

THE UNIVERSITY OF NEWCASTLE UPON TYNE



The Marine Fauna of the Cullercoats District

2

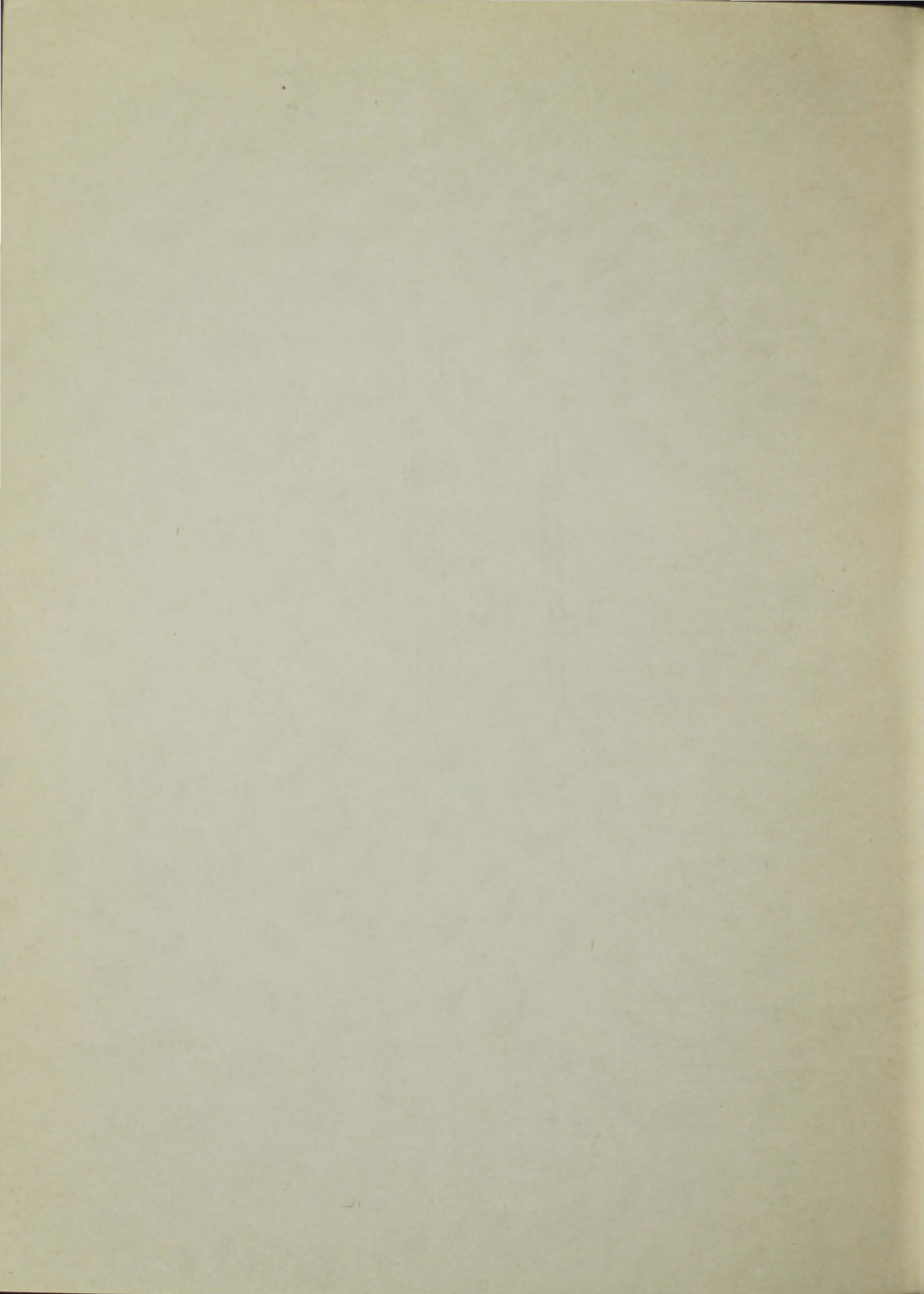
- a. ARTHROPODA ₁ : DIPLOPODA : CHILOPODA
by H. O. Bull
- b. ARTHROPODA _{2a} : INSECTA ; APTERYGOTA
by H. O. Bull
- c. ARTHROPODA _{3e8} : CRUSTACEA ; EUPHAUSIACEA
by J. Bossanyi
- d. CHORDATA ₃ : MAMMALIA ; CETACEA
by W. Stephenson and H. O. Bull

Report of the Dove Marine Laboratory

Third Series No. 14

November, 1964

Price 7/6



The Marine Fauna of the Cullercoats District

EDITOR'S FOREWORD

It is intended to devote this and the next succeeding numbers of this Report to the publication (at short intervals) of the records of the marine fauna of the Cullercoats district. These compilations are the work of past or present members of the laboratory staff or of others closely associated with the work of the laboratory. Each number will deal with one or more phyla, or parts of phyla, and will be issued when ready regardless of classificatory sequence. Full uniformity of treatment is unlikely, but the general format will remain the same. The area treated is roughly from Berwick to Redcar—Latitude $55^{\circ}47'N$ to $54^{\circ}37'N$ —extending seawards to $0^{\circ}0'$ Longitude, but it is recognised that the coverage is at present incomplete.

H. O. BULL

The following have appeared :

1. Porifera. H. O. Bull. Rep. Dove Mar. Lab. 3rd ser. 13 ; 22p. Dec. 1963.

THE UNIVERSITY OF NEWCASTLE UPON TYNE



The Marine Fauna of the Cullercoats District

2

- a. ARTHROPODA ₁ : DIPLOPODA : CHILOPODA
by H. O. Bull
- b. ARTHROPODA _{2a} : INSECTA ; APTERYGOTA
by H. O. Bull
- c. ARTHROPODA _{3e8} : CRUSTACEA ; EUPHAUSIACEA
by J. Bossanyi
- d. CHORDATA ₃ : MAMMALIA ; CETACEA
by W. Stephenson and H. O. Bull

Report of the Dove Marine Laboratory

Third Series No. 14

November, 1964

The Marine Fauna of the Cullercoats District

2a

ARTHROPODA I

DIPLOPODA AND CHILOPODA

by

H. O. Bull

Univ. Newcastle upon Tyne

Rep.Dove Mar.Lab.

3rd Ser. 14 ; pp. 5 to 8

1964

ARTICULARIA

DIPLOPODA AND CHRYSOPODA

H. O. S. S.

U.S. National Museum

Washington, D.C.

1904

1904

Phylum ARTHROPODA Siebold & Stannius

CLASS DIPLOPODA Blainville-Gervais

Sub-Class PSELAPHOGNATHA Latzel

Order SCHIZOCEPHALA Verhoeff

POLYXENIDAE Gray & Jones

Polyxenus lagurus (L.)

Blower 1958, pp. 14-16, fig. 10.

Saltwick Bay, near Whitby (Jackson 1919).

CLASS CHILOPODA Latreille

Sub-Class EPIMORPHA Haase

Order GEOPHILOMORPHA Pocock

GEOPHILIDAE Leach

Strigamia (= **Scolioplanes**) **maritima** (LEACH)

Brolemann 1930, p. 128, figs. 178, 179 : Eason 1964, pp. 96-98, figs. 124-136.

"Farne Is. 10 Sep. 1911 ; St. Mary's Is. 11 Oct. 1911" (Bagnall 1916).

Common, H.W.M., in crevices of rocks St. Mary's Is. to Seaton Sluice ; St. George's Point, Cullercoats ; abundant, H.W.M. below boulders, Staples Is. 16 Jun. 1951 (H.O.B.).

SCHENDYLIDAE Verhoeff

[**Hydroschendyla submarina** (GRUBE)]

Brolemann 1930, pp. 87-9, figs. 69-80 : Eason 1964, pp. 64-68, figs. 42-55

Cloughton Wyke, Yorks., under rocks and weeds below H.W.M. (J. E. Smith vide Cloudsley-Thompson 1948).]

DIPLOPODA and CHILOPODA

REFERENCES

- BAGNALL, R. S., 1916. Report on the field meetings of the Natural History Society for 1911. Trans.nat.Hist.Soc.Northumb.n.s.4(2) ; 344-365. 1916.
- BLOWER, J. G., 1958. British millipedes (Diplopoda). Synops.Brit.Fauna No.11. Linn.Soc.Lond. pp. 1-74.
- BROLEMANN, H. W., 1930. Elements d'une faune des myriapodes de France. Chilopodes. Faune de France 25. Paris. pp.xx, 405.
- CLOUDSLEY-THOMPSON, J. L., 1948. *Hydroschendyla submarina* (Grube) in Yorkshire ; with an historical review of the marine Myriapoda. Naturalist, Lond. 827 ; pp. 149-152.
- EASON, E. H., 1964. Centipedes of the British Isles. London : F. Warne & Co. Ltd. pp.x,294. 8°.
- JACKSON, J. W., 1919. The bristly millipede at Saltwick Bay, near Whitby. Naturalist, Lond. 749 ; pp. 243-4.

Footnote : I am indebted to Mr. J. G. Blower (Dept. of Zoology, University of Manchester) for kindly looking at the sections dealing with the Diplopoda and Chilopoda and for making helpful suggestions.

The Marine Fauna of the Cullercoats District

2b

ARTHROPODA 2a

INSECTA ; APTERYGOTA

by

H. O. Bull

Univ. Newcastle upon Tyne

Rep.Dove Mar.Lab.

3rd Ser. 14 ; pp. 9 to 16

1964

CLASS INSECTA Linnaeus

Sub-Class APTERYGOTA Lang

Order COLLEMBOLA Lubbock

HYPOGASTRURIDAE Börner

Hypogastrura viatica (TULLBERG)

Bagnall 1941,p.220 (as *Achorutes subviaticus*) ; Strenzke 1955,pp.17-19, fig.2.

"Coast, near Roker" (Bagnall 1940b ; 1941) ; "Alnmouth Estuary, 1 only, Mar. 35 ; Warkworth, 1918." (Bagnall 1949).

Hypogastrura purpurescens (LUBBOCK)

Linnaniemi (Axelson) 1912,p.29, pl.3,figs.9-13 (as var. *litoralis* Axelson).

"Alnmouth, amongst driftwood Mar.35, a few." (Bagnall 1949 as *Lubbockiella litoralis*).

Xenylla humicola (FABRICIUS)

Strenzke 1955,p.20,fig.4.

"E. Coast at Saltburn, Yorks. ; Whitley Bay, Northumberland ; and Roker, County Durham." (Bagnall 1909).

BRACHYSTOMELLIDAE Stach

Friezea mirabilis (TULLBERG)

Bagnall 1939c,pp.189-190 (as *F.poseidonis*).

"Alnmouth, Mar.35 ; Seaton Sluice Mar.39 under stones embedded in silt below H.W.M." (Bagnall 1939c).

ANURIDIDAE Stach

Anurida thalassophila (BAGNALL)

Bagnall 1939a,pp.193-194 (as *Aphoromma t.*) ; Strenzke 1955,p.25.

"Whitley Bay, north of Briar Dene, Sep.38 ; Alnmouth, Mar.35 ; Seaton Sluice, one only Apr.39. Ryhope Dene, common, Jun.34 ; Banks of Tyne at Gateshead 18 Jun.39 (under deeply embedded stones on silt below H.W.M.)" (Bagnall 1939c).

Anurida denisi BAGNALL

Bagnall 1939b,p.101 ; Strenzke 1955,p.24.

" Roker, several, Oct.1912." (Bagnall 1939b).

Anurida maritima (GUÉRIN)

Strenzke 1955,p.23,fig.6.

" In pools at extreme low water, Roker, 15 Aug. 1900 " (Brady 1902): " Occurs in our northern counties " (Bagnall 1909): Tyne-mouth, common (Bagnall 1949, as *A. bisetosa*). Common in rock pools, Cullercoats (H.O.B.).

Anuridella marina WILLEM

Willem 1906,p.247,pl.1 ; Womersley 1930a,p.35 ; Strenzke 1955,p.25.

" Under very deeply embedded stones below H.W.M. Northumberland, between Seaton Sluice and St. Mary's Island ; Durham, at mouth of Ryhope Dene, one." (Bagnall 1934).

Anuridella immsiana BAGNALL

Bagnall 1939b,p.93 ; Strenzke 1955,p.27.

" Plentiful on the Durham coast, in numbers in sand below H.W.M. Whitburn, 10 and 11 Jun.39, both sexes." (Bagnall 1939c).

Anuridella submarina BAGNALL

Bagnall 1934,p.246,f.11 ; Strenzke 1955,p.26.

" Durham, Whitburn Jun.34 under stones lightly embedded in shingle below H.W.M. ; not more than 2 or 3 under each stone." (Bagnall 1934, 1939c).

ONYCHIURIDAE Börner

Onychiurus caledonicus BAGNALL

Bagnall 1935,p.61 ; Strenzke 1955,p.28.

Several from Firth of Forth : England, E. Yorks. : On the shore at foot of cliffs at Thornwick Bay, near Flamborough Sep.34." (Bagnall 1935).

Onychiurus halophilus BAGNALL

Bagnall 1937 ; Strenzke 1955,p.28.

" Cullercoats, under a rock below H.W.M. 16 Feb.39." (Bagnall 1939b).

Onychiurus debilis (MONIEZ)

Strenzke 1955,p.28.,fig.10

" I have found several isolated examples on the East Coast of England from Northumberland, Yorks." (Bagnall 1935).

Onychiurus furciferus (BÖRNER)

Bagnall 1935,p.63 ; Strenzke 1955,p.30 (as *O. scoticus*).

" Single examples from the coast of Durham (Ryhope) and E. Yorks (Flamborough)." (Bagnall 1935).

ISOTOMIDAE Börner

Folsomia garretti BAGNALL

Bagnall 1939a,p.26 ; Strenzke 1955,p.32.

"Alnmouth, not uncommon under rotting bark of a log embedded in mud of estuary below H.W.M. Apr.37 (types and paratypes) : Mouth of Ryhope Dene in numbers Jun.34." (Bagnall 1939a).

Archisotoma besselsi (PACKARD) [= *Isotoma spitzbergenensis* (LUBBOCK)]

Strenzke 1955,pp.37-39,fig.15.

"Amongst dried seaweed at Whitley Bay, Northumberland, and Saltburn, Yorks. These are the first English and most southerly localities recorded." (Bagnall 1909).

Archisotoma megalops BAGNALL

Bagnall 1939b,p.99 ; Strenzke 1955,p.39.

" Roker, Dec. 12." (Bagnall 1939c).

Archisotoma nigricans BAGNALL

Bagnall 1939c,pp.198-9 ; Strenzke 1955,p.41.

" Whitburn, coast, 10-11 Jun. 39. under stones embedded in more or less coarse, gritty sand below H.W.M." (Bagnall 1939c).

Proisotoma minuta (TULLBERG)

Strenzke 1955,p.34.

" Single specimen in dried seaweed on beach at Whitley Bay, spring 1907, taken by Professor Carpenter." (Bagnall 1909).

Subisotoma angularis (AXELSON)

Bagnall 1939a,p.25 ; Strenzke 1955,p.26.

" Northumberland : Coast at mouth of Briar Dene near Whitley Bay." (Bagnall 1939a).

Isotoma poseidonis BAGNALL

Bagnall 1939b,pp.96-97 ; Strenzke 1955,p.43.

" Cullercoats, several under rocks below H.W.M. 16 Feb.39. Alnmouth, under driftwood, 1 only, Feb.39." (Bagnall 1939b).

ENTOMOBRYIDAE Börner

Orchesella villosa (GEOFFROY)

Brown 1925,p.155,pl.IX ; Strenzke 1955,p.48 (as *O. litoralis* Brown).

"Among shingle between tide-marks, Runswick Bay (Yorks.) Aug. 1924." (Brown 1925).

Pseudosinella maritima (BAGNALL)

Bagnall 1941,pp.224-5 ; Strenzke 1955,p.48.

" Cullercoats Bay, 16 Feb.39 ; Alnmouth estuary 7 Apr.39, several. Ryhope, mouth of dene, in numbers Jun.34." (Bagnall 1941).

SMINTHURIDAE Lubbock

Sminthurides malmgreni (TULLBERG) var. *elegantulus* REUTER

Schött 1893,p.35,pl.2,figs.20,21,26.

" From a brackish pool near St. Mary's Island, Whitley Bay, and from a brackish ditch near the Greatham salt marsh, County Durham." (Bagnall 1909).

Bourletiella insignis (REUTER)

Schött 1893,p.26.

" On the surface of brackish water, Whitley Bay, Northumberland ; and Greatham, County Durham." (Bagnall 1909).

Bourletiella novemlineata (TULLBERG) var. *pilosicauda* (REUTER)

Schött 1893,p.27,pl.2,figs.1-4.

" I have seen this form once only, from a brackish pond (now filled up) near Whitley Bay, Northumberland." (Bagnall 1921).

Order THYSANURA Latreille

Petrobius maritimus LEACH

MACHILIDAE Verhoeff

Womersley 1930b,p.393.

"Farne Is. 10 Sep. 1911" (Bagnall 1916). Common under stones and crevices just above H.W.S.T. Holy Island (below Castle), Farne Is., Newton, Embleton, Boulmer, and at foot of cliffs St. Mary's Is., Whitley Bay. H.O.B.

Petrobius brevistylis CARPENTER

Womersley 1930b,p.390.

Common with last St. Mary's Is. H.O.B.

APTERYGOTA

REFERENCES

- AXELSON, W. M. (see Linnaniemi).
- BAGNALL, R. S., 1909. Short notes on some new and rare British Collembola. Trans.nat.Hist.Soc.Northumb.n.s.3(2); 495-509.
- BAGNALL, R. S., 1921. Contribution towards a knowledge of the Collembola. 1. Some new or little known Sminthuridae. Vasculum 7(1); 13-16.
- BAGNALL, R. S., 1934. Notes on British Collembola. Ent.mon.Mag. 70; 275-277.
- BAGNALL, R. S., 1935. Notes on British Collembola. Ibid.71; 61-63.
- BAGNALL, R. S., 1937. Scottish Onychiuridae II. Scot.Nat.; pp.87,145.
- BAGNALL, R. S., 1939a. Notes on Collembola. Ent.mon.Mag.75; 21-28.
- BAGNALL, R. S., 1939b. Notes on Collembola. Ibid.75; 91-102.
- BAGNALL, R. S., 1939c. Notes on Collembola. Ibid.75; 188-200.
- BAGNALL, R. S., 1940. Notes on Collembola. Ibid.76; 163-174.
- BAGNALL, R. S., 1941. Notes on Collembola. Ibid.77; 217-226.
- BAGNALL, R. S., 1949. Notes on Collembola. Ibid.85; 51-61.
- BRADY, G. S., 1902. On copepoda and other crustacea taken in Ireland and off the North East Coast of England. Nat.Hist.Trans.Newcastle. 14(1); 54-68.
- BROWN, J. M., 1925. On a new shore-dwelling Collembolan, with remarks on the British littoral species of Collembola. Ann.Mag.nat.Hist. (9)16; 155-160.
- LINNANIEMI, W. M. (AXELSON), 1912. Die Apterygotenfauna Finlands. II Spezieller Teil. Acta.Soc.Sci.fenn. 40(5); 1-359.
- SCHÖTT, H., 1893. Zur systematik und Verbreitung palaeartischer Collembolan. K.Svenske.Vetensk.Akad.Handl.25(11); pp.1-100.

- STACH, J., 1949. The Apterygotan Fauna of Poland in relation to the world-fauna of this group of insects. Families: Neogastruridae and Brachystomellidae. Acta Monogr.Mus.Hist.nat.Krakow, pp.1-341.
- STRENZKE, K., 1955. Collembola. In Grimpe, G., and Wagler, E. Tierwelt N.u. Ostsee XII₂; pp.1-52.
- WILLEM, V., 1906. Un nouveau Collembola marin (*Anuridella marina*). Mem.Soc. ent.Belg.12; 247-252.
- WOMERSLEY, H., 1930a. Notes on some new and rare British Collembola. Ent.mon. Mag.66; 33-41.
- WOMERSLEY, H., 1930b. Contributions to a study of the British Machilidae. Ann. Mag.nat.Hist. (10)5; 388-394.

INDEX TO GENERA

	Page		Page
<i>Achorutes</i>	11	<i>Isotoma</i>	13
<i>Anurida</i>	11	<i>Lubbockiella</i>	11
<i>Anuridella</i>	12	<i>Onychiurus</i>	12
<i>Aphoromma</i>	11	<i>Orchesella</i>	14
<i>Archisotoma</i>	13	<i>Petrobius</i>	15
<i>Bourletiella</i>	14	<i>Proisotoma</i>	13
<i>Folsomia</i>	13	<i>Pseudosinella</i>	14
<i>Friesea</i>	11	<i>Sminthurides</i>	14
<i>Hypogastrura</i>	11	<i>Subisotoma</i>	14
<i>Isotoma</i>	14	<i>Xenylla</i>	11

Footnote: This list has been kindly overseen by Mr. P. N. Lawrence (Dept. of Entomology, British Museum (Natural History) and Mr. E. Goto (Dept. of Zoology, Imperial College of Science & Technology, London) to whom I give grateful thanks.

The Marine Fauna of the Cullercoats District

2c

ARTHROPODA 3e8

CRUSTACEA ; EUPHAUSIACEA

by

Jo Bossanyi*

Univ. Newcastle upon Tyne

Rep.Dove Mar. Lab.

3rd Ser. 14 ; pp 17 to 24

1964

*Formerly Zoologist at the Dove Marine Laboratory, now Lecturer in Zoology,
The Polytechnic, Regent Street, London, W.1.

Order EUPHAUSIACEA Boas

EUPHAUSIIDAE Dana

Nyctiphanes couchii (BELL)

Adult : Holt & Tattersall 1905, p.104, pl.17 : Einarsson 1945, p.43, fig.16.

Juv. : Einarsson 1945, p.25, fig.9 : Lebour 1925, p.816, pls.1-5 : Lebour 1924, p.406, pls.1, 2, 3 and 6, figs.5-8.

In stomachs of 10 whiting caught in 25-40 fms. between Middlesbrough and Longstone (Carr 1909) : A number of early calyptopis 3-7 miles E. Beadnell, Sep. 1921 (Jorgensen 1926) : In plankton in area approx. 55° to $55^{\circ}30'N$ and from coast to 0° long. 8-14 Jul. 1922 (Savage 1926) : In moderate numbers in herring stomachs from area approx. $54^{\circ}45'$ to $55^{\circ}30'N$ and from coast to $0^{\circ}30'W$, May to Sep. 1922-3 (Hardy 1924) : 7 at $55^{\circ}10'N$, $1^{\circ}0'W$ over 52 fms. on 27 Sep. 1923 (Wimpenny 1933) : Found in small numbers within area approx. $54^{\circ}40'$ to $55^{\circ}20'N$ and from coast to 0° long. 24-29 Jun. 1926 ; also occasionally in small numbers in herring stomachs from off Shields, summer 1926 (Savage 1931) : In herring stomachs, Shields Ground, May-Sep. 1930-4 (Savage 1937) : An average of 2-6 adults and 0.6-1.9 cyrtopias per 10 cub. m. in plankton recorder catches for 1948 from area approx. $55^{\circ}30'$ to $55^{\circ}50'N$ and 0° to $2^{\circ}W$ (Glover 1952).

58 coll. S.J.A.B. 12 miles S.E. by S. of Tyne, surface, 9-10.45 p.m. 28 Mar. 1936 (Lab.coll.) ; 1 adult in coarse plankton net fished from rowing boat just outside Cullercoats Bay entrance 20 Feb. 1951 ; several adults in coarse net off Blyth 16 Mar. 1951 ; one adult in coarse net haul 20 fms. 5 miles E. Blyth lighthouse on 14 Jan. 1952 together with large numbers of *Thysanoessa* spp. ; 20 adults in coarse net haul at 12 fms. 1 mile E. Sow Buoy, Blyth, on 6 Mar. 1952 ; many adults and late cyrtopias in coarse net haul over 5 fms. Blyth Bay 24 Oct. 1952, together with *Thysanoessa* sp. Furcilia stages present, sometimes commonly, in bottom sledge-net hauls in 5 fms. Blyth Bay and in 14 fms. Cambois Bay N.E. from Sow Buoy summer 1950 and Apr. 1952 ; also in tow netting at latter locality Apr. 1952 ; 5 adult specimens in Hensen net haul off Farne Islands 22 Apr. 1953 (J.B.).

Meganctiphanes norvegica (M. Sars)

Adult : Holt & Tattersall 1905, p.105, pl.16 ; and p.102, pl.24, figs.6-9 (as

Euphausia lanei n. sp) : Einarsson 1945, p.41, fig.15. *Juv.* : Einarsson 1945, p.21, fig.8 : Lebour 1924, p.412, pls.4, 6, figs.1-4 : Lebour 1925, p.822, pls.6-9 : MacDonald 1927, p.785, pl.1

In plankton hauls off Shields in area approx. 55° to $55^{\circ}30'N$ and from coast to 0° long. 8-14 Jul. 1922 (Savage 1926) : In moderate

numbers (large in Sept. 1923) in May-Sept. 1922-3 in adult herring stomachs from stations in area approx. $54^{\circ}45'$ to $55^{\circ}30'N$ and from coast to $0^{\circ}30'W$ (Hardy 1924) : Relatively abundant in herring stomachs from Shields area, summer 1926 ; in plankton, young stages, not numerous, 31 May to 4 Jun. 1926 in area approx. $54^{\circ}40'$ to $55^{\circ}40'N$ and from coast to 0° long., and young stages 24-29 Jun. 1926 in area approx. $54^{\circ}40'$ to $55^{\circ}20'N$ and from coast to 0° long. principally E. of Sunderland, and 100 specimens in haul at $55^{\circ}33'N$, $1^{\circ}7'W$ on 4 Sep. 1926 (Savage 1931) : In herring stomachs, Shields Ground, May-Sep. 1930-4 (Savage 1937) :

One late cyrtopia in coarse net off Blyth 16 Mar. 1951 ; furcilia stages present in bottom sledge net hauls in 5 fms. Blyth Bay and in 14 fms. Cambois Bay N.E. Sow Buoy in summer 1950 and 1952 respectively ; also in tow netting at latter locality Apr. 1952 (J.B.) : Large adults abundant in beam and agassiz trawls 15 miles E. Blyth Oct. 1961 ; large numbers (thousands) living H.W. Blyth harbour 10 Nov. 1961 (H.O.B.).

Thysanoessa longicaudata (KRØYER)

Adult : Holt & Tattersall 1905, p.107, pl.15 : Einarsson 1945, p.45, fig.17 : Zimmer 1904, p.424, figs.18-21. *Juv* : Einarsson 1945, p.26, figs.10, 11.

One specimen in washed-up material at Redcar, 10-12 Feb. 1892 on which gulls had previously been feeding at sea (Norman 1892, Norman & Brady 1909) : "... the fully grown adult ... has been taken recently in Cullercoats Bay " (Jorgensen 1926) : Several hundred in midwater and bottom nets, May 1921, E. of Blyth and at Longstone, and a few in July 1921, E. of Blyth and off Newbiggin, also a few in Sep. E. of Beadnell (Jorgensen 1923, 1926) : An average of more than 10 furciliars of *Th. longicaudata* and *Th. inermis* combined per 10 cub. m. in plankton recorder catches from 1948 from area approx. $55^{\circ}30'$ to $55^{\circ}50'N$ and 0° to $2^{\circ}W$ (Glover 1952).

One, adult, Cullercoats Bay, 21 Jan. 1935, coll. S.J.A.B. id. H.O.B. (Lab.coll.) : One adult in coarse net haul at 20 fms. 5 miles E. Blyth lighthouse on 14 Jan. 1952, with large numbers of *Th. inermis* and *raschii* (q.v.) ; one adult in coarse net at 12 fms. 1 mile E. Sow Buoy, Blyth, on 6 Mar. 1952 ; furciliars present in bottom sledge net hauls in 5 fms. Blyth Bay summer 1950 and in 14 fms. N.E. Sow Buoy Apr. 1952 ; at latter locality also in tow netting (J.B.) : In stomachs of whiting caught in 20-35 fms. 8-12 miles E. to N.E. of Blyth, 31 Mar. 1954 and in Jun. 1955 (Goonewardene 1956).

Thysanoessa raschii (M. Sars)

Adult : Einarsson 1945, p. 51, fig. 20 ; Zimmer 1909, p. 11, figs. 13, 14 (as *Rhoda raschii*) ; Hansen 1911, p. 42, (no figs.). *Juv* : Einarsson 1945, p. 34, fig. 13 ; MacDonald 1928, p. 57, pl. 1-7.

An average of 0.6-1.9 adults, 0.6-1.9 cyrtopias and 0.1-0.5 furciliars per 10 cub. m. in plankton recorder catches for 1948 in area approx. 55°30' to 55°50'N and 0° to 2°W (Glover 1952).

About 150 adults in coarse net haul at 20 fms. 5 miles E. Blyth lighthouse 14 Jan. 1952, with about the same number of *Th. inermis* (q.v.) ; 2 adults in coarse net haul at 15 fms. 1 mile E. Sow Buoy Blyth, on 6 Mar. 1952 ; adults fairly numerous and some late cyrtopias in coarse net haul in Blyth Bay over 5 fms. on 24 Oct. 1952, together with *Nyctiphanes couchii* ; furciliars present in bottom sledge net hauls in summer 1950 in 5 fms. Blyth Bay and in 14 fms. N.E. Sow Buoy ; at latter locality also in tow netting, Apr. 1952 ; one female in Hensen net haul off Farne Islands on 22 Apr. 1953 (J.B.) : In stomachs of whiting caught by seine-net in 20-35 fms. 8-12 miles E. to N.E. Blyth Mar. to Dec. 1954 and May-Jul. 1955 (Goonewardene 1956).

Thysanoessa inermis (Krøyer)

Adult : Einarsson 1945, p. 46, figs. 18, 19 ; Hansen 1911, p. 8, (no figs.) : Sars 1883, p. 52, pl. 1, figs. 15-18 (as *Thysanoessa borealis* n.sp. and *Euphausia inermis* (Krøyer)). *Juv* : Einarsson 1945, p. 30, fig. 12 : Lebour 1924, p. 415, pl. 5, figs. 3-6 ; pl. 6, figs. 9-12 : Lebour 1926, p. 1, pls. 1-5.

" . . . young adults . . . have been taken in the plankton . . only once " off Northumberland coast (Jorgensen 1926) ; relatively abundant in herring stomachs off Shields, summer 1926 ; young stages, not numerous, in plankton 31 May to 4 Jun. 1926 in area approx. 54°40' to 55°40'N and from coast to 0° long., and young stages 24-29 Jun. 1926 in area approx. 54°40' to 55°20'N and from coast to 0° long. principally E. of Sunderland, and 200 specimens in haul at 55°33'N 1°7'W on 4 Sep. 1926 (Savage 1931) : An average of 2-6 adults and 0.1-0.5 cyrtopias, and of 10.0 or more furciliars of *Th. inermis* and *longicaudata* combined, all per 10 cub. m. in plankton recorder catches for 1948 in area approx. 55°30' to 55°50'N and 0° to 2°W (Glover 1952).

About 150 adults in coarse net haul at 20 fms. 5 miles E. Blyth lighthouse on 14 Jan. 1952, together with about the same number of *Th. raschii* (q.v.) ; 1 adult in coarse net haul at 12 fms. 1 mile E. Sow Buoy, Blyth on 6 Mar. 1952 ; furciliars present in bottom sledge net hauls in 5 fms. Blyth Bay, summer, 1950 and in 14 fms. N.E. Sow Buoy

April. 1952 ; at latter locality also in tow netting at same period ; one male in Hensen net haul off Farne Islands on 22 Apr. 1953 (J.B.) : In stomachs of whiting caught by seine-net in 20-35 fms. 8-12 miles E. to N.E. Blyth Mar. 1954-Jan. 1955 and May-Jul. 1955 (Goonewardene 1956).

Nematoscelis megalops G. O. Sars

Adult : Sars 1885,p.127,pl.23,figs.5-10 ; pl.24 : Zimmer 1909,p.16,figs. 24-27 : Hansen 1911,p.48,fig.18A. *Juv* : Frost 1935,pp.443 and 451, pls.12,13.

Several in washed-up material at Redcar on which gulls had previously been feeding at sea, 10-12 Feb. 1892 (Norman 1892, Norman & Brady 1909) : Large numbers dead, Cullercoats Bay and Whitley Bay, 23-25 Mar. 1918 (Jorgensen 1918).

A few specimens amongst washed-up mass of *Themisto* on sand in Cullercoats Bay 17 Jan. 1935 (H.O.B. in Lab. coll.).

EUPHAUSIACEA

REFERENCES

- BOSSANYI, J., 1957. A preliminary survey of the small natant fauna in the vicinity of the sea floor off Blyth, Northumberland. *J. Anim.Ecol.* **26** ; 353-368.
- CARR, A. M., 1909. The food and condition of fish obtained from the north-east coasts. *Rep.N.Sea Fish.Invest.Comm.* 1908-9 ; pp.41-50.
- CHENG, C., 1941. Ecological relations between the herring and the plankton off the north-east coast of England. *Hull Bull.mar.Ecol.* **1**(5) ; pp.239-254.
- EINARSSON, H., 1945. Euphausiacea. 1. Northern Atlantic species. *Dana Rep.* **5**(27) ; pp.3-185.
- FROST, W. E., 1935. Larval stages of the euphausiids *Nematoscelis megalops* G.O.S. and *Stylocheiron longicorne* (G.O.S.) taken off the south-west coast of Ireland. *Proc.R.Irish Acad.* **42B** (16) ; pp.443-458.
- GLOVER, R. S., 1952. Continuous plankton records : The Euphausiacea of the north-eastern Atlantic and the North Sea, 1946-8. *Hull Bull.mar.Ecol.* ; **3**(23) ; pp.185-214.
- GOONEWARDENE, T. P., 1956. The biology of the whiting (*Gadus merlangus* Linn.). Univ. of Durham Ph.D. Thesis 1956.
- HANSEN, H. J., 1911. The genera and species of the order Euphausiacea with account of remarkable variation. *Bull.Inst.océanogr.Monaco* No.210 ; pp.1-54.

- HARDY, A. C., 1924. The herring in relation to its animate environment, Part I. The food and feeding habits of the herring with special reference to the east coast of England. *Fish.Invest.Lond. Ser.II*, 7(3); pp.1-53.
- HOLT, E. W. L., & TATTERSALL, W. M., 1905. Schizopodous Crustacea from the north-east Atlantic slope. *Rep.Sea Int.Fish.Ire. 1902-3*, II 4(i); pp.99-152.
- JORGENSEN, O. M., 1918. "Faunistic notes." *Rep.Dove mar.Lab. n.s.* 7; p.65.
- JORGENSEN, O. M., 1923. Plankton investigations, 1921-2. Crustacea (1921). *Rep.Dove mar.Lab. n.s.* 12; pp.112-133.
- JORGENSEN, O. M., 1924. Plankton Investigations. Crustacea (1922-3). *Rep. Dove mar.Lab. n.s.* 13; pp.68-102.
- JORGENSEN, O. M., 1926. Some crustacean larvae from the Northumberland plankton. *Trans.nat.Hist.Soc.Northumb., n.s.* 6(2); pp.157-166.
- LEBOUR, M. V., 1924. The Euphausiidae in the neighbourhood of Plymouth and their importance as herring food. *J.mar.biol.Ass.U.K. n.s.* 13(2); pp.402-431.
- LEBOUR, M. V., 1925. The Euphausiidae in the neighbourhood of Plymouth, II. *Nyctiphanes couchi* and *Meganyctiphanes norvegica*. *J.mar.biol.Ass.U.K. n.s.* 13(4); pp.810-847.
- LEBOUR, M. V., 1926. The Euphausiidae in the neighbourhood of Plymouth, III. *Thysanoessa inermis*. *J.mar.biol.Ass.U.K. n.s.* 14(1); pp.1-21.
- MACDONALD, R., 1927. Irregular development in the larval history of *Meganyctiphanes norvegica*. *J.mar.biol.Ass.U.K. n.s.* 14(3); pp.785-794.
- MACDONALD, R., 1928. The life-history of *Thysanoessa raschii*. *J.mar.biol.Ass.U.K. n.s.* 15(1); pp.57-79.
- NORMAN, A. M., 1892. British Schizopoda of the families Lophogastridae and Euphausiidae. *Ann.Mag.nat.Hist., ser* 6, 9(54); pp.454-64.
- NORMAN, A. M., & BRADY, G. S., 1909. The Crustacea of Northumberland and Durham. *Trans.nat.Hist.Soc.Northumb. n.s.* 3(2); pp.252-417.
- SARS, G. O., 1883. Oversigt of Norges crustaceer med foreløbige bemaerkninger over de nye eller mindre bekjente arter. *For.Vidensk.Selsk.Krist. 1882* (18); pp.1-124.
- SARS, G. O., 1885. Report on the Schizopoda. *Rep.Sci.Res.H.M.S.Challenger. Zoology*, 13(3); pp.1-228.
- SAVAGE, R. E., 1926. The plankton of a herring ground. *Fish.Invest.Lond. ser. II*. 9(1); pp.1-35.
- SAVAGE, R. E., 1931. The relation between the feeding of the herring off the east coast of England and the plankton of the surrounding waters. *Fish.Invest. Lond. ser. II*, 12(3); pp.1-88.
- SAVAGE, R. E., 1937. The food of the North Sea herring. *Fish.Invest. Lond., ser. II*, 15(5); pp.1-57.
- WIMPENNY, R. S., 1929. Preliminary observations on the fat content of the Plankton on the English herring grounds in the North Sea. *Fish.Invest. Lond., ser. II*, 11(5); pp.1-23.

- WIMPENNY, R. S., 1933. Variations in North Sea plankton, 1923-4. Fish.Invest. Lond., ser. II, 13(3); pp.1-47.
- ZIMMER, C., 1904. Die arktischen Schizopoden. Fauna arct., Jena, III (3); pp.415-492.
- ZIMMER, C., 1909. Die nordischen Schizopoden. Nord.Plankt., VI; pp.1-179.

INDEX TO GENERA

		Page			Page
Meganyctiphanes	...	19	Nyctiphanes	...	19
Nematoscelis	...	22	Thysanoessa	...	20

INITIALS

S.J.A.B.	...	S. J. A. Bosanquet
J.B.	...	J. Bossanyi
H.O.B.	...	H. O. Bull

NOTE :—The presence of Euphausiacea in the area covered by the present fauna list, though without details as to species, is also reported in Jorgensen 1924, Wimpenny 1929, Savage 1931, and Bossanyi 1957, from net hauls and in Savage 1937 and Cheng 1941 from herring stomachs.

The Marine Fauna of the Cullercoats District

2d

CHORDATA 3

MAMMALIA ; CETACEA

by

W. Stephenson* & H. O. Bull

Univ. Newcastle upon Tyne

Rep.Dove Mar.Lab.

3rd Ser. 14 ; pp. 25 to 32

1964

*Formerly Naturalist at the Dove Marine Laboratory, now Professor of Zoology,
University of Queensland, Brisbane.

CLASS MAMMALIA Linnaeus

Order CETACEA Brisson

Sub-Order ODONTOCETI Flower

PHOCOENIDAE Bravard

Phocoena phocoena (L.)

Freund 1932, pp.46,47, figs.41,42; Fraser & Parker 1953, p.29; fig.26.

"Frequent under the promontories and in the deep bays" (Wallis 1769): "Abundant in our seas, associated in small herds . . . especially during the herring season. . . . We have seen it abundantly off nearly every part of our coast" (Meynell & Perkins 1864): 8 ft. specimen caught in salmon nets off Cullercoats 16 Aug. 1904 (Meek 1904a): 5 ft. specimen stranded 22 Jul. 1914, Blyth (Harmer 1915, 1927): Many caught in salmon drift nets, Cullercoats, 1917 (Meek 1918): Common off the mouth of the Tyne, salmon season, 1921; 5 ft. 8 ins. female in milk, with young male 2 ft. 9 ins., caught in salmon nets, Cullercoats, 10 Jun. 1921 (Meek 1921): 3 ft. 10½ ins. male stranded Tynemouth 28 Apr. 1925; 5 ft. male stranded South Shields 6 Aug. 1926; 4 ft. 7 ins. female stranded South Shields 20 Aug. 1926; 4 ft. 8 ins. male stranded Tynemouth 21 Aug. 1926; specimen stranded Seaton Carew 29 Oct. 1926 (Harmer 1927); 3 ft. 6 ins. specimen stranded Berwick 2 Jan. 1927; 4 ft. male and 5 ft. female stranded Berwick 13 Dec. 1927; 3 ft. 10 ins. female stranded Berwick 19 Oct. 1928; 3 ft. 6 ins. specimen stranded Berwick 7 Jan. 1929; 5 ft. specimen stranded Berwick 20 Nov. 1929; 4 ft. 9 ins. specimen stranded Berwick 26 Feb. 1930; 5 ft. specimen stranded Redcar 13 Jul. 1932 (Fraser 1934): 5 ft. 6 ins. male stranded Seahouses, 2 Jul. 1933; 3 ft. 9 ins. male stranded Berwick 27 Sep. 1933; 5 ft. 6 ins. specimen stranded Dene Holm (Durham) 10 Jul. 1934; 5 ft. specimen stranded Blyth 7 Sep. 1934; 4 ft. 6 ins. specimen stranded Seaton Sluice 20 Jul. 1936; 5 ft. specimen stranded West Hartlepool 24 Sep. 1936 (Fraser 1946): 7 ft. specimen stranded Berwick 26 Jul. 1938; 5 ft. specimen stranded 29 May 1939 (Fraser 1953): 5 ft. 4 ins. male stranded Blyth, 1 Sep. 1954; 5 ft. 8 ins. specimen stranded Seaham 6 Sep. 1954; 3 ft. 9 ins. specimen stranded Beal, Feb. 1955 (Fraser, personal communication): 3 ft. 9 ins. specimen stranded Druridge Bay 28 Jul. 1957; 4 ft. 9 ins. male stranded 24 Nov. 1957 North Sunderland harbour; 3 ft. 4 ins. specimen stranded Redcar 21 Jan. 1963 (Fraser 1959, and personal communication).

Common near the coast in summer, occasionally caught in salmon nets and freed after mutilation. (W.S.).

DELPHINAPTERIDAE Lacépède

Delphinapterus leucas (PALLAS)

Freund 1932, pp. 43-44, fig. 38; Fraser & Parker 1953, p. 24, fig. 21.

14 ft. 2 ins. male captured in salmon nets, South Shields sands,
10 Jun. 1903 (Meek 1903, 1904b).

DELPHINIDAE Gray

Orcinus orca (L.)

Freund 1932, p. 47, fig. 43; Fraser & Parker 1953, p. 27, fig. 24.

"Not uncommon off our coast . . . During the recent (1863) dredging expedition off the Northumberland coast when at work about twenty miles east of Berwick, we witnessed with much interest the gambols of many of this species, some of them of large size, which approached within a few yards of our steamboat" (Meynell & Perkins 1864). 20 ft. 6 ins. specimen stranded Blyth 10 Jul. 1943; 21 ft. 7 ins. male specimen stranded Druridge Bay 25 Dec. 1944 (Fraser 1953).

In early and mid July 1946, schools containing specimens up to 20 ft. in length severely damaged the nets of herring drifters about 40 miles N.E. by N. Tyne. (W.S.).

Pseudorca crassidens (OWEN)

Freund 1932, p. 48, fig. 44; Fraser & Parker 1953, p. 28, fig. 25.

15 ft. 6 ins. female stranded Berwick 3 Dec. 1935; 10 ft. 6 ins. specimen stranded Beal 5 Dec. 1935 (Fraser 1946).

Globicephala melaena (TRAILL)

Freund 1932, pp. 49, 50, figs. 45-47; Fraser & Parker 1953, p. 25, fig. 22.

35 specimens stranded near Howick Burn mouth 19 Mar. 1855, lengths 8 ft. to 18 ft. 9 ins., but mostly 14-16 ft.; included 18 ft. 9 ins. male and a "few" females of which one was lactating and four pregnant; lengths foetuses, 2 ft., $3\frac{1}{2}$ ft., $6\frac{1}{2}$ ft.; additional two specimens taken at Craster, and one at Berlin Carr (Tate 1854); 22 ft. specimen killed on shore Newton-by-the-Sea 31 Jan. 1872 (Hardy 1872); 14 ft. specimen stranded Burnmouth nr. Berwick Oct. 1875 (Hardy 1876); 11 ft. specimen stranded Brunton Burn 3 Mar. 1914 (Harmer 1927).

BREEDING.—Lactating female and four pregnant females stranded Howick 19 Mar. 1855; lengths foetuses 2 ft., $3\frac{1}{2}$ ft., $6\frac{1}{2}$ ft. (Tate 1854).

Lagenorhynchus albirostris GRAY

Freund 1932,p.51,figs.50-52 : Fraser & Parker 1953,p.31,fig.28.

Specimen captured off Berwick, skull seen 1881 ; skull of another picked up Newton-by-the-Sea 1895 (Hardy 1895) : 5 ft. 2 ins. male taken in salmon nets at the north side of the mouth of the Tyne 24 Aug. 1911 (Storror 1912) : 7 ft. 7 ins. specimen stranded Redcar, 11 Jul. 1914 ; 4 ft. 2 ins. female stranded Tynemouth 20 Aug. 1924 ; 9 ft. specimen stranded Hartlepool 25 Jul. 1926 (Harmer 1927) : 8 ft. 6 ins. specimen stranded at Morpeth (Blyth) (*sic*) 7 May 1927 ; 5 ft. 7½ ins. female stranded at Berwick 9 Apr. 1931 (Fraser 1934) : 9 ft. 2 ins. specimen stranded Holy Island 25 Sep. 1933 (Fraser 1946) : " Seen from ' Evadne ' on various occasions—off Blyth, Beadnell, and Craster." (B.S. in ms.). 8 ft. 4 ins. specimen stranded South Shields 8 Jul. 1947 ; 8 ft. 6 ins. male stranded 28 Jun. 1951 Bamburgh (Fraser, personal communication).

Commonly seen off the Northumberland Coast in July and August 1947 by Norwegian whalers. (W.S.).

Lagenorhynchus acutus (GRAY)

Freund 1932,p.53,fig.53 : Fraser & Parker 1953,p.32,fig.29.

One 7 ft. 11 ins. female stranded Seaham 18 Mar. 1941 (Fraser 1953).

One approx. 7 ft. specimen (tail had been cut off when seen), female, caught in salmon net, Cullercoats 4 May 1950 (H.O.B.).

PHYSETERIDAE Gray

Physeter catodon L.

Freund 1932,pp.38,39,figs.30,31 (as *P.macrocephalus* L.) : Fraser & Parker 1953,p.17,fig.14.

" Sperma-ceti-whale was cast on shore about twenty years ago at Hauxley, near Warkworth. It was fifty-four feet long Another of the same kind was found dead at sea, about forty-four years ago, by the fishermen of Cresswell, who towed it on shore with their boats " (Wallis 1769). Young specimen stranded Hartlepool over 200 years ago (Meynell & Perkins 1864).

Hyperoodon ampullatus (FORSTER)

Freund 1932,pp.40-41,fig.33 ; Fraser & Parker 1953,p.19,fig.16.

Fragments of skeleton of adult removed from Tyne at Newcastle at very low ebb tide May 1857. Specimen had probably " strayed up the river by some chance and died there " (Embleton 1858) : 28 ft. male

stranded Blyth, 11 Mar. 1914 (Harmer 1915) : One, male about 20 ft. stranded Seal Sands, R. Tees 8 Oct. 1958 (Fraser, 1959 and personal communication).

Mesoplodon bidens (SOWERBY)

ZIPHIIDAE Gray

Freund 1932, pp. 41-42, figs. 34, 35 : Fraser & Parker 1953, p. 21, fig. 18.

One, 15 ft. 2 ins. specimen, male, stranded West Hartlepool 26 Jul. 1940 (Fraser 1953).

Sub-order MYSTACOCETI Flower

Balaenoptera physalus (L.)

BALAENOPTERIDAE Gray

Freund 1932, pp. 33-35, figs. 23-25 : Fraser & Parker 1953, p. 12, fig. 10.

"One captured in 1831, near our own coast, measured 80 ft. in length" (Meynell & Perkins 1864 (as *Physalus antiquorum* Fischer)) ; 16 ft. specimen stranded Amble 12 May 1915 (Harmer 1927).

Balaenoptera acutorostrata LACÉPÈDE

Freund 1932, pp. 32-33, fig. 22 : Fraser & Parker 1953, p. 13, fig. 11.

16 ft. specimen (from description) female, caught Craster 6 Feb. 1858. Details from J. Hancock (Meynell & Perkins 1864) : 30 ft. female "swam blindly to the shore at Druridge Bay and was stranded" 19 Aug. 1902 (Meek 1902) : 28 ft. female stranded Marsden 7 May 1919 (Harmer 1921) : 14 ft. specimen stranded Amble 16 Apr. 1928 (Fraser 1934) : 25 ft. specimen came alongside "Evadne" while sampling, 15 m. E. Amble 27 Sep. 1928 (Storow, B., in Lab. Note Book) : 30 ft. specimen stranded West Hartlepool 22 Jun. 1932 (Fraser 1934) : Specimen stranded West Hartlepool 27 Jan. 1935 (Fraser 1946) : 9 ft. 7 ins. specimen stranded Seahouses 5 Feb. 1944 (Fraser 1953).

Specimen entangled in crab pot buoy line of Mr. H. Aitchison ("Braw Lads") off Berwick 6 May 1948 (W.S.) : Small numbers caught by Norwegian whalers in our area in summers of 1947 and 1948 (Stephenson 1951).

BREEDING.—Births chiefly in Nov. and Dec. but possible at any season (Stephenson 1951).

Megaptera novaeangliae (BOROWSKI)

Freund 1932, pp. 31-32, fig. 21 (as *M. boops*) : Fraser & Parker 1953, p. 11, fig. 9.

35-36 ft. female stranded 2 miles N. Berwick 19 Sep. 1829 ; a few weeks previously, 58 ft. specimen stranded Holy Island (Johnston 1831 as *Balaena boops*) : Specimen stranded Boulmer 19 Sep. 1891 (Hardy 1891).

CETACEA

REFERENCES

- EMBLETON, D., 1858. Memorandum of the occurrence of the skeleton of the bottlenose whale (*Hyperoodon butzkoff*, Lacepède), and of the skull of the grampus (*Delphinus orca* Cuvier) in the bed of the Tyne. Trans. Tyne-side Nat. Fld. Cl. IV ; pp.50-54.
- EMBLETON, R., 1867. Miscellanea Botanica et Zoologica. Hist. Berwicksh. Nat. Cl. V (5) ; pp.341-4. (Cetacea p.343).
- FRASER, F. C., 1934. Rep. Cetacea Brit. Csts. No.11. London : Brit.Mus. (Nat. Hist.).
- FRASER, F. C., 1946. Ibid. No. 12. London : Brit.Mus. (Nat.Hist.).
- FRASER, F. C., 1953. Ibid. No. 13. London : Brit.Mus. (Nat.Hist.).
- FRASER, F. C., 1959. Cetaceans stranded on the British coasts during 1957 and 1958. Bull.Mammal.Soc. No.11 ; 15-17. April, 1959.
- FRASER, F. C., 1963. List of whales stranded on the British coasts during 1962. Ibid. No. 19 ; March, 1963.
- FRASER, F. C., & PARKER, H. W., 1953. Guide for the identification and reporting of stranded whales, dolphins, porpoises and turtles on the British coasts. 2nd. edn. pp.viii, 42. London : Brit.Mus. (Nat.Hist.).
- FREUND, L., 1932. Cetacea. In Grimpe, G., & Wagler, E. (Ed.) Tierwelt N.-u. Ostsee, XIIk₁ ; pp. 1-64.
- HARDY, J., 1872. Zoological memoranda. Capture of a bottlenose (*Delphinus melas*). Hist.Berwicksh.Nat.Cl. VI (4) ; pp. 424-35.
- HARDY, J., 1876. Miscellanea Zoological. Bottlenose. Ibid. VII (3) ; p. 509.
- HARDY, J., 1892. Report of Meetings for 1891 : Berwick on Tweed. Ibid. XIII (2) ; pp. 320-324.
- HARDY, J., 1895. Another rare cetacean, *Delphinus albirostris*. Ibid. V (2) ; p. 296.
- HARMER, S. F., 1915. Rep. Cetacea Brit. Csts. No. 2. London : Brit.Mus. (Nat.Hist.).
- HARMER, S. F., 1921. Ibid. No. 7.
- HARMER, S. F., 1927. Ibid. No. 10.
- JOHNSTON, G., 1831. Some account of a whale stranded near Berwick upon Tweed. Trans.Nat.Hist.Soc.Northumb. I (1) ; pp. 6-8.
- MEEK, A., 1902. Faunistic Notes. The lesser fin-backed whale or rorqual. (*Balaenoptera rostrata*, Gray). Rep.Northumb. Sea Fish.Comm., 1902 ; pp. 71-3.
- MEEK, A., 1903. Note on the Beluga caught at the mouth of the Tyne. Ibid. 1903 ; pp. 61-62.
- MEEK, A., 1904a. Faunistic notes. Ibid. 1904 ; p. 86.
- MEEK, A., 1904b. Miscellanea. Note on the Beluga caught at the mouth of the Tyne. Trans.Nat.Hist.Soc.Northumb. n.s. I ; pp. 39-40. (reprint of Meek 1903).

- MEEK, A., 1918. The reproductive organs of Cetacea. J.Anat., Lond. 52 (3rd Ser. 13) ; pp. 186-210.
- MEEK, A., 1921. Faunistic Notes. Rep.Dove Mar.Lab., n.s. X ; p.110.
- MEYNELL, H. T., & PERKINS, V. R., 1864. A catalogue of the Mammalia of Northumberland and Durham. Trans.Tyneside Nat.Fld.Cl. VI ; pp. 111-117.
- STEPHENSON, W., 1951. The lesser rorqual in British waters. Rep.Dove Mar.Lab. 3rd ser. 12 ; 7-48.
- STORROW, B., 1912. Faunistic Notes. Rep.Dove Mar.Lab., n.s. I ; p.89.
- TATE, G., 1854. An account of a herd of round-headed porpoises, or caaing whales (*Phocaena melas*) which came ashore on the Northumberland coast on the 19th day of March. Hist.Berwicksh.Nat.Cl. III (5) ; pp. 176-80.
- WALLIS, J., 1769. The Natural History and Antiquities of Northumberland and of so much of the County of Durham as lies between the Rivers Tyne and Tweed. Vol. I, pp. xxvii, 438 (Chap. XI "Of Fishes" (includ. whales and shellfish), pp. 376-404).
- WRIGHT, J. (as J. W.). 1877. Rorqual. Nat.Hist.Trans.Northumb.Durh. V ; p.342.

INDEX TO GENERA

			Page			Page
Balaenoptera	...	...	30	Mesoplodon	...	30
Delphinapterus	...	...	28	Orcinus	...	28
Globicephala	...	...	28	Phocoena	...	27
Hyperoodon	...	...	29	Physeter	...	29
Lagenorhynchus	...	...	29	Pseudorca	...	28
Megaptera	...	...	30			

1964

Printed by W. L. Large & Sons Ltd.
Newcastle upon Tyne 6
