq. (R.).  
*C. navicula*, Norman.—Off Port Glasgow 1892; off Sanda L. 1897.  
*C. cluthae*, B. C. & R.—L. Fyne, 20 f. (B. & N.).  
*C. villosa* (G. O. Sars).—C. and gen. dist.  
*C. pulchella*, Brady.—Kames B., Cumbrae; Kilchattan B. (B. & N.).  
*C. quadridentata*, Baird.—Off Cumbrae (R.): Tarbert Bank, 25 f.; not r.  
*C. emaciata*, Jones.—Freq. (R.): Tarbert Bank, 25 f.  
*C. tuberculata* (G. O. Sars).—Gen. dist., c.  
*C. emarginata* (G. O. Sars).—Off Inveraray (R.): Tarbert Bank (prob. sub-fossil), not c. (S.).  
*C. finmarchica* (G. O. Sars).—Off Inveraray (R.): Campbeltown L., 1897 (S.).  
*C. angulata* (G. O. Sars).—Various places in F. of Clyde and L. Fyne (B. & N.).  
*C. dunelmensis* (Norman).—Mod. freq. and gen. dist.  
*C. antiquata* Baird.—Various places in F. of Clyde (B. & N.): Tarbert Bank;  
 Campbeltown L.  
*C. whitei* (Baird).—Kilchattan B.; Campbeltown L. (R.): Tarbert Bank.  
*C. jonesii* (Baird).—Gen. dist.; not r.  
*Limnocythere inopinata* (Baird).—Not unc. in Fresh-water Lochs and ponds.



- L. sancti-patricii* (B. & R.).—L. Libo; side of Bishop L. (R.).
- Cytheridea elongata*, Brady.—Freq. (R.): nr. Fort Matilda; Campbeltown L., &c.
- C. papillosa*, Bosquet.—C. (R.): off Greenock; Roseneath; Rothesay (B. & N.): L. Fyne.
- C. punctillata*, Brady.—C. (R.): off Roseneath; Rothesay; Inveraray; Skipness; Tarbert (B. & N.).
- C. torosa* (Jones).—Langbank; Pt. Glasgow; Greenock (R.). A brackish water species.
- C. lacustris* (G. O. Sars).—Glasgow and Paisley Canal (W. of Pollokshields); Clyde, nr. Langbank (R.): Pilmuir Dam (J. Smith): L. Lomond (B. & N.).
- C. (?) subflavescens*, Brady.—L. Fyne; nr. Rothesay; bet. the Cumbraes (B. & N.).
- Eucythere declivis* (Norman).—Freq. and gen. dist.
- Krithe bartonensis* (T. R. Jones).—C. (R.). Clyde nr. Greenock; L. Fyne; off Rothesay, &c. (B. & N.).
- Loxoconcha impressa*, Baird.—C. and gen. dist.
- L. guttata* (Norman).—Freq. and gen. dist. (B. & N.).
- L. viridis* (Müller).—Brackish pools at Inverkip (1880); Campbeltown L. (1897) (S.). Irvine sands (J. Smith).
- L. multifora* (Norman).—C. (R.). L. Fyne (A. M. N.): Cumbrae and Rothesay B. (B. & N.): Campbeltown L. (S.).
- L. pusilla*, B. & R.—Greenock; Cumbrae (R.): Campbeltown L. (S.).
- L. tamarindus*, (Jones).—C. and gen. dist.
- L. fragilis*, G. O. Sars.—Clyde nr. Greenock and Pt. Glasgow (R.): [probably fossil, not unc. in Artic shell beds bet. these two places].
- Xestoleberis aurantia* (Baird).—Kames B., Cumbrae (R.): Tarbert Bank; E. L. Tarbert; Campbeltown L.; not r.
- X. depressa*, G. O. Sars.—Gen. dist. throughout estuary.
- Cytherura gibba* (Müller).—Freq. (R.), but mostly in brackish water.
- C. cornuta*, Brady.—Gen. dist. and mod. c.
- C. sella*, G. O. Sars.—Gen. dist. and mod. c.
- C. acuticostata*, G. O. Sars.—Gen. dist. but scarcely so c. as the last.
- C. striata*, G. O. Sars.—Gen. dist. Freq. (R.).
- C. angulata*, Brady.—Rock-pools, Arran (A. M. N.): L. Fyne; Campbeltown L.; not so c. as some other *Cytheruræ* (B. & N.).
- C. undata*, G. O. Sars.—Gen. dist. freq. throughout estuary.
- C. producta*, Brady.—F. of Clyde (B. & N.): L. Fyne, not c.
- C. nigrescens* (Baird).—Gen. dist. throughout estuary.
- C. simplex*, B. & N.—St. Ninian's B., Bute; off Fairlie (B. & N.): Campbeltown L. (S.).
- C. concentrica*, B., C., & R.—Off Fairlie (A. M. N.). Appears to be r.
- C. similis*, G. O. Sars.—L. Fyne; Rothesay B.; off Fairlie (B. & N.): Campbeltown L. (F. S. G.).
- C. fulva*, B. & R.—Off Greenock; L. Fyne; F. of Clyde (B. & N.): Campbeltown L. (F. S. G.).
- C. clathrata*, G. O. Sars.—Callum's B., Bute (R.): Tarbert Bank, not c. (F. S. G.).
- C. cellulosa*, Norman.—Gen. dist.; freq. (very small).
- C. bodotria*, T. Scott.—Greenock Bank, off Pt. Glasgow, 1892 (S.).
- Cytheropteron latissimum* (Norman).—Gen. dist. throughout estuary.
- C. nodosum*, Brady.—F. of Clyde, freq. (R.): off Tarbert (A. M. N.): Campbeltown L. (F. S. G.).
- C. inflatum*, B., C., & R.—L. Fyne (A. M. N.).
- C. punctatum*, Brady.—Inverkip; Cumbrae; L. Riddon; off Girvan, r. (R.): off Tarbert, 25 f. (A. M. N.).

- C. alatum*, *G. O. Sars.*—Off Tarbert, (A. M. N.): Fintry B.; Kilchattan B.; Rothesay B. (B. & N.): off Sanda I. (F. S. G.).
- C. angulatum*, *B. & R.*—Off Tarbert (A. M. N.): Roseneath; Cumbrae; Bute (R.): off Sanda I. (F. S. G.).
- C. depressum*, *B. & N.*—Campbeltown L. (1897): r. in estuary (S.).
- C. humile*, *B. & N.*—Off Fort Matilda, Greenock (B. & N.): U. L. Fyne; Kilbrennan Sd. (S.).
- Bythocythere constricta*, *G. O. Sars.*—Off Roseneath, etc.; L. Long; L. Fyne (B. & N.).
- B. turgida*, *G. O. Sars.*—Off Roseneath; Rothesay B.; Kilchattan B. (B. & N.): off Tarbert (S.).
- B. simplex* (*Norman*).—Gen. dist., but not very c.
- Pseudocythere caudata*, *G. O. Sars.*—Mod. freq. throughout estuary, and L. Fyne.
- Selcrochilus contortus* (*Norman*).—Gen. dist. throughout estuary.
- Cytherideis subulata*, *Brady.*—Cumbrae; Bute; Ardrossan, r. (R.): Campbeltown L. (F. S. G.).
- Cytherois fischeri* (*G. O. Sars.*).—Gen. dist., but more freq. inshore amongst algae, Inverkip; Campbeltown L. (F. S. G.).

## Fam. Paradoxostomatidae.

- Paradoxostoma variabile* (*Baird*).—C. and gen. dist.
- P. ensiforme* *Brady.*—Mod. c.; but more so off shore than in shall. w.
- P. abbreviatum*, *G. O. Sars.*—Gen. dist., but not very plentiful.
- P. obliquum*, *G. O. Sars.*—Cumbrae; Bute; Arran, r. (R.). Off Tarbert (F. S. G.).
- P. normani*, *Brady.*—Campbeltown L., 1897 (S.). Somewhat r. in Clyde.
- P. pulchellum*, *G. O. Sars.*—L. Gail; Cumbrae; Arran; Ardrossan, r. (R.): L. Fyne, 1885 (S.).
- P. hibernicum*, *Brady.*—Cumbrae; Bute; Arran; Campbeltown, r. (R.).
- P. arcuatum*, *Brady.*—Off Pt. Glasgow, r. (S.).
- P. orcadense*, *B. & R.*—White B., Cumbrae; off Glensaunox, r. (R.).
- P. hodgeli*, *Brady.*—Off Callum's Bay, Bute (R.): off Tarbert, 25 f. (A. M. N.).
- P. flexuosum*, *Brady.*—Freq. in Clyde (R.): L. Fyne; Campbeltown L. (F. S. G.).
- P. affine*, *T. Scott.*—Off Inveraray, 25-40 f. (A. M. N.).
- Machaerina tenuissima* (*Norman*).—Off Skelmorlie; Fairlie; nr. Cumbrae; Kilchattan B. (B. & N.): off Tarbert (F. S. G.).

## Fam. Asteropidae.

- Asterope mariae* (*Baird*).—Off Tarbert (A. M. N.): Cumbrae (R.): U. L. Fyne; East L. Tarbert.
- A. teres* (*Norman*).—Lamlash B. (A. M. N.): Cumbrae (R.): E. L. Tarbert.

## Fam. Cypridinidae.

- Philomedes brenda* (*Baird*).—Nr. Arran (E. side) 40 f. 1896 (S.).
- P. interpuncta* (*Baird*).—Gen. dist., in surface and bottom tow-nets, as well as dredge.
- P. macandrei* (*Baird*).—Nr. Cumbrae (R.).

## Fam. Polycopidae.

- Polycopse orbicularis*, *G. O. Sars.*—Gen. dist. throughout estuary.
- P. punctata* *G. O. Sars.*—"Some specimens dredged in L. Fyne are doubtfully referable to this species" (B. & N.).

## Fam. Cytherellidae.

- Cytherella serrulata*, *Brady and Norman.*—Nr. Sanda I., 1896 (S.).

## ORDER COPEPODA.

## ARRANGEMENT AND NOMENCLATURE FOLLOWED.

- Brady, Prof. G. S. (1) *Monog. of the free and semi-parasitic Copepoda of the Brit. Islands* (Ray Society, 1878-80).  
 (2) *Revision of the Brit. species of the fresh-water Cyclopidae and Calanidae*.  
*Nat. Hist. Trans., N.D. and N.C.*, vol. xi., Pt. 1 (1891).  
 Giesbrecht, Dr. W. (1) *Die Pelagischen Copepoden des Golfes von Neapel*.  
 (2) *Die Asterocheriden des Golfes von Neapel*.  
 Canu, Dr. Eugene, *Les Copepodes du Boulonnais*.  
 Schmeil, Dr. Otto, *Deutschlands freilebende süsswasser Copepoden*.  
 List of species from Irish Sea (*Brit. Assoc. Rep.*, Sect. D, Liverpool, 1896).  
 Drs. W. Giesbrecht and O. Schmeil, *Copepoda Gymnoplea*, Das Tierreich  
 (6 Lieferung).  
 Dr. Basset Smith, *A systematic description of the parasitic copepoda found  
 on fishes* (*Proc. Zool. Soc. Lond.*, 1899).  
 Scott, T. & A., *Revis. of Brit. Copep. belonging to the Gen. Bradya and  
 Ectinosoma* (*Tr. Lin. Soc.*, 2nd ser.; *Zool.*, vol. vi., Pt. 5 (1896)): papers  
 in *Ann. and Mag. Nat. Hist.*, and *Ann. Scot. Nat. Hist.* (1892-98).  
 Scott, T., papers in *F.B. Reports*, 1886-1900.

## Fam. Calanidae.

- Calanus finmarchicus* (Gunn).—Throughout estuary, surface and bottom.  
*Paracalanus parvus*, Claus.—Off Minard, U. L. Fyne; Kilbrennan Sd.;  
 Ayr B.; off Sanda I. etc., not c.  
*Pseudocalanus elongatus*, Boeck.—Gen. dist. and mod. c. (surface and  
 bottom townets).  
*Stephus gyrans* (Giesbrecht).—L. Gair (U. L. Fyne), r., dredged.  
*S. minor*, T. Scott.—Otter Spit (U. L. Fyne); off Sanda I., r., dredged.  
*S. fultoni*, T. Scott.—Otter Spit (U. L. Fyne); Kilbrennan Sd., r., dredged.  
*Pseudocyclopia crassicornis*, T. Scott.—Otter Spit (U. L. Fyne), r., dredged.  
*P. caudata*, T. Scott.—Otter Spit; Ayr B.; Ballantrae Bank, r., dredged.  
*Bradyidius armatus* (Vanhöffen).—Gen. dist. throughout estuary.  
*Euchaeta norvegica*, Boeck.—U. L. Fyne, very c.; much less so in seaward  
 part of estuary; chiefly in bottom townet.  
*Scolecithrix hibernica*, A. Scott.—U. L. Fyne; d. w. E. of Arran; off  
 Davaar I.; nr. Ailsa Craig (in bottom townet).  
*S. pygmaea*, T. Scott.—U. L. Fyne; Kilbrennan Sd.; Whiting B.; nr. Ailsa  
 Craig (in bottom townet), not c.

## Fam. Centropagidae.

- Centropages typicus*, Kr.—Gen. dist. and mod. freq.  
*C. hamatus* (Lillj.).—Gen. dist., c.  
*Isias clavipes*, Boeck.—Off Cumbrae; off Portincross (Brady); Machrie B.  
 (Brook); off Ailsa Craig.  
*Diaptomus gracilis*, G. O. Sars.—C. in fresh-water lochs, as L. Doon, Ayr-  
 shire; L. Lomond, etc.  
*D. hircus*, Brady.—Tangy L., nr. Campbeltown.  
*D. laciniatus*, Lillj.—L. Doon, Ayrshire; freq. during summer.  
*Temora longicornis* (Müller).—Gen. dist. throughout estuary.  
*Eurytemora velox* (Lillj.).—Cumbrae (Brady): pond at Rutherglen (J.  
 Steel); Possil Marsh; marshy ground at Langbank; brackish pools at  
 Hunterstone.  
*Metridia lucens*, Boeck.—E. L. Tarbert (Calderwood); Largabruach, U. L.  
 Fyne; nr. Ailsa Craig.  
*Paramisophris cluthae*, T. Scott.—Largabruach, U. L. Fyne; Tarbert Bank,  
 L. L. Fyne, r.

## Fam. Candaciidae.

*Candacia pectinata*, *Brady*.—Whiting B.; mid-channel E. of Pladda I.; off Sanda I., not very c.

## Fam. Pontellidae.

*Labidocera wollastoni* (*Lubbock*).—Machrie B. (Brook): nr. Ailsa Craig; off E. of Arran; not c.; 12-26 f.

*Anomalocera patersoni* (*Temple*).—Gen. dist. sometimes mod. c.

*Parapontella brevicornis* (*Lubbock*).—E. L. Tarbert (Calderwood): Ayr B.; Machrie B.; off Davaar I.; nr. Ailsa Craig.

*Acartia clausii*, *Giesbrecht*.—Gen. dist. and mod. c. throughout estuary.

## Fam. Misophriadae.

*Misophria pallida*, *Boeck*.—Portincross (Brady): Largabruach, U. L. Fyne; Otter Spit, r.

## Fam. Cyclopidae.

*Oithona helgolandica*, *Claus*.—Gen. dist., mod. c.

*Cyclopina littoralis*, *Brady*.—Largabruach, and Head of U. L. Fyne; not c.

*C. gracilis*, *Claus*.—Loch Gair; off Inveraray, Hunterstone; not c.

*Cyclops strenuus*, *Fischer*.—C. in most fresh-water lochs.

*C. leuckarti*, *Claus*.—L. Lomond, not c.

*C. dybowskii*, *Lande*.—L. Lomond—shore S. of Balmaha.

*C. bicuspidatus*, *Claus*.—L. Lomond; L. Doon; Achy L. (nr. Campbeltown); Possil Marsh.

var. *lubbockii*, *Brady*.—Brackish pools at Langbank.

*C. languidus*, *G. O. Sars*.—L. Doon, Ayrshire; not c.

*C. vernalis*, *Fischer*.—L. Lomond; L. Doon.

*C. bisetosus*, *Rehberg*.—L. Lomond (shore); pools at Langbank; Garry L., Ailsa Craig.

*C. viridis* (*Jurine*).—L. Lomond; L. Fad; L. Doon; Park L., nr. Campbeltown; mod. c.

*C. fuscus* (*Jurine*).—L. Arklet; Park L.

*C. albidus* (*Jurine*).—L. Lomond; L. Doon; pond at Castlemilk; Possil Marsh.

*C. serrulatus*, *Fischer*.—C. and gen. dist. in lochs and ponds throughout the district.

*C. macrurus*, *G. O. Sars*.—L. Arklet.

*C. affinis*, *G. O. Sars*.—Achy L., nr. Campbeltown.

*C. nanus*, *G. O. Sars*.—Dhu Lochan, nr. L. Lomond; L. Doon.

*C. fimbriatus*, *Fischer*.—Gen. dist. and mod. c.

*C. phaleratus*, *Koch*.—Bardowie L.; not c.

*C. aequoreus*, *Fischer*.—Brackish pools at Langbank and Hunterstone.

*Thorellia brunnea*, *Boeck*.—Gen. dist. throughout estuary, freq.

## Fam. Ascidiocolidae.

*Notodelphys allmani*, *Thorell*.—E. L. Tarbert; Tarbert Bank (inside large Ascidiens, as are most of the species in this family).

*N. agilis*, *Thorell*.—E. L. Tarbert; Tarbert Bank 20-25 f. (F. S. G.).

*N. prasina*, *Thorell*.—E. L. Tarbert; Tarbert Bank; Kilbrennan Sd.

*Doropygus porcicauda*, *Brady*.—E. L. Tarbert; off Largabruach, U. L. Fyne; Tarbert Bank (F. S. G.).

*D. pulex*, *Thorell*.—In ascidiens, Tarbert Bank; nr. Millport in *Corella parallelogramma* (Gray).

*D. (?) gibbosa*, *Thorell*.—In ascidiens Tarbert Bank (F. S. G.).

*Botachus cylindricus*, *Thorell*.—Same localities as the last; Whiting B.

*Notopterochorus papilio*, *Hesse*.—In large Ascidiens in E. L. Tarbert; not unc.; Kilbrennan Sd. 29/10/96 (F. S. G.).



- Ascidicola rosea*, *Thorell*.—In large Ascidiæ dredged nr. head of L. Fyne ; Tarbert Bank (F. S. G.).
- Enterocola fulgens*, *van Beneden*.—In the intestines of small Ascidiæ dredged at Tarbert Bank (F. S. G.).
- Gunenotophorus globularis*, *Costa*.—In material dredged nr. Sanda I. 12/98 (F. S. G.).
- Botryllophilus* (?) *ruber*, *Hesse*.—Associated with *Botryllus* sp., dredged Tarbert Bank, 1899 ; not very c. (F. S. G.).
- Lamippi proteus*, *Claparède*.—Parasitic in *Alcyonium digitatum* in various parts of Clyde area.

## Fam. Harpacticidae.

(NOTE.—The Copepods belonging to this family—both marine and fresh-water—are for the most part found on or near the bottom.)

- Longipedia coronata*, *Claus*.—Freq. and gen. dist.
- L. minor*, *T. & A. Scott*.—Largabruach, U. L. Fyne ; off Sanda I. (with ova).
- Canuella perplexa*, *T. & A. Scott*.—Ayr B. ; Cumbrae, bet. tide marks ; Inverkip, in shore pools.
- Ectinosoma atlanticum* (*B. & R.*).—Gen. dist., sometimes abund. in tow-net.
- E. sarsi*, *Boeck*.—Gen. dist., and not unc.
- E. melaniceps*, *Boeck*.—Gen. dist., not r.
- E. herdmani*, *T. & A. Scott*.—L. Gair and Largabruach, U. L. Fyne ; shore at Hunterston.
- E. curticorne*, *Boeck*.—Dubh L., nr. Inveraray ; Largabruach ; shore pools at Hunterston ; Ayr B.
- E. normani*, *T. & A. Scott*.—Ayr B., r.
- E. erythrops*, *G. S. Brady*.—Otter spit, U. L. Fyne, not c.
- E. gracile*, *T. & A. Scott*.—Shore pools at Inverkip ; dredged nr. Sanda I., r.
- E. pygmaeum*, *T. & A. Scott*.—Tarbert Bank 20 f., Kilbrennan Sd., r.
- Bradya typica*, *Boeck*.—Gen. dist., not very c.
- B. minor*, *T. & A. Scott*.—Shore at Hunterston ; Ayr B.
- B. elegans*, *T. & A. Scott*.—L. Gair and Largabruach, U. L. Fyne.
- B. hirsuta*, *T. & A. Scott*.—Ayr B., r.
- B. similis*, *T. & A. Scott*.—Largabruach ; Kilbrennan Sd. ; Ayr B.
- Zosima typica*, *Boeck*.—Lowburn, and Largabruach, U. L. Fyne ; Kilbrennan Sd., not r.
- Tachidius brevicornis* (*G. F. Müll.*).—Cumbrae, nr. Millport (Shore) ; Hunterston in brackish water pools.
- T. littoralis*, *Poppe*.—Shore pools, Dumbarton and Hunterston.
- Robertsonia tenuis* (*B. & R.*).—Rothsay B.
- Amymone sphaerica*, *Claus*.—E. L. Tarbert ; Kilbrennan Sd. ; Whiting B. ; nr. Sanda I.
- A. nigrans*, *T. & A. Scott*.—Otter Spit, L. Fyne 12/1/99.
- Stenhelia hispida*, *Brady*.—Off Portincross, Ayrshire 15 f. (Brady).
- S. ima*, *Brady*.—Off Callum's Hole, Bute ; off Glen Sannox (Brady) ; E. L. Tarbert ; off Inveraray.
- S. intermedia*, *T. Scott*.—Kilbrennan Sd.
- S. hirsuta*, *I. C. Thompson*.—Tarbert Bank ; Campbeltown L.
- Ameira longipes*, *Boeck*.—Off Portincross, Ayrshire (Brady).
- A. longicaudata*, *T. Scott*.—U. L. Fyne ; Kilbrennan Sd., off Sanda I.
- A. exilis*, *T. & A. Scott*.—Shore pools at Hunterston.
- A. exigua*, *T. Scott*.—Kilbrennan Sd.
- A. longiremis*, *T. Scott*.—L. Gair ; Kilbrennan Sd.
- Jonesiella spinulosa* (*B. & R.*).—Largabruach ; Kilbrennan Sd. ; Campbeltown L.
- J. fusiformis* (*B. & R.*).—Tarbert Bank 20 f. ; off Sanda I.

- Delavalia palustris*, *Brady*.—Brackish pools, Dumbarton; Hunterston.  
*D. reflexa*, *B. & R.*.—Nr. Sanda I., rather r.  
*D. robusta*, *B. & R.*.—Largabruach; Kilbrennan Sd., nr. Sanda I.  
*D. mimica*, *T. Scott.*.—L. Gair; Kilbrennan Sd., Ayr B.  
*D. aemula*, *T. Scott.*.—Ayr B.; Campbeltown L., not c.  
*D. giesbrechti*, *T. & A. Scott.*.—Ayr B.; Campbeltown L.  
 var . . . ?—Brackish-water pools, Hunterston.  
*Pseudotachidius coronatus*, *T. Scott.*.—Off Lowburn, Hd. of L. Fyne; off Skate I., 105 f.; bet. Arran and Heads of Ayr, 40 f.  
*Cervinia bradyi*, *Norman*.—D. w. E. of Arran, very r.  
*Canthocamptus staphylinus* (*Jurine*).—C. in fresh water lochs, ponds, ditches, &c.  
*C. palustris*, *G. S. Brady*.—Brackish pools, Dumbarton; Langbank; Hunterston; Dubh L., nr. Inveraray.  
*C. parvus*, *T. & A. Scott.*.—Brackish pools, Hunterston, not c.  
*C. minutus*, *Claus*.—L. Lomond; L. Doon; Park L. and Achy-L., nr. Campbeltown.  
*C. inornatus*, *T. Scott.*.—L. Arklet; Park L., not c.  
*C. schmeilii*, *Mrazek*.—L. Lomond; L. Doon; Park L.  
*C. hirticornis*, *T. Scott.*.—Brackish pools at Langbank.  
*C. cuspidatus*, *Schmeil*.—L. Fad, Bute, r.  
*C. crassus*, *G. O. Sars*.—Freq. in most fresh-water lochs and ponds.  
*C. pygmaeus*, *G. O. Sars*.—More or less freq. in lochs, ponds, ditches.  
*C. zschokkei*, *Schmeil*.—Dhu Lochan, nr. L. Lomond; L. Fad, Bute; Black L. and Park L., nr. Campbeltown.  
*Moraria anderson-smithi*, *T. & A. Scott.*.—L. Arklet; L. Lomond; L. Doon; Garry L. (Ailsa Craig); Black L., nr. Campbeltown.  
*M. brevipes* (*G. O. Sars*).—L. Doon, not c.  
*M. poppei* (*Mrazek*).—L. Fad, Bute; Shore pools at Hunterston, r.  
*Maraenobiotus vejdovskei*, *Mrazek*.—L. Doon, amongst shore vegetation.  
*Psyllocamptus fairliensis*, *T. Scott.*.—Shore pools bet. Fairlie and Hunterston.  
*Mesochra lilljeborgii*, *Boeck*.—Brackish-water pools at Hunterston.  
*M. spinicauda*, *T. & A. Scott.*.—Shore pools, nr. Millport.  
*Neobradya pectinifer*, *T. Scott.*.—Ballantrae Bank, r.  
*Tetragoniceps consimilis*, *T. Scott.*.—Ballantrae Bank; Otter Spit, L. Fyne.  
*T. incertus*, *T. Scott.*.—Dredged bet. Sanda and Bennan Hd. 1896.  
*T. macronyx*, *T. Scott.*.—Dredged, Ballantrae Bank, 18 f.  
*Diosaccus tenuicornis* (*Claus*).—Cumbrae, surface net; Portincross, dredged (*Brady*): E. L. Tarbert; Kilbrennan Sd.  
*Laophonte serrata* (*Claus*).—E. L. Tarbert; Kilbrennan Sd. r.  
*L. horrida* (*Norman*).—Off Cumbrae and Portincross (*Brady*): U. L. Fyne; Kilbrennan Sd., not unc.  
*L. thoracica*, *Boeck*.—Off Inveraray and Largabruach, U. L. Fyne.  
*L. similis* (*Claus*).—E. L. Tarbert; L. Fyne (Calderwood). Shore pools, Hunterston.  
*L. curticauda*, *Boeck*.—Amongst weeds at L. Cumbrae (*Brady*): shore pools Hunterston.  
*L. longicaudata*, *Boeck*.—Otter Spit; Kilbrennan Sd.  
*L. lamellifera* (*Claus*).—Portincross, Ayrshire; off Cumbrae and Bute (*Brady*); Otter Spit; Ayr B.  
*L. intermedia*, *T. Scott.*.—Shore pools Hunterston.  
*L. hispida* (*B. & R.*).—Off Glen Sannox; off Cumbrae and Bute (*Brady*): Largabruach, U. L. Fyne; Ayr B.  
*L. littorale*, *T. & A. Scott.*.—Shore pools Hunterston.  
*L. mahomed*, *Richard*.—Brackish pools Langbank.  
*L. depressa*, *T. Scott.*.—Tarbert Bank 25 f. not c.

- L. simulans*, *T. Scott.*—Off Inveraray; Kilbrennan Sd.; freq. in crevices of decaying wood.
- L. denticornis*, *T. Scott.*—Machrie B.; Kilbrennan Sd.
- Pseudolaophonte spinosa* (*I. C. Thompson*).—Dredged nr. Otter Spit 15-18 f., Jany. 99.
- Laophontodes typicus*, *T. Scott.*—Nr. Otter Spit; Carradale B.
- L. bicornis*, *A. Scott.*—Machrie B., not c.
- Pontopolites typicus*, *T. Scott.*—L. Gair; Largabruach, U. L. Fyne; Kilbrennan Sd.
- Normanella dubia* (*B. & R.*).—L. Gair; Largabruach; Machrie B.; Carradale B.; Ayr B.
- Cletodes limicola*, *Brady.*—Kilbrennan Sd.
- C. longicaudata*, *B. & R.*—Off Portincross, Ayrshire (Brady); E. L. Tarbert; L. Gair; Largabruach; Kilbrennan Sd.; Campbeltown L.
- C. propinqua*, *B. & R.*—Shore pools Hunterston.
- C. linearis* (*Claus*).—r.; E. L. Tarbert; bet. Sanda and Bennan Hd.
- C. similis*, *T. Scott.*—Otter Spit.
- C. curvirostris*, *T. Scott.*—Carradale B.; Campbeltown L.
- C. lata*, *T. Scott.*—Kilbrennan Sd.; Campbeltown L.; nr. Davaar I.
- C. irrasa*, *T. Scott.*—Kilbrennan Sd.
- C. tenuipes*, *T. Scott.*—r.; Carradale B., off Sanda I.
- C. hirsutipes*, *T. Scott.*—Carradale B.
- Itunella tenuiremis* (*T. Scott.*).—Nr. Lowburn and Largabruach, U. L. Fyne; shore pools Hunterston.
- Leptopsyllus minor*, *T. Scott.*—Shore pools, nr. Millport, not c.
- L. herdmanni*, *I. C. Thompson & A. Scott.*—Shore pools, nr. Millport, not c.
- Enhydrosoma curvatum*, *B. & R.*—Off Portincross; Cumbræ; Bute (Brady); L. Gair; Ayr B.
- Pseudocletodes vararensis*, *T. & A. Scott.*—Nr. Sanda I. twice.
- Nannopus palustris*, *Brady.*—Brackish pools Inverkip and Hunterston.
- Platychelipus littoralis*, *Brady.*—Dumbarton; Ayr B.; Carradale B.; Hunterston, shore pools.
- Huntemannia jadensis*, *S. A. Poppe.*—Shore pools nr. Millport; Inverkip.
- Heteropsyllus curticaudatus*, *T. Scott.*—Carradale B., r.
- Dactylopus pectinatus*, *T. Scott.*—Nr. head of L. Fyne (18 f.).
- D. tisboides*, *Claus.*—Off L. Cumbræ, and Portincross (Brady); E. L. Tarbert; Kilbrennan Sd., etc.
- D. similis*, *Claus.*—Off Portincross (Brady); L. Fyne; Whiting B.; Campbeltown L.
- D. stromii* (*Baird*).—Nr. Cumbræ (Brady); Ayr B.; Whiting B., etc.
- D. flavus*, *Claus.*—Off Callum's Hole, Bute (Brady); head of L. Fyne; Otter Spit; Ayr B.
- D. brevicornis*, *Claus.*—Whiting B.; off Sanda I.
- D. minutus*, *Claus.*—E. L. Tarbert (16 f.); off Sanda I.
- Thalestris mysis*, *Claus.*—E. L. Tarbert; Machrie B.
- T. helgolandica*, *Claus.*—Clyde (A. M. N.); Whiting B.; Kilbrennan Sd.
- T. rufocincta*, *Norman.*—Off Cumbræ, and Portincross (Brady); Otter Spit; Whiting B., freq.
- T. harpactoides*, *Claus.*—Shore pools Hunterston.
- T. clausii*, *Norman.*—L. Fyne (Calderwood); off Cumbræ (Brady); Machrie B.; Ayr B.
- T. violascens*, *Claus.*—Nr. the 'Allans' Cumbræ (Brady), r.
- T. hibernica*, *B. & R.*—Off Cumbræ (Brady), r.
- T. longimana*, *Claus.*—Off Portincross (Brady); Machrie B.
- T. peltata* (*Boeck*).—Otter Spit, rather r.
- T. forficulus*, *Claus.*—Off Inveraray, and Largabruach, U. L. Fyne; Machrie B.; Shore pools Hunterston, not very r.

- Pseudothalestris pygmaea*, *T. & A. Scott.*—Machrie B.; Ballantrae Bank, r.  
*Westwoodia nobilis* (*Baird*).—Off Portincross, 10-30 f. (Brady); E. L. Tarbert (Calderwood); shore at Hunterston.  
*Harpacticus chelifer* (*Müller*).—Gen. dist., freq.  
*H. fulvus*, *Fischer.*—Brackish pools, Hunterston.  
*H. flexus*, *B. & R.*—Kames B., Cumbrae, 1-2 f. (Brady); E. L. Tarbert; shore at Hunterston.  
*Zaus spinatus*, *Goodsir.*—E. L. Tarbert; L. Fyne (Calderwood): Otter Spit; Machrie B., freq.  
*Z. goodsiri*, *Brady.*—Off Portincross, 15 f. (Brady): Otter Spit; off Sanda I.  
*Alteutha bopyroides*, *Claus.*—E. L. Tarbert; L. Fyne (Calderwood).  
*A. crenulata* (*Brady*).—Off Sanda I.; Ballantrae Bank.  
*Eupelta purpurocinctum* (*Norman*).—E. L. Tarbert (Calderwood): Ayr B.; N.-E. of Sanda I. Mod. freq. in Clyde.  
*Peltidium purpureum*, *Philippi.*—E. L. Tarbert; off Largabruach; nr. Lowburn, L. Fyne, rather r.  
*Porcellidium fimbriatum*, *Claus.*—Cumbrae; Portincross (Brady); E. L. Tarbert (Calderwood); Machrie B. Freq. on fronds of *Laminaria*.  
*P. viride* (*Philippi*).—Cumbrae; Portincross (Brady).  
*P. subrotundum*, *Norman.*—L. Fyne (M.); Portincross (Brady).  
*Idya furcata* (*Baird*).—E. L. Tarbert (Calderwood): Cumbrae; Portincross (Brady); Machrie B.  
*I. gracilis*, *T. Scott.*—L. Gair; off Inveraray; off Lowburn (U. L. Fyne); shore pools Hunterston.  
*I. longicornis*, *T. & A. Scott.*—E. L. Tarbert; Machrie B.; Campbeltown L.  
*I. minor*, *T. & A. Scott.*—Largabruach, U. L. Fyne; Machrie B.  
*I. cluthae*, *T. Scott.*—Nr. head of L. Fyne; off Ailsa Craig.  
*Scutellidium fasciatum*, *Boeck.*—E. L. Tarbert (Calderwood).  
*Cylindropsyllus laevis*, *Brady.*—E. L. Tarbert; Ballantrae Bank.  
*C. minor*, *T. Scott.*—Ballantrae Bank 18 f., not c.  
*C. fairliensis*, *T. Scott.*—Brackish pools at Hunterston, rather r.  
*Leptocaris minutus*, *T. Scott.*—Brackish pools at Hunterston, r.

## Fam. Monstrillidae.

- Monstrilla danae*, *Claparède.*—U. L. Fyne, sometimes freq.; Kilbrennan Sd.

## Fam. Corycaeidae.

- Corycaeus anglicus*, *Lubbock.*—In surface net nr. Ailsa Craig, 29/5/99.

## Fam. Lichomolgidae.

- Modiolicola insignis*, *Aurivilius.*—Commensal in shell of *M. modiolus*.  
*Lichomoligus albens*, *Thorell.*—Dredged nr. Otter Spit.  
*L. agilis*, *Leydig.*—Kilbrennan Sd., on branchial plumes of *Doris sp.*  
*L. maximus*, *I. C. Thompson.*—Freq. in Clyde; commensal with *Pecten maximus* and *P. operculare*.  
*L. fucicolus*, *Brady.*—Nr. Largabruach, U. L. Fyne.  
*L. furcillatus*, *Thorell.*—Off Inveraray, r.  
*L. forficulus*, *Thorell.*—E. L. Tarbert; Tarbert Bank, in branchial chamber of large Ascidians.  
*Sabelliphilus sarsi*, *Claparède.*—Kilbrennan Sd.; off Sanda I.; on branchial plumes of *Sabella sp.*  
*Hermanella arenicola* (*Brady*).—Off Battery Pt., Cumbrae (Brady): Nr. Otter Spit, 8-15 f.; L. Gilp, 2-3 f.; not c.  
*Pseudanthessius liber* (*B. & R.*).—S. of Bute, 16 f. (Brady): nr. Lowburn and Inveraray.  
*P. thorellii* (*B. & R.*).—From various parts of estuary.  
*Clausia cluthae*, *T. & A. Scott.*—Tarbert Bank, 20-25 f.; Ayr B.



## Fam. Asterocheridae.

- Asterocheres hilleborgi**, *Boeck.*—Tarbert Bank, 20-25 f., r.  
**A. echinicola** (*Norman*).—Gen. dist., freq. in water passages of *Suberites*.  
**A. simulans** (*T. Scott*).—L. Fyne and Clyde, r.  
**A. violaceus** (*Claus*).—Nr. Otter Spit; off Pladda; r.  
**Dermatomyzon nigripes** (*B. & R.*).—E. L. Tarbert (Calderwood): off Calum's Hole, Bute; Portincross (Brady).  
**Rhynchomyzon purpurocinctum** (*T. Scott*).—Otter Spit, 8-15 f., Jany./99.  
**Scottomyzon gibberum** (*T. & A. Scott*).—Nr. head of L. Fyne on *Echinus esculentus*.  
**Acontiophorus scutatus** (*B. & R.*).—Off Portincross (Brady): Otter Spit; Machrie B.; off Sanda I.  
**Scottocheres elongatus** (*T. & A. Scott*).—Off Sanda I., r.  
**Neopontius angularis**, *T. Scott*.—Otter Spit; Kilbrennan Sd., r.  
**Cribropontius normani** (*B. & R.*).—L. Gair, r.  
**Bradypontius magniceps** (*Brady*).—Off Portincross (Brady): E. L. Tarbert (Calderwood): nr. Head of L. Fyne.  
**Dyspontius striatus**, *Thorell*.—Whiting B., r.  
**Artotrogus orbicularis**, *Boeck.*—Tarbert Bank, 20 f., very r.  
**Parartotrogus richardi**, *T. & A. Scott*.—Nr. Otter Spit, 15-18 f. (Jany. 99).  
**Eurynotopsyllus insolens**, *T. Scott* (= *Eurynotus insolens*, *T. Scott*).—Kilbrennan Sd., 86 (F. S. G.); very r.  
**Cancerina confusa**, *T. Scott*.—Tarbert Bank, very r., 1899 (F. S. G.).

## COPEPODA PARASITA.

CLASSIFICATION ADOPTED: Dr. Basset Smith, "Systematic description of parasitic Copepoda found on fishes," (*Proc. Zool Soc. London*, April 1899).

## Fam. Ergasilidae.

- Bomolochus soleae**, *Claus*.—Back of *Solea vulgaris*, captured in Clyde (F. S. G.). Freq. in nostrils of Cod.

## Fam. Caligidae.

- Caligus curtus**, *O. F. Müll.*.—On various fishes, Cod, Saithe, etc., mod. c.  
**C. rapax**, *M.-Edw.*.—On various fishes, also in townet; c. and gen. dist.  
**C. diaphanus**, *Nordmann*.—Chiefly in gill cavity of Gurnards, *Trigla gurnardus*; *T. lineata*, etc.  
**Lepeophtheirus pectoralis** (*O. F. Müll.*).—Not unc. under pectoral fins of flat fishes, as the Plaice, *Pleuronectes platessa*, and Flounder, *P. flesus*.  
**L. thompsoni**, *Baird*.—Freq. on the gills of Turbot, *Bothus maximus*, (F. S. G.).  
**L. stromi**, *Baird*.—On Salmon nr. Girvan (Duthie, Fishery Officer).  
**L. (?) obscurus**, *Baird*.—On gills of Brill, *Bothus rhombus*, Clyde (F. S. G.).  
**Trebius caudatus**, *Kr.*.—On *Raja batis* and *R. clavata*, F. of Clyde; freq.

## Fam. Dichelesteiidae.

- Clavella labracis**, *van Ben.*.—On gills of striped wrasse *Labrus mixtus*, nr. Ayr, Jan. 1900.  
**Cycnus pallidus** (*van Ben.*).—On gills of Conger, *Conger niger*, F. of Clyde; not r. (F. S. G.).

## Fam. Lernaeidae.

- Lernaea branchialis**, *Lin.*.—Not unc. on gills of Haddocks, Whittings and other Gadoids (F. S. G.).

## Fam. Chondracanthidae.

- Oralien asellinus* (Lin.).—Not unc. on gills of Gurnards, flat fishes, etc.  
*Chondracanthus cornutus*, (O. F. Mill.).—On gills of Plaice, *Pleuronectes platessa*; Clyde (F. S. G.).  
*C. clavatus*, Basset Smith.—Mod. freq. on gills of Lemon Soles, *Pleuronectes microcephalus*, F. of Clyde (F. S. G.).  
*C. soleae*, Kr.—On gills of Black Sole, *Solea vulgaris*, F. of Clyde (F. S. G.).  
*C. fluræ*, Kr.—On gills of Long Rough Dabs *Drepanopsetta platessoides*, F. of Clyde.  
*C. merluccii*, Holten.—Clinging to roof and sides of mouth of Hake *Merluccius merluccius*, Clyde.  
*C. lophii*, Johnston.—Inside gill pouches of Angler-fish, *Lophius piscatorius*, Clyde (F. S. G.).  
*C. zeus*, De la Roche.—Occasionally on gills of John dory, *Zeus faber*, Clyde (F. S. G.).  
*C. limandæ*, Kr.—On gills of common Dab, *Pleuronectes limanda*, Clyde (F. S. G.).  
*C. ornatus*, T. Scott.—On gills of a Spotted dragonet, *Cablionymus maculatus*, Clyde 1899 (F. S. G.).

## Fam. Lernaepodidae.

- Charopinus dubius*, T. Scott.—On gills and gill-arches of *Raia circularis*, Clyde, Dec., 99 (F. S. G.).  
*Lernaepoda galei*, Kr.—Attached bet. ventral fins of *Galeorhinus galeus* (Duthie): also on *Scylliorhinus caniculus* (F. S. G.).  
*L. bidiscalis*, W. F. de V. Kane.—Attached to end of claspers of *Galeorhinus galeus*, Clyde Jan'y. 1900 (Duthie).  
*L. cluthæ*, T. Scott.—On gills of *Raia fullonica*, Clyde, April 1897 (F. S. G.).  
*Brachiella insidiosa*, Heller.—On gills of Hake, *Merluccius merluccius*, Clyde (F. S. G.).  
*B. triglae*, Claus.—From gills of *Trigla lineata*, nr. Ailsa Craig 1897.  
*B. merluccii*, Basset-Smith.—On gill-rakers of *Merluccius merluccius*, Clyde (F. S. G.).  
*Anchorella rugosa*, Kr.—On gills of *Anarrhichus lupus*, not unc. in Clyde (F. S. G.).  
*A. uncinata*, O. F. Mill.—Not unc. on Whiting and other gadoids in Clyde (F. S. G.).  
*A. stellata*, Kr.—On skin of Hake *Merluccius merluccius*, Clyde, 18/12/99 (F. S. G.).

## Fam. Choniostomatidae.

- Aspidoecia normani*, Giard and Bonnier.—Living upon *Erythrops serrata*, G. O. Sars, Clyde, rather r. (S.). (See Dr. H. J. Hansen's *Monog. on the Choniostomatidae*).

## ORDER THORACICA.

## Fam. Balanidae.

- Balanus porcatus*, Costa.—U. L. Fyne, on shells of *Mytilus* (M.). Gen. dist., freq.  
*B. crenatus*, Brug.—U. L. Fyne (M.). Bet. Cornwall and Mull of Kintyre (F. S. G.), freq.  
*B. balanoides* (Lin.).—U. L. Fyne (M.). Gen. dist., freq.  
*B. hameri* (Ascan.).—U. L. Fyne in 12-20 f., and also on the shore (M.). Occasionally by dredging.

## Fam. Verrucidae.

*Verruca stromia* (*O. F. Müll.*).—Freq. on stones and dead shells.

## Fam. Lepadidae.

*Scalpellum vulgare*, *Leach.*—Attached to Zoophytes; not very r. in Clyde.

## ORDER RHIZOCEPHALA.

## Fam. Sacculinae.

(NOTE.—Several Sacculines have been obtained in the Clyde; but without a knowledge of their development it would be unsafe to say whether they are distinct or not, and with one or two exceptions I am therefore unable to ascribe them to particular species).

*Sacculina carcini* (*Thomp.*).—On abdomen of shore crab, *Carcinus maenas*, not unc. in some parts of the Clyde.

*S. sp.*—On abdomen of *Galathea dispersa*, Clyde 1895-1896, r. (F. S. G.);

*S. sp.*—On abdomen of *Munida rugosa* (*Fabr.*). Clyde 1896-1897 (F. S. G.): 1899 (Alex. Patience). Not very r. in seaward part of estuary.

*S. sp.*—On the abdomen of *Inachus dorsettensis*, dredged bet. Arran and Ayrshire, 20-43 f., 1897 (F. S. G.), apparently r.

*S. sp.*—On the abdomen of *Stenorhynchus rostratus*, in the trawl net E. of Arran in 20-43 f., 9/97 (F. S. G.).

*Peltogaster paguri* (*Rathke*).—On abdomen of *Eupagurus bernhardus*, E. L. Tarbert (1886), etc. (S.).

## PYCNOGONIDAE.

BY M. LAURIE.

*Pycnogonum littorale*, *Fabr.*—Mod. c.

*Phoxichilidium sp.*—Cumbrae, among sea weed, l. w. (R.).

*Pallene brevirostris*, *Johnst.*—L. w. Allans, Cumbrae (R.): Lamlash B. (H.).

*Nymphon gracile*, *Fabr.*—L. Cumbrae, Lam Zone and l. w. (R.): Lamlash B. (H.).

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