

Calanopia.

Pontellidae - Calanoidea,

Dana, 1852.

C. elliptica[⊕].

- Syn. Calanopia Dana, 1852, p. 1132,
Calanopia Brady, 1883, p. 84,
Calanopia Giesbrecht, 1892, p. 69, 441,
Calanopia Giesbrecht, 1889, c. p. 26,
Pontella (pars) Dana, 1846, p. 228,
Calanopia Giesbrecht, 1896, p. 326,
Calanopia Giesb. & Schmeil, 1898, p. 131.

- Calanopia Claus, 1893, p. 278.

♀. Abdomen 2-segmented, basal segt $\frac{3}{4}$ as long as terminal: 5th legs symmetrical, 3-segmented, 3rd. segt. with 4 spines, 4th spine the longest -

♂ Abdomen 5-segmented: right antenna prehensile, distal portion 5-segmented: left 5th leg longer than right - its 2nd basal segt triangular, its exopod with 1 seta.

CALANOPHIA DANA, 1852

(2)

- SATO & HIRANO, 1978: 151

- MAUCHLINE 1988: 713 - , FIG. 88, PORE SIGNATURE

- FERRARI 1991: 118

Calanopia americana Dahl, ♂, ♀, (1)

- — Dahl, 1894, p. 21: pl. 1, f. 23-26.
 — — Esterly, 1911, p. 222: pl. 2, f. 12, 15: pl. 3,
 f. 27, 32: pl. 4, f. 39.
 — — Giesbrecht & Schmeil, 1898, p. 132.
 — —, Owre, 1962

Habitat. Bermuda Islands, mouth of Amazon R.

- ~~(A. Scott)~~ (Dahl), off Rio de Janeiro (Farran), Caribbean
 Region (Wilson, 1942), Philippines (Wilson, 1950)
 (these are C. elliptica - TEB)
 — A. Scott, 1902: 407

- — T. Scott, 1912, p. 537: pl. 13. figs. 1-6.
- — A. Scott, 1909, p. 181: pl. 48, f. 11-15.
- — Farran, 1929, p. 274. Off Rio de Janeiro.
- — Wilson 1942, p. 172, fig. 2
- — Moore, 1949 (det. M. Sears), p. 61 (Bull. Bing Ocean)
- — Wilson, 1950, p. 174 (Philippines, 12 spec.)
(these are *C. elliptica*)
- — , Carvalho, 1952, p. 149, pl. 1, fig. 37-39. Bay of Santos, Brazil.
- — , Davis, 1950, p. 91 [table]. Gulf of Mexico. Off Biscayne Bay, Fla.
- — , Woodmansee, 1958, p. 256. Biscayne Bay, Fla.
- — , Jespersen, 1940, p. 67. South of Iceland (surface).
- — , Grice, 1960, p. 220. W. coast Florida.
- — , King, 1950, p. 129 [table]. W. coast Florida.
- — ^{A.G.} Fish, 1962, pp. 17-18. Barbados.
- — , Wickstead, 195, p. Barbados.
- — , Clarke, 1934, passim. Vertical movements at Bermuda.
- — . A González + Bowman, 1965. p. 254, fig. 5f-j

Calanopia americana Dahl, 1894

(2)

- --; Park, 1970, p. 478.
- , Bowman, 1971, p. 6 -
- , Bjornberg, 1971, p. 348
- , Bjornberg, 1963: 9, 58, 59, 94, 96, 99, 100 (table), III,
114, 120, table 17, 126
- , MOORE & SANDER, 1979: 200
- , TANAKA, 1964a: 250
- , TURNER, ET AL., 1979: 293, 294; TAB. 2, 3
- , MILSTEIN, 1979: 74
- , GAUDY, 1969: 43
- , BJORNBERG & WILBOR, 1968: 398, 399, 403, 405-406, 407-
410; FIG. 1, 4; TAB. 1-2

- , DEEVEY, 1971: TAB. 3
- , OWRE & FOYO, 1964b: 367
- , OWRE & FOYO, 1972: TAB. 3, 6
- , CALEF & GRICE (UNPUBL.) IN KETCHUM & RYDER
1966 (UNPUBL.): APPENDIX
- , DAVIS 1950: Tab. V-p. 91.
- , Cervigon & Marciano 1965: 281.
- , CARVALHO 1952: 149-150; Pl. 1, figs. 37-39.
- ~~in writing, 1972~~
- Wickstead, 1956: 15-16.

Calanopia americana Dahl, 1894

card 3

--, Turner, 1981, p. 369, tbl. 2

CALANOPIA --, DIAS + NOGUEIRA 1985: 54

-- SANDER + MOORE 1978: 232

-- YOUNG-BLUTH 1982: 120, BAHAMAS

-- YOUNG-BLUTH 1976: 489-491, PUERTO RICO

-- YOUNG-BLUTH 1979: 22, CARIBBEAN

-- YOUNG-BLUTH 1980: 265-287, PUERTO RICO

- Turner & Collard, 1980: 526-529

- Bjornberg, 1981: 659, fig. 222 #16

- Devey & Brooks, 19~~77~~: 265

-- FOSSHAGEN 1986: 630, BERMUDA CAVES

Calanopia americana Dahl, 1894

card 3

- Campaner 1986: 262-, s. Brazil shelf
- SUAREZ, F. & GASCA 1990: 62-, QUINTANA ROO, MEXICO
- SANTANA-BARRETO & NASCIMENTO-VIEIRA 1990: 89, BRAZIL
- ARAUJO ET AL. 1990: 99, OFF SERGIPE, BRAZIL
- REID 1990g: 189; ANTIGUA, MARTINIQUE, ST. LUCIA,
TRINIDAD/TOBAGO, VIRGIN ISLANDS.
- SUÁREZ M., E. 1992: 148-, W. GULF OF MEXICO
- SUÁREZ & GASCA 1991: 596-, GULF OF MEXICO
- SUÁREZ M., E. 1994c: 183-, TAB. 1, CHETUMAL BAY,
QUINTANA ROO, MEXICO

CALANOPIA AMERICANA DAHL, 1894

4

- ALVAREZ-CADENA ET AL. 1996: 700-702, TAB. 2, LAGOON, CARIBBEAN COAST, MEXICO
- MULYADI + UEDA 1996: 912-914
- FLEMINGER + KRAMER 1988: 538
- ALVAREZ-SILVA 1996: 19, TAB. 2, VERACRUZ, MEXICO

CAKANOPIA ASYMMETRICA MULYADI + UEDA, 1996

- MULYADI + UEDA 1996: 907-915, FIGS. 1-3, TAB. I,

SUNDA STRAIT OFF WEST JAVA, INDONESIA

Pontellidae - Calanoida,

Calanopia aurivillii Cleve, ♀, ♂ ①

— — Cleve, 1901, p. 5, 37: pl. 2, f. 17-23: pl. 3, f. 1-10.

— —, Thompson & Scott, 1903, p. 251.

— —, A. Scott, 1909, p. 181: pl. 48, figs. 16-20.

— —, Sewell, 1914, p. 232.

— —, Fruchtl, 1924, p. 57. Wokam, Ara Archipelago.

Habitat. Malay Archipelago: Indian
Ocean: Ceylon.

— — Farran, 1929, p. 273.

— — Sewell 1932, p. 341.

-- -- Bowman, Thomas E. 1957, p. 39.

---, ---, Saraswathy, 1967, p. 85

--, Cleve, 1901, p. 5, pl. 2, 3

--, ~~Thomp~~ Rose, 1956, p. 461, C. Aurivilkei

--, Fruchtl, 1924, p. 57

--, Bjornberg, 1963: 100 (table), *table 17*

--, TANAKA, 1964a: 250

--, GAUDY, 1969: 43

-- UYEY KASAHARA 1978: 113.

CALANOPIA AURIVILLII CLEVE

CARD 2

-- MADHUPRATAP & HARIDAS, 1986: 109-INDIAN OCEAN

-- MULYADI & UEDA 1996: 912-914

Calanopia australica Bayly ~~et. al.~~ & Greenwood, 1966

-- -- Bayly, ~~et. al.~~ ^{Greenwood} 1966. pp.99-105., fig 1A-F, 2A-P

--, GREENWOOD, 1979: 94

--, GAUDY, 1969: 43, 44, 45, 47

- Bayly, 1980: 7, 10

- Greenwood, 1982a: 52

- Greenwood, 1982b: table 3

-- MUCYADI + UEDA 1996: 912-914

Calanopia biloba Bowman

-- -- Bowman, 1957. pp. 40-44, fig. 1-3

Calanopia elliptica (Dana), C. B. Wilson, 1942, p. 172

--, Bjornberg, 1971, p. 348

--, GAUDY, 1969: 43, 45

-- MUKYADI & UEDA 1996: 912-915

Pontellidae - Calanoidae.

Calanopia brachiata (Dana), ♂. 1849

f 8-a-b, f 9a-g.

— — Dana, 1852, p. 1133: pl. 79, f. 7, a-b,

Pontella — Dana, 1849, a. p. 27,

A synonym of Centropages brachiatus.
(Brady, 1883, p. 82),

Habitat. Cape of Good Hope.

— — (= *Centropages brachiatus*) Giesbrecht, 1892,

p. 304

--, Arcos, 1975, p. 20

Pontellidae - Calanoida.

Calanopia elliptica (Dana) ♀, 1849

Calanopia Dana, 1852, p. 1132; pl. 79, f. 6, a-b.

Calanopia — Thompson & Scott, 1903, p. 251.

— — Giesbrecht, 1896, p. 325; pl. 5, f. 7-9.

Pontella — Dana, 1849, a, p. 27,

— Thompson, 1900: 282

Habitat. Indian Ocean: Philippines:

Hong Kong; Red Sea. East China Sea. ^{Arabian Sea - Persia.}

Calanopia — Tanaka, 1953, p. 136 (in list). Izu Region, Japan.

— —, MORI, 1937, p. 89, JAPAN SEAS.

- Calanopia — Brady, 1883, p. 85: pl. 34, f. 1-9.
— — Giesbrecht, 1889, c, p. 26.
— — Claus, 1863, p. 211.
— — Giesbrecht, 1892, p. 441: pl. 31, 38, 43.
— — Giesb. & Schmeil, 1898, p. 132.
— — Cleve, 1901, p. 5, 40: pl. 3, f. 11-19: pl. 4, f. 1-
— — Wolfenden, 1905, p. 1023.
— — A. Scott, 1909, p. 177: pl. 48, figs. 1-5.
— — Sewell, 1912, p. 368: 1914, p. 231.
— — Pesta, 1912, p. 50, t. fig. 40[♀]: 1913, p. 32.
— — Gurney, 1927, p. 154: fig. 21, A-D.
— — Wilson, ¹⁹⁴² p. 172, fig. 10; 1950, p. 175
— — Sewell 1932, p. 341; 1947, p. 248
— — Krishnaswamy, 1953, p. 138
— — Mori, 1937, p. 89, pl. 40, fig. 3-8. New Japan in East China Sea.

CALANOPIA ELLIPTICA (DANA)

CARD 3

- DAS ET AL. 1982:53.
- UYEY & KASAHARA 1978:113
- Dakin & Colefax, 1940: 105, fig. 156a-d.
- Tanaka, 1965a: 31, fig. 23a-c
- Binet & Dessier, 1968:14
- De Decker, 1984:317
- MADHUPRATAP & HARIDAS, 1986:109
- MICHEL ET AL. 1986:35, ARABIAN GULF
- MICHEL ET AL. 1986:75, ARABIAN GULF
- Greenwood, 1982b: table 3

- Morgyakova & Campos, 1966: 132 (Cuba)
- Tafe & Griffiths, 1983: 112 Australia
- MAUCHLINE 1988: 713-, FIG. 8B, PORE SIGNATURE
- BANSTEDT 1986: 26-
- LE BORGNE 1986: 111-
- LAKKIS 1984: 289-, E. MEDITERRANEAN; FIG. 8E-G
- MICHEL & HERRING 1984: 328-, ARABIAN GULF
- DEFAYE 1988: 104, TAB. 1, ETHIOPIA
- BINET & DESSIER 1968: 14. OFF MADAGASCAR.
- OKEMWA & REVIS 1986: 31, TAB. 1, KENYA COAST.
- MUKYADI & UEDA 1996: 908, 912, 914, 915

CALANOPIA ELLIPTICA (DANA) (2)

- Mori, 1942: 554, 571
- —, Sewell, 1947, p. 248, ARABIAN SEA AREA.
- — Ummerkutty, 1967, pp. 332-343.
- —, Saraswathy, 1967, p. 85
- —, Chiba, 1956, p. 41
- —, Cleve, 1901, p. 5, pl. 3, 4
- —, Berdugo, 1968, pp. 445.
- —, Rose, 1955, p. 391
- —, Rose, 1956, p. 461
- — Pillai, P.P., 1971, p. 165.
- —, GAJDOY, 1969: 43

- , Brodsky, 1972, p. 256
— A. Scott, 1902: 406
--, Fruchtl, 1924, p. 56
--, Furuhashi, 1961: 13, 108
--, Bjornberg, 1963: 100 (table), Table 17
--, TANAKA, 1964a: 250-251 ♀♂, 252
--, HIROTA, 1977: 45; TAB. 1
--, GREENWOOD, 1979: 94-95
--, Chiba & Hirakawa 1972: 74, 78; Tab. 2.
--, Sreekumaran et al 1981: passim
— Chen, 1980: table 1
— Marikova & Campos, 1967: 68
--, MATSuo & MARUMO, 1982: 89, 93, 97

CALANOPIA ELLIPTICA (DANA)

CARD 4

-- FLEMINGER + KRAMER 1988:537

Pontellidae - Calanoida

Calanopia herdmani A. Scott. ♂. ♀.

— — A. Scott, 1909, p. 179: pl. 49, f. 9-16.

— — Sewell 1932, p. 341, Indian Ocean

— — Fruchtl, 1924, p. 22, fig. 13. Aru-Archipel., betw. Udjir & Wokam.
p. 56-57.

— —, Rose, 1956, p. 461 C. Herdmani Thompson & Scott

Habitat. Malaysia.

— —, Fruchtl, 1924, p. 56

— —, Bjornberg, 1963: 100 (table)

- , TANAKA, 1964a: 250
- , GAUDY, 1969: 43
- , Walter & Pasamonte, 1982, p. 447
Talaue
- MADHUPRATAP + HARIDAS, 1986: 109
- MULYADI + UEDA 1996: 907, 912-915, TAB. I

Calanopia herdmani var. mertoni

---, Fruchtl, 1924, p. 57

— Fruchtl, 1924 p. 22, fig 13.

Pontellidae - Calanoida

Calanopia media Gurney ♀♂.

— — Gurney, 1927, p. 153: fig. 20, A-F.

-- , Berdugo, 1968, p. 445.

--, Rose, 1956, p. 461

--, Bjornberg, 1963: 100 (table)

Habitat. Suez Canal.

- FLEMINGER + KRAMER 1988: 537

--, GAUDY, 1969: 43

- LAKKIS 1984: 289, E. MEDITERRANEAN; FIG. 8A-D

- MULYADI + UEDA 1986: 912-915

Montellidae - Calanoidea.

Calanopia minor A. Scott, ♀. ①

— Mori, 1942: 554, 571, 401

— — A. Scott, 1902, p. 406: pl. 1, figs. 1-5

— — Thompson & Scott, 1903, p. 251.

— — Cleve, 1903, p. 356.

— — Wolfenden, 1906, p. 1023.

— Chen & Yin, 197—: 274

Habitat. Indian Ocean: Malay Archipelago: Ceylon: Burma.

—, GADSDY, 1969: 43

—, SreeKumaran, et al, 1981: passim

- A. Scott, 1909, p. 177: pl. 48, figs. 6-10
-- Pesta, 1912, p. 51: fig. 11, text.
-- Sewell, 1912, p. 368: 1914, p. 232.
-- Sewell 1932, p. 342
-- Tanaka, 1953, p. 136 (in list). Izu Region, Japan.
-- Decker, 1964. pp. 17-18. South Africa
-- Brodsky, 1962. p. 146, fig. 46
-- DeDecker, 1962, p. 101
-- Rose, 1953, p. 457
-- Rose, 1956, p. 461
-- Furuhashi, 1961: 108
-- Bjornberg, 1963: 100 (table), table 17
-- TANAKA, 1964a: 250, 251-252 ♀♂, FIG. 230
-- JOHNSON, 1954: 309

CALANOPIA MINOR A. SCOTT

CARD 2

- , MATSUO + MARUMO, 1982: 89, 93, 97
- DAS ET AL. 1982: 53
- Binet & Dessier, 1968: 9
- DeDecker, 1984: 317
- - MADHUPRATAP & HARIDAS, 1986: 109 - INDIAN OCEAN
- - MICHEL ET AL. 1986: 35, ARABIAN GULF
- - MICHEL ET AL. 1986: 75, ARABIAN GULF
- - MICHEL & HERRING 1984: 328-, ARABIAN GULF
- - MADHUPRATAP ET AL. 1991a: 951-, LACCADIVES

CALANOPIA MINOR A. SCOTT

CARD 3

- BINET + DESSIER 1968:9 . OFF MADAGASCAR
- DE DECKER 1964:20, TAB. 3-4
- MULYADI + UEDA 1996: 912-914

CALANOPSIS PARATHOMPSONI GAUDY, 1969

-- GAUDY, 1969: 45-47 ♀♂; FIG. 1-12; 340:

C. THOMPSONI, GAUDY, 1967

-- MUKYADI + UEDA 1996: 907, 912, 914

Pontellidae-Calanoida

Calanopia sarsi Wilson

Wilson, C.B., 1950, pp. 175-176, Pl. 5, figs. 30-33

--, GAUDY, 1969: 43

- MUKYADI + UEDA 1996: 912-915

Calanopia sewelli n.sp.

-- -- Jones & Park, 1967, pp. 243-248.

--, GAJDY, 1969: 43, 44, 45, 47

-- MULYADI & UEDA 1996: 908, 912, 914

Calanopia seymouri Pillai

- -- Pillai, 1969, pp. 1-2, fig. 1
✓ - MADHUPRATAP & HARIDAS, 1986: 109, 112-INDIAN OCEAN
-- MUKYADI & UEDA 1996: 907, 912, 914

Forreriidae - Calanoida
Calanopia thompsoni A. Scott. ♀, ♂. ①

— — Scott, 1909, p. 178: pl. 49, figs. 1-8.

— — Sewell, 1912, p. 368: 1914, p. 232.

— — Sewell, 19³²~~20~~, p. 342: figs. 112-115.

— — Nicholls 1944, p. 12, S. Australia

Sewell 1932 gives descriptions of immature forms

Habitat. Malay Archipelago: Ceylon: Burma.

— —, Mori, 1937, p. 89-90, pl. 40, figs. 9-13. Ki-Channel, Japan.

— —, Tanaka, 1953, p. 136 (in list). Izu Region, Japan.

--, Mori, 1937, P. 89, JAPAN SEAS.

--, Saraswathy, 1967, p. 84

--, Chiba, 1956, p. 40

--, Rose, 1955, p. 391

C. Thompsoni, Rose, 1956, p. 461

-- Chen, 1980: table 1

--, Shen & Lee, 1963, p. 582

--, Brodsky, 1972, p. 256

--, Bjornberg, 1963: 100 (table)

--, TADAKA, 1964a: 250

--, HIROTA, 1979a: 14; Fig. 3

--, GAUDY, 1966: 43, 44, 45, 47

--, CHENG et. al. 1965: 1-2.

Calanopia thompsoni A. Scott, 1909

card 2

--, Kasahara, S., S. Uye, & T. Onbé, 1974, p. 170, figs
1&2

--, Kasahara, S., S. Uye, & T. Obné, 1975, p. 27, fig. 3

--, Grice & Marcus, 1981, passim

--, Walter ^{Talaya} & Tasamonte, 1982, p. 447

— Hirota, 1969 b: passim.

-- UYE & KASAHARA 1978:116

- UYE 1984/6:165

-- MADHUPRATAP & HARIDAS, 1986:109-INDIAN OCEAN

Calanopia thompsoni A. Scott, 1909

card 3

-- Shen & Lee 1966: 214 - China

-- LI & FANG 1984: 391-397, FIGS. 1-51, DEVELOPMENT

— UYE, 1985: 441, Pl. 1

- OHTSUKA ET AL. 1987: 554

- CHEN, Q-C 1986: 526-

- UMMERKUTTY 1966d: 305-306, FIG. 3, ABNORMAL ♂,
SE INDIA COAST

- UYE ET AL. 1987: 428-, INLAND SEA, JAPAN

- MADHUPRATAP ET AL. 1991a: 951

Calanopia thompsoni A. Scott, 1909

card 4

-- Ban & Minoda 1992: 54

-- Mulyadi + Ueda 1996: 908, 912, 914

Calanopia sp.

- , Fleming, 1967, p. 30
- , Bjornberg, 1963: 116, 128
- , BAYLY, 1965: 330, 339
- , Moore & Sander, 1976, p. 594 (tbl 3 for species ref.)
- Kimmereer, et al, 1985: table 3
- MADHUPRATAP ET AL. 1991a: 951-, LACCADIVES

Calanidae - Calanoida.
Calanops = synonym.

Claus, 1863

C. messinensis ^(M)

Syn. Calanops Claus, 1863, p. 211.

Calanops Giesbrecht, 1892, p. 497.

Pseudopontia Claus, 1892, p. 864

Pseudopontella Claus, 1893, p. 278

Pontellina Giesb. & Seb., 1898, p. 149

A synonym of Pontellina

Head separate from thorax, body almost
globose: inferior eye small, least pedun-
culate: superior eyes very small, lacking
corneal lenses - 20 antennae elongate.
apical part of inferior maxpds. 4-jointed.

Calanops changed to Pseudopontea by Claus
himself in 1892. This name preoccupied
for genus of Terepidoptera, so changed again
by Claus to Pseudopontella in 1893. This
last said by Cressb. & Sch. to be identical
with Pontellina

Calanidae - Calanoida

Calanops messinensis Claus, ♂, ♀.

— — Claus, 1863, p. 213: pl. 2, 3, 6. 37.

— — Carus, 1885, p. 340.

— — Giesbrecht, 1892, p. 497:

--, (= PONTELLINA PLUMATA), VERVOORT, 1965: 190

Habitat. Mediterranean.

Calanus valid

Leach, 1819. C. finmarchicus (M)

Syn: Cetochilus, Vauzème, 1834, p. 337.

Calanus, Leach, 1819, p. 539

Calanus, Boeck, 1865, p. 230.

Calanus, Dana, 1849^b, p. 278; 1846, p. 227.

Kálanos, a Brahmin mentioned in Plutarch.

Calanus, Wheeler, 1901, p. 164.

Monoculus (pars) Gummer, 1765.

Cyclops (pars) Müller, 1785: 1776.

Body slender, ant. division twice as long
as posterior. Head separate from 1^o segt.
Caudal rami in ♂ articulated so as to be spread
outward - 1^o antennae longer than body; 2^o
antennae with 7-jointed exopod. - Nymphs.
with terminal part longer than basal, and
5-jointed.

- syn. Cetochilus, Claus, 1863, p. 169; 1881, p. 10. Calanus (2)
- Calanus, Brady, 1883, p. 30; 1878, p. 37.
- Calanoides, Brady, 1883, p. 74.
- Undina, Brady, 1883, p. 52.
- Undina, Dana, 1852, p. 1047; 1849^a, p. 279.
- Calanus, Giesbrecht, 1892, p. 45, 88, 725.
- Calanus, Dahl, 1894, p. 61.
- Calanus, Dahl, 1898, p. 13.
- Calanus, Fisterly, 1905, p. 123.
- Calanus, Sars, 1901, p. 8.
- Calanus, Templeton, 1836, p. 195.

Cetochilus M-Edwards, 1841, p. 336.
Cetochilus Goodson, 1843, p. 336.

Cetochilus Baird, 1850, p. 233.

Hemicalanus (pars) Dana, 1852, p. 1103.

Calanus Krøyer, 1849, p. 527.

Calanus Tubbock, 1854, p. 126; 1856, p. 8.

1857, p. 403; 1860, p. 4.

Undina Tubbock, 1856, p. 15; 1860, p. 7.

Calanus Lilljeborg, 1875, p. 6; 1888, p. 155.

Calanus Brady & Robertson, 1876, p. 196.

Calanus G.O. Sars, 1877, p. 363.

Cetochilus T.J. van Beneden, 1861, p. 121.

Calanus Streets, 1877, p. 139.

Calanus Norman, 1878, p. 4: 1868, p. 299.

not Calanus Claus, 1881, p. 10.

Calanus Trybom, 1881, p.

Calanus Giesbrecht, 1882, p.

Calanus Schneider, 1884, p.

Calanus Poppe, 1884, p. 282.

Calanus Möbius, 1884, p. : 1887, p.

Calanus Aurivillius, 1886, p.

Calanus Malcolmson, 1886,

Calanus G.O. Sars, 1886, p. 76.

- Calanus Kölbl, 1886, p. 1886, p.
Calanus I.C. Thompson, 1888, p. 139; 1889, p.
Calanus Giesbrecht, 1888, p. 330; 1889, p. 164.
Cetochilus Claus, 1866, p. 3.
Cetochilus Norman, 1867, p. ; 1868, p. 299.
Cetochilus Carpenter & Jeffreys, 1871, p. 172.
Calanus Brady, 1872, p.
Calanus Brady & Robertson, 1873, p.
Cetochilus Maitland, 1874,
Cetochilus Buchholz, 1874, p. 391.
Cetochilus Möbius, 1875, p.

Calanus Brady, 1878, p. : 1879, p. : 1882, p.

Cetochilus Hoek, 1876, p. : 1878, p.

Cetochilus Gourret, 1889, p. 474.

Cetochilus Bourne, 1889, p. : 1890, p.

Calanus (pars) Dana, 1852, p. 1044, 1047.

Calanus Claus, 1863, p. 172

CALANUS Leach, 1819

card 5

- , TANAKA, 1956a: 251, 252, 259, 260, 261, 262, 263, 264
- , MAJCHLINE & Nemoto, 1977: 108, 114
- , GAULD, 1966: 313-33 (SWIMMING & FEEDING)
- , DANA 1846: 227.
- , CHATTON 1911: 1.
- , Vives, 1978, p. 88
- , Boxshall, 1982, p. 147. 151, 153, 154, 155, 171, 177
- , Jachnov, 1959, p. 1743
- , McLaren, 1967, p. 975-978

Calanus Leach, 1819

card 6

- , NICHOLS 1933: 46-49
- , Gardner & Szabo, 1982, pp. 25, 135.
- , FERRARI, 1984: 173,
- , KOGA 1973: 36, FIG. 10-1, NAUPLIUS
- , KOGA 1984b: 95-229, NAUPLIUS; FIGS 2-1, 59(1-6)
- , BRESCIANI, 1986: 131, 139, 142 - TEGUMENT
- , SCHRAM 1986: 448, 462 - 463
- , ANDERSON & ROSSITER 1969a: 472
- , CLAUS 1893e: 332

CALANUS LEACH, 1819

CARD 7

- VINCK + HEIP 1979: 295

- PETIPA 1975: 32 - 47, FEEDING MECHANISMS

- ZIEGELMAYER 1925: 494

- ZAMORA SANCHEZ 1974: 46

- VYSHKUARTZEVA 1972b: 161-171, MANDIBLES

- MAUCHLINE 1988: 719-, FIG. 12A, PORE SIGNATURE

- OHTSUKA ET AL. 1987: 60

- BAMSTEDT 1986: 8-

- SARGENT + HENDERSON 1986: 59-

Calanus Leach, 1819

card 8

- Björnberg 1986: 56-, fig. 5b, 8, nauplius
- SHIH 1986: 109-
- BOXSHALL 1986: 161
- BJÖRNBERG 1986 (IN KABATA-ED.): 199
- BJÖRNBERG, T. 1986b: 232-
- POULET ET AL. 1986: 435-
- RUNGE & MYERS 1986: 446
- KABATA 1988b: 8, DERIVATION OF NAME
- BRADFORD 1988: 73-81, LIMITS OF GENUS
- HUNTLEY 1988: 83-, FEEDING BIOLOGY

Calanus Leach, 1819

card 10

- Turner, J.T. 1984d:5-, feeding biology

- MONTA' 1989:38-, FIG. 1, FEEDING-REVIEW; FIG. 4A

VYSHKVA RTZ EVA 1989b:14-

- BRODSKY 1972:8-107, REVISED GENUS

Calanus, subgenera Calanus, Neocalanus, Tropocalanus,
Carinocalanus Brodsky, 1972

- . BRODSKY 1972: 8-107

- Brodsky's subgenera discussed and rejected by
Bradford, 1988: 74-

Calanidae - Calanoidae

Calanus aculeatus Brady, ♀

— — Brady, 1918, p. 14: pl. 9, figs. 19-23.

Habitat, Lusitania Bay, Tasmania

Calanidae - Calanoida.

Calanus acutus Giesbrecht, ♀.

— — Giesbrecht, 1902, p. 17: pl. 1, figs. 10-14.

— — T. Scott, 1912, p. 528.

— — Wolfenden, 1908, p. 10: pl. 1, figs. 9-10.

Galanoides acutus, Tanaka, 1960. pp. 14-16, pl. 3, fig. 1-9

Habitat. Antarctic Ocean.

— — Brodsky, 1967 p. 191

— — Brodsky, 1965: 28

--, BRODSKY, 1976: 6

- Wolfenden, 1911, p. 192
- Farran, 1929, p. 216: fig. 2, text.
- Vervoort, 1951, p. 41-57 - Fig. 25-33. ANTARCTIC WATERS.
- --, Brodsky, 1962. pp. 709-712
- --, Brodsky, 1960. p. 12
- --, Brodsky, 1964. pp. 224-233
- -- Brodsky, 1967, p. 1444
- -- Brodsky, 1967: 222
- , Heinrich, "The life histories, ..", p. 16, 20
- (Calanoides) -, Brodskii, 1967, p. 191-
- " -, Brodskii, 1964, p. 227-239
- , Cushing, 1951, p. 166
- , Bjornberg, 1963: 100 (table)
- , VYSHKVA RTZEVA, 1977: 17

CALANUS ACUTUS

CARD 2

- BRODSKY 1972: 8-107, FIGS.
- VYSHKUARTZEVA, 1976: 23, 25, 26, 33, 35, 36, 41, 44, 45, 48, 50, 53, 55; TAB. 1, 3, 4, 6, 8, 9, 11, 13, 14, 16; FIG. 7.
- VYSHKUARTZEVA, 1977: 97, 125, 130, 131; FIG. 19, 30
- Bradford, 1971, pp 15-16, fig. 7.
- Zvereva, 1975: 251
- MINODA + HOSHIAI, 1982: 32-37, SOUTH GEORGIA
- VYSHKUARTZEVA 1972b: 162-171, FIGS. 5(4a-b)
- LE BORGNE 1986: 142-
- MONTU' 1989: 41-, FEEDING

CALANUS ACUTUS GIESBRECHT

③

Calanidae - Calanoida.

Calanus affinis Dana, ♀.

— — Dana, 1849^a, p. 15

— — Dana, 1852, p. 1067: pl. 73, f. 8, a-c.

not — Krøyer, 1849, p. 544; 553; 607: pl. 41.

— — Giesbrecht, 1892, p. 298 (position doubtful).

Habitat. Ocean near Sumatra.

— — Giesbrecht & Schmeil, 1898, p. 51.
(position doubtful)

Calanidae - Calanoida.

Calanus affinis Krøyer,

— — Krøyer, 1842-45, pl. 41, §. 5 (no text).

— — Krøyer, 1848, p. 544:553:607: pl. 41.

A synonym of Calanus finmarchicus.

(With, 1915, p. 10).

— — (= C. finmarchicus) Giesbrecht, 1892, p. 89.

Calanidae - Calanoida.

Calanus amaenus Dana, ♀.

- — Dana, 1849a, p. 18; 1849, b. p. 278.
- — Dana, 1852, p. 1076: pl. 74, f. 8, a-b.
- — (= C. vulgaris) Giesbrecht, 1892, p. 92.

Habitat. Pacific near Samoa Islands.

Calanidae - Calanoidae.

Calanus americanus Herrick, ♀.

COAST

— — Herrick, 1887, p. 6: pl. 1. FIG. 9, ALABAMA,
— — (= *C. gracilis*?) Giesbrecht, 1892, p. 90.

Habitat. Gulf of Mexico.

Calanidae - Calanoida.

Calanus anglicus Lubbock, ♀.

— — Lubbock, 1857, p. 403: pl. 10.

— — Giesbrecht, 1892, p. 298 (position doubtful).

— — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. England.

Calanidae - Calanoida,

Calanus apressus Dana, ♀.

— — Dana, 1849, p. 17.

— — Dana, 1852, p. 1074: pl. 74, f. 5, a-c.

— — (= *C. darwini*) Giesbrecht, 1892, p. 91.

If the two are equal, apressus precedes.

Habitat. Pacific near Sumatra,

Calanus arcticus Lubbock, ♀.

- — Lubbock, 1854, p. 128,
- — Giesbrecht, 1892, p. 298 (position doubtful).
- — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. English Seas.

Calanidae - Calanoida.

Calanus arcuicornis Dana, ♀.

— — Dana, 1849, p. 12.

— — Dana, 1852, p. 1056: pl. 72, §. 7, a-b.

— — (= Clausocalanus a-) Giesbrecht, 1892, p. 186.

--, GREENWOOD, 1977: 51

Habitat. Pacific Ocean, South.

Calanus arietis Templeton, ♀.

— — Templeton, 1836, p. 195: pl. 21, f. 9.

— — M-Edwards, 1840, p. 429 (transferred to
genus Cyclopsina).

— — (= C. finmarchicus) Giesbrecht, 1892, p. 89.

Habitat. Mid-ocean, Atlantic.

Calanus attenuatus Dana

— — Dana, 1849, p. 18.

— — Dana, 1852, p. 1080; pl. 75, fig. 2, a-m.

— — (=Eucalanus a-) Giesbrecht, 1892, p. 131.

a synonym of Eucalanus attenuatus (Dana)
(With, 1915, p. 52)

Calanus australis Brodsky, 1959

1959--pp. 1539-1542, fig. 1, 9

-- --, Brodsky, 1961. pp. 7-8, 17, pl. 1, fig. 9-12,
pl. 2, fig. 4, 8, 10, 11; pl. 3, fig. 11, 13, 14, pl. 4,
fig. 6-9.

-- --, Brodsky, 1959. pp. 35-39

-- --, Brodsky, 1960. p. 12

-- --, Grice & Hulsemann, 1967, pp. 20, fig. 3

-- -- Deerey, 1966, p. 156

-- -- Brodsky, 1967 p. 1442

-- -- Brodsky 1967: 222

- , Heinrich, 1971, p. 292, Fig 2
--, Bradford, 1970 p. 345
--, Brodsky 1967 p. 191
--, Brodsky, 1965: 28
-- Bradford & Gillett, 1974, pp. 6, 7, 9.
--, Bradford, 1972, p. ~~30~~ 31, fig. 4.1-4.3
--, Brodskii, 1967, p. 191-
--, Brodskii, 1964, p. 212
--, Arcos, 1975, p. 7, Fig. 1&2 (in Appendix)
--, Williams, 1972, p. 59.
--, Vyshtkrantseva, 1972, p. 152.
--, Frost, 1974, p. 87.
--, Arcos, 1976: 89; TAB. II
--, Mikheev, 1977: 511-516

Calanus australis Brodsky, 1959

card 2

- Shih:1986: 108-
- Marin & Antezana, 1985: 963 Tab 1 Chile
- Ohman, 1987: 1318- , fig 6, tab 1 New Zealand
- SEVIGNY + McLAREN 1988: 267-
- DE DECKER 1984: 158
- BRADFORD ET AL. 1989: 301, FIG. 16-19, TAB. 2; OFF
NEW ZEALAND; DEVELOPMENT.
- RAZOUKS 1994: 9

CALANUS AUSTRALIS

CARD 2

- VYSHKUARTZEVA, 1976: 27, 33, 35, 36, 44, 48, 57; TAB. 1, 3, 4, 6, 8, 9, 11, 13, 14, 16
- VYSHKUARTZEVA, 1977: 97; FIG. 3, 30
- Heinrich, 1974, p. 45
- Bradford, 1979, passim
- Ramirez, 1969: 34-35, Pl. 3, fig. 13-17
- TRANTER 1977: 623.
- Bjornberg, 1981: 618, fig # 205-3
- BRADFORD 1988: 74-

Calanus australis

card 3

-- Alekseev 1990b: 33-, diapause

C.a.a., BRODSKY 1972: 8-107, FIG 5.

-- ARNOFSKY 1996: 133

Calanus australis var atlanticus Brodsky

Brodsky, 1959

Brodsky, 1961. p. 18, pl. 4, fig. 8; pl. 1, fig. 11;
12, pl. 2, fig. 11; pl. 3, fig. 14,;
pl. 4, fig. 9.

-- Brodsky 1972: 8-107, FIGS.

Calanus australis var. pacificus Brodsky

Brodsky 1959

--- -- --, Brodsky, 1961. pp. 17-18, pl. 1, fig. 9;
pl. 2, fig. 3; pl. 3, fig. 13; pl. 4, fig. 6;
pl. 3, fig. 11; pl. 4, fig. 7

--- BRODSKY 1972: 8-107, FIGS.

Calanidae - Calanoida.

Calanus bellus Dana ♀.

— — Dana, 1849a, p. 18; 1849b, p. 278,

— — Dana, 1852, p. 1077; pl. 74, f. 9, a-b.

— — (= *C. vulgaris*) Giesbrecht, 1892, p. 92.

Habitat. Sulu Sea.

Calanus borealis Lubbock, ♀.

— — — Lubbock, 1854, p. 127: pl. 5. figs. 2-3.
— — — (= C. hyperboreus) Giesbrecht, 1892, p. 91.

A synonym of Calanus finmarchicus.
(Brady, 1878, p. 38)

Calanus brevicornis Lubbock, ♀.

①

— — Lubbock, 1856, p. 11: pl. 3.

— — Cleve, 1900, p. 142: 1904, p. 185.

— — Lubbock, 1860, p. 5.

a synonym of Calanus carinatus Krøyer.
(With, 1915, p. 11).

— — Giesbrecht, 1888, p. 331: 1892, p. 90.

— — Giesbrecht, 1892, p. 90: pl. 6. f. 7, 9, 18:
pl. 7. f. 10, 11: pl. 8. f. 5, 28.

C. frontalis Dahl, 1894, p. 76.

c. brevic. — Giesbrecht & Schmeil, 1898, p. 16.

Calanoides Sars, 1907, b, p. 4.

Calanoides b — A. Scott, 1909, p. 10

Calanus brevicornis — Cleve, 1900, p. 44

— — Rose, 1933, p. 60: fig. 9.

— — Brodsky, 1965; 28.

--, Corral, 1970, p. 68-~~70~~

--, Ehrhardt, 1967, p. 736- (a syn. of C. carinatus)

--, Brodskij, 1964, p. 230

--, (= C. ^{ALANOIDES} CARINATUS), TANAKA, 1956a: 259

--, (= CALANOIDES CARINATUS), TANAKA, 1964b: 5-6

--, BEAUDOUIN, 1973: 125, 129

Calanus brevicornis Lubbock

card 2

-- Massuti & Navarro 1950: 20-28.

— Dakin & Colefax, 1933: 203

-- SAZHINA 1975: 80

-- RODRIGUEZ & VIVES 1984: 242, MALAGA HARBOR

-- ROSE, M. 1927: 145, 161, 162, OFF ALGERIA

-- ROSE, M. 1934: 54-81, OFF ALGERIA

Calanus carinatus Krøyer, 1849 - see Calanoides

Calanus caroli Giesbrecht - see Cosmocalanus

Calanidae - Calanoidae.

Calanus caudatus Krøyer, ♀.

- — Krøyer, 1848, p. 550, 553, 607: pl. 41.
- — Giesbrecht, 1892, p. 299 (position doubtful).
- — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. North Sea.

Calanus chilensis Brodsky

CARD 1

1959---pp. 1543--? , Fig. 1-4

-- --, Brodsky, 1961. pp. 8, 13, 18, pl. 1, fig. 13, 14
pl. 2, fig. 12; pl. 3, fig. 12; pl. 4, fig. 10, 11

-- ~~Bradford~~ & Jillett, 1974, pp 6, 7, 9

-- --, Brodsky, 1959. pp. 35-39

-- --, Brodsky, 1960. p. 12

-- -- Brodsky, 1967. p. 1444

-- -- Brodsky, 1967:224

-- --, Brodsky, 1967 p. 191

-- --, Brodsky, 1965:28.

- , Brodskii, 1967, p. 191-
- , Brodskii, 1964, p. 212
- , Arcos, 1975, p. 7, fig. 3 & 4 (in Appendix)
- Vyschkvartseva, 1972, p. 152.
- Frost, 1974, pp. 81.
- , Arcos, 1976: 89; TAB. II
- , VYSHK VARTZEVA, 1976: 23, 27, 33, 35, 36, 44, 48, 57; TAB. 1, 3, 4, 6, 8, 9, 11, 13, 14, 16
- , VYSHK VARTZEVA, 1977: 97, 131; FIG. 4, 30
- SP., Arcos 1978: TAB III, 50.
- , Bradford, 1979, *passim*
- HERMAN 1984: 131, 133, 136 - 7, 141-145.
- Fleminger, 1985: 275-291

CALANUS CHILENSIS BRODSKY 1959 CARD 2

- , ARCOS + FLEMINGER 1986: 171-185, EASTERN PACIFIC
- HUNTLEY, MARIN + ESCRITOR 1987: 913 -
- LE BORGNE 1986: 120 -
- SHIH 1986: 108 -
- HEAD ET AL. 1986: 283 -
- BRADFORD 1988: 74 -
- SEVIGNY + McLAREN 1988: 267 -
- TURNER 1984d: 6 -
- Kjørboe 1991: 240 -

CALANUS CHILENSIS BRODSKY, 1959

3

-- BRODSKY 1972: 8-107, FIGS.

-- ~~ARCOST F~~

-- ARNOFSKY 1996: 133

Pseudocalanidae - Calanocida.

Calanus clausii Brady, ♀.

- SEE ALSO UNDER PSEUDOCALANUS

— — Brady, 1865, p. 33: pl. 1, f. 1-11, 13.

— — (= Pseudocalanus elongatus) Giesbrecht, 1892, p. 197.

A synonym of Pseudocalanus elongatus,
(Brady, 1878, p. 45).

— — Norman, 1868, p. 299.

Calanidae - Calanoida.

Calanus communis Dana, ♀.

— — Dana, 1849^a, p. 18; 1849^b, p. 278.
Undina vulgaris Dana, 1849^a, p. 22; 1849^b, p. 279.
Calanus v — Giesbrecht & Schmeil, 1898, p. 17.
— — Cleve, 1904, p. 186.

Habitat. Agulhas current, South Africa; Tropical Atlantic.

C— communis Stebbing, 1910, p. 520.

— — Dana, 1852, p. 1076: pl. 74, f. 7.

— — (= C. vulgaris) Giesbrecht, 1892, p. 92.

If communis = vulgaris then communis precedes—

— — Lubbock, 1856, p. 10: pl. 10.

Calanus comosus

-- --, Chiba, 1956, p. 42

Calanidae - Calanoidae.

Calanus comptus Dana, ♀.

- — Dana, 1852, p. 1050; pl. 72, fig. 2a-c
not — T. Scott, 1894, p. 26; pl. 5, fig. 46-50; pl. 6, fig. 1-5.
— — Dana, 1849, p. 11
— — Esterly, 1905, p. 129 (syn. of C. robustior) ✓

Habitat. Gulf of Guinea; Pacific Ocean;

- — Giesbrecht, 1892, p. 299 (position doubtful)
- — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Calanidae - Calanoida.

Calanus cornutus Dana, ♀

--- Dana, 1849, p. 19.

see Rhincalanus cornutus (Dana, 1849)

Habitat. Tropical Atlantic.

Calanidae - Calanocida.

Calanus crassus Dana, ♀.

— — Dana, 1849, p. 12.

— — Dana, 1852, p. 1054: pl. 72, f. 5.

— — Giesbrecht, 1892, p. 299 (position doubtful).

— — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. Atlantic Ocean, tropics:

Calanus cristatus Krøyer, 1845 - see Neocalanus

Calanidae - Calanoida.

Calanus curtus Dana, ♀.

— — Dana, 1849, p. 13.

— — Dana, 1852, p. 1059: pl. 72, f. 10.

— — (= Temora sp.) Giesbrecht, 1892, p. 329.

Habitat. "Sulu Ocean", near Philippines.

Calanidae - Calanoida.

Calanus danai Lubbock, ♀.

— — Lubbock, 1860, p. 6: pl. 29.

— — (= Eucalanus sp.) Giesbrecht, 1892, p. 132.

Habitat. Gulf of Guinea.

Calanus darwini (Lubbock) - see Cosmocalanus

Calanidae

Calanus elegans Lubbock, ♀

— — Lubbock, 1854, p. 127: pl. 5. figs. 7-9.

— — (= C. finmarchicus?) Giesbrecht, 1892, p. 89.

A synonym of Calanus finmarchicus.
(Brady, 1878, p. 38).

Calanoida - Calanidae,

Calanus elongatus Dana, ♂.♀.

- — Dana, 1849, p. 18.
 - — Dana, 1852, p. 1079: pl. 75. f. 1, a-n.
 - — (= Eucalanus e-) Giesbrecht, 1892, p. 131.
- a synonym of Eucalanus elongatus (Dana)
(With 1915, p. 48)

Calanus eristatus

-- Vyshkvartseva, 1972, p. 152.

Calanus erythrochilus Leuckart, ♀.

— — Leuckart, 1859, p. 260: pl. 6.

— — (= Eucalanus elongatus) Giesbrecht, 1892, p. 131.

Calanus euchaeta ^{Calanoida.} Tubbock,

— — Tubbock, 1857, p. 403.

— — (= Acartia sp.) Giesbrecht, 1892, p. 507,
a synonym of Acartia longiremis.

Doubtful synonym of Acartia clausi.
(Giesb. & Schmeil, 1898, p. 152).

CALANUS FINMARCHIANUS - SEE FINMARCHICUS

Calanoida - Calanidae
Calanus finmarchicus (Gunner), ♂, ♀.

Monoculus - Gunner, 1765, p. 175, figs. 20-23.

Cetochilus septentrionalis Goodwin, 1843, p. 339:

— — Baird, 1850, p. 235; pl. 30, f. 1a-g. pl. 6, figs. 1-11

— helgolandicus Claus, 1863, p. 171; pl. 26, f. 2-9.

Habitat: British Seas: Mediterranean
Greenland: Iceland: Faeroe Islands
Adriatic: Red Sea: Pacific:
Woods Hole.

- Calanus finmarchicus* Boeck, 1865, p. 8 (232).
 — — Brady, 1872, p. 424: 1879, p.
 — — Brady, 1878, p. 38: pl. 1, figs. 1-12.
 — *magnus* Lubbock, 1854, p. *borealis*, p.
 — *elegans*, p. Brady, 1882, p. : 1883, p.
Cetochilus septentrionalis Claus, 1885, p. 332.
 — — Claus, 1881, b, pl. 1, figs. 1-5.
Calanus finmarchicus Cleve, 1900, p. 140.
 — — Paulsen, 1906, p. 1-21: pls. 1-3.
 — — Gran, 1902, p. 56, ff.
 — — Damas, 1905, parasites of *Calanus*
 — — Apstein, 1911, pp. 207-223: 22 text figs.: 3 pls.
 — *spitzbergensis*, n. sp. Krøyer, 1842-5, pl. 41, figs. 1, a-n.
 — *finmarchicus*, Sars, 1877, p

- Calanus affinis, n. sp. Krøyer, 1842-5, pl. 41, fig. 5.
- quinqueannulatus, n. sp. Krøyer, 1842-5, pl. 41, fig. 3. ♂.
- spitzbergensis Krøyer, 1849, p. 531-542: p. 552. ♀.
- affinis Krøyer, 1849, pp. 544-545: p. 553. (young).
- quinqueannulatus Krøyer, 1849, pp. 545-546: p. 553.
- finmarchicus H. J. Hansen, 1886, pp. 255-6.
- — — — — Cassin, 1892, p. 170: pl. 1, figs. 13-19.
- — — — — Giesbrecht, 1892, p. 89: pls. 6-8.
- — — — — Vanhöffen, 1897, p. 278: pl. 1, fig. 7.
- — — — — Aurivillius, 1898, pp. 67-69.
- — — — — Giesbrecht-Schmeil, 1898, pp. 14-15.

- — Brady, 1899, p. 32 : T. Scott, 1899, p. 90.
— — Wheeler, 1900, pp. 164-5. fig. 1. : G. O. Sars, 1900, p. 2.
— — T. Scott, 1901, p. 338 : I. C. Thompson, 1903, p. 15.
— — Mrázek, 1902, p. 503: figs. 1-4, text.
— — Jensen, Johansen & Levinson, 1903, p. 303: pl. 1.
— — G. O. Sars, 1901, p. 9: pls. 1-3 : 1905, p. 1.
— — *helgolandicus* G. O. Sars, 1901, p. 11: pl. 4.
— — Thompson & Scott, 1903, p. 241.
finmarchi. Wolfenden, 1904, pp. 126-7.
— — *helgolandicus* G. O. Sars, 1905, p. 1.
— — Th. Scott, 1905, p. 221: 1903, p. 4.
— — *finmarchicus* Farran, 1905, p. 30.
— — Norman, 1878, p. 4.

- Esterly, 1905, p. 125: fig. 1.
- septentrionalis Norman & Scott, 1906, p. 126.
- helgolandicus Pearson, 1906, p. 4-5.
- — von Bremen, 1908, p. 8-9: fig. 2.
- finmarchicus Williams, 1906, p. 639-640.
- — Damas & Koefoed, 1907, p. 382-93: p. 405.
- — von Bremen, 1908, p. 7-8: fig. 1.
- — Farran, 1908, p. 20; Steuer, 1910, p. 21 (1025).
- — Sharpe, 1910, p. 409; Farran, 1911, p. 85-9.
- — Esterly, 1911, p. 140; 1912, p. 282-295.
- Cetochilus septentrionalis W. Thompson, 1847, p. 247.

- ^{Calanus} Stephensen, 1913, p. 308 : 1913, b, p. 71.
— — With, 1915, p. 10 : figs. 1-5 text.
Cetochilus septentrionalis Grobben, 1881, p. 243: pls. 1-4.
— — T. J. v. Beneden, 1861, p. 122: pl. 18, g. 1-8.
Calanus — Norman & Brady, 1909, p. 111.
— — Rathbun (Mary), 1905, p. 103.
— — T. Scott, 1902, c, p. 491, 494, 500, 507, 511, 513.
— — T. Scott, 1906, c, p. 297; Claus, 1866, p. 9.
— — T. Scott, 1908, b, p. 262.
— — Cleve, 1904, p. 185; Hoek, 1876, p.
— — Stebbing, 1910, p. 519; Hoek, 1878, p.
— — Stephensen - 1916, p. 304.
— — Williams, 1907b, p. 71; 1906, p. 639.

C. finmarchicus (4)

C- finmarchicus Wright, 1907, p. 13.

Cyclops ^{longe-}_{cornis} Müller, 1785, p. 115; pl. 19, f. 7-9.

Calanus finmarchianus Leach, 1819, p. 539.

— — Desmerest, 1825, p. 364.

— — Tilesius, 1815, Atlas, pl. 22, f. 14.

Cyclops finmarchicus Müller, 1776, no. 2415.

Calanus — Fowler, 1912, p. 131; pl. 35; p. 496.

— — Wheeler, 1901, p. 164 = text-fig. 1.

Daphnia dorsalis (?) Rafinesque, 1817, p. 42

Calanus finmarchicus Esterly, 1905, p. 125; text-f. 1.

C- perspicus, Dana, 1852, p. 1071; pl. 74, f. 1, a-c.

- Cetochilus australis* Varzème, 1834, p. 333: pl. 9.
Calanus arietis Templeton, 1836, p. 195: pl. 2, f. 9.
Calanus mundus Dana, 1852, p. 1071: pl. 74, f. 2, a-b.
Cetochilus septentrionalis Norman, 1867.
helgolandicus Carpenter & Jeffreys, 1871, p. 172.
C. finmarchicus Brady & Robertson, 1873, p. 126: 1876, p.
C. mundus Streets, 1877, p. 139.
C. sanguineus, Streets, 1877, p. 138; Dana, 1849
C. finmarchicus Schneider, 1884, p. p. 16
— — Möbius, 1884, p. : 1875, p. 270, pl. 8, f. 1, 4.
— — Kölbel, 1886, p.
— — Pouchet & Guerne, 1887, p.
— — Willieborg, 1875, p. 6.
— — Trybom, 1881,

- C. finmarchicus
- Calanus finmarchicus Giesbrecht, 1882, p. 156
- — Schneider, 1884, p.
- — Malcolmson, 1886, p.
- — G. O. Sars, 1886, p. : 1925, p. 5
- — I. C. Thompson, 1886, p.
- — Möbius, 1887, p.
- — Touchet de Guerne, 1887, p.
- — I. C. Thompson, 1888a, p. : 1888, c. p. : 1889
- — Giesbrecht, 1888, p. 330. | p
- — Giesbrecht, 1889,
- — Willey, 1919, p.

- — Pesta, 1920, p. 493: text-f. A1.
— — Cleve, 1902, p. 19.
— — Willey, 1920, p. 3 K: 1929, p. 212: fig. 1.
— — Brady, 1883, p. 32: pl. 1, f. 1-10
— — Timm, 1894, p. 369.
— — I. C. Thompson, 1893, p. 181: pl. 15, f. 1a-c.
— — Farman, 1929, p. 212: fig. 1, text.
— — ^{Russel F.S. 1928}
— — Rose, 1929, p. 5.
— — Cleve, 1900, p. 45.
— — Wilson, 1932, p. 23: — fig. 10;
— — Jaschnov, 1927,
— — Linko, 1913, p. 19. p. 10. Kara Sea; 1939. Barents
Sea

C. finmarchicus (6)

- — Jespersen, 1934, p. 10: figs. 2-8, - 1940, pp. 4-7. Iceland
- — Rose, 1933, p. 57: fig. 7.
- — Wilson 1942, p. 172
- — Klem, 1932, oils in
- — Fontaine, 1955, p. 870-2. Ungava Bay, Canada.
- -- , Vervoort, 1946, pp. 1-181, Snellius Expedition
- — , BRODSKY - 1950, P.P. 86, FIG. 19, U.S.S.R.
- — , SEWELL, 1947. P. 13, figs. NONE,
- — , Yashnov, V.A. 1955
- — , Mauchline, 1956. Compared with C. helgolandicus.
- — , Cameron, 1957, p. 182. Queen Charlotte Is.

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- - Jaschnov, 1957. Comparison with related spp.
-- --, Grice, 1963. p. 497, fig. 1, A
-- --, Grice, 1962. p. 101
-- --, Mullin, 1963. pp. 239-50, Woods Hole. (feeding)
-- --, Anraku and Omori, 1963. pp. 117-118, fig. 5-10
-- --, Brodsky, 1962. p. 97
-- --, Sushkina, 1962. pp. 1004-1012
-- --, Jaschnov, 1958. pp. 838-843
-- --, Jaschnov, 1961. pp. 1314-1334
-- --, Omori, 1965. pp. 18-27
-- --, Coker, 1943. pp. 130-132
-- --, Conover, 1968, p. 112
-- --, Hensen, 1911: 312-315

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-- -- ; Vervoort, 1957, pp. 24-25, figs. 1-2.
- -, Grainger, 1961 *Passim*
- -, Glover, 1967, fig. 3B+3C, *passim*
- -, Heinrich, 1971, 293
---, Deevy, 1948, p. 13
- -, Apstein, 1905, pp. XVIII, XX, XXXII, XXXIX, XXXX,
XXXXII, XXXXIV, XXXXVIII, 6,
LIV, LVI.
- -, Grice, G.D.; N.H. Marcus *passim* (1981)
- With, 1915: 10-3D, fig. ~~1-5~~ 1-5.

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- , DeDecker, 1962, p. 101
- , Heinrich, "Life histories...", p. 15-6
- , Jaschnov, 1970, pp. 202-4, fig. 2
- , Jeffries, 1969, pp. 46-
- , Jeffries, 1970, pp. 419-
- , Jeffries & Alzara, 1970, pp. 215-
- , Okada & Taniguchi, 1971, p. 33
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- , Marshall & Orr, 1953: *passim*.
- , Fahrenbach, 1962, p. 354
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- , Van Engel & Tan, 1965, p. 184-
- , Allan, 1976, p. 170
- , Maclellan, 1967, p. 102 -, figs. 2 & 4.
- , Frost, 1971, pp. 23-29, fig 1D-6.
- , MARTENS, 1976: 418
- , RAYMONT & GAULD, 1951: 681, 683, 687-688,
691-693; FIG. 2; TAB. I-III.
- , LINDQVIST, 1959: 5

- , LINDQUIST, 1961: 45
- Cannicci, 1959: passim.
fig 3-4.
- Heberer, 1931: 210
- Heberer, 1937a: 88
- Lacroix, 1966: 52
- Lacroix, 1961: 25
- Lacroix, 1963a: 64, 66

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- Fulton, 1968, p. 33, 69
- , Omori, 1973, pp. 3, 4, 7.
- , Beklemishev, 1961, p. 146
- , Brodskii, 1964, p. 211
- , Meshcheryakova, 1964, p. 150
- ~~xxxxxx1962xxxx~~
- Marumo, 1962, p. 17
- , Cerner, E.D.S., 1961, pp. 5, 11, 13-15.
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- , Cushing, 1951, p. 159
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- , Sherman, 1968, p. 6 --.
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--, Taw, 1974, p. 270.

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--, Evans, 1972, p. 47, 48, fig 10, 11.

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--, Wilson & Parrish, 1971, p. 202.

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Calanus finmarchicus

-- Frost, 1974, pp. 77-99, figs 2A, 3A, 4A, 5-8,
10A, 14. ^{4 (10)}

--, Furuhashi, 1966: 297-302, 304, 306, 308, 311, 315,
316

--, Bjornberg, 1963: 100 (+table), table 17

--, JOHNSON, 1980: 580

--, TANAKA, 1956a: 251, 252-255, 258 ♀♂ FIG. 1. SYN. C. HELGOLANDICUS, Wilson, 1932; Mori, 1937; MARSHALL & ORR, 1955

--, TASCHNOV, 1972: 379-384; FIGS. 1-3; TAB. 1

--, BAINBRIDGE, 1972: 70, 84

--, HETP & SMOL, 1976: TAB. 5

- , ARTHUR, 1977: 601
- , BREEMEN, 1906: 5, 10, 15-16
- , LARONX & FILTEAU, 1971: 777, 781, 783, 803, 809, 810, 812
TAB. 17, 18
- , BRODSKY, 1976: 5, 6, 7
- , VYSHKVARTZEVA, 1976: 27, 28, 30, 31, 33, 35, 36, 38, 44, 45, 46
48, 50, 53, 57; FIG. 7; TAB. 1, 3, 4, 6-18.
- , TOPITSKY, 1976: 108, 110, 112, 115, 120; FIG. 6; TAB. 1, 2
- , VYSHKVARTZEVA, 1977: 97, 103, 104, 105, 132; FIG. 30
- , STEELE, 1975a: 193
- , TAGUCHI & FUKUCHI, 1975: 159 :

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CARD # 12

- , BARZCZ AND YEVICH, 1976: 104
- , MAIN, 1962: 2, 122, 126; Tab. 11
- , MARSHALL & ORR, 1955: 495-529 (FOOD UPTAKE)
- , MARSHALL, ET AL., 1935: 1-28 (O₂ CONSUMPTION)
- , MARSHALL & ORR, 1966: 513-530 (FEEDING & RESPIRATION)
- , GALIANO, ET AL., 1978: 17
- , ~~PARK, 1978~~
- , COSTE, ET AL., 1978: 466, 477, 478, 480
- , MARTENS, 1976: 61, 69

- , BRIGHT, ET AL., 1972: 297
- , FERRARI, 1978: 509
- , FLEMINGER, 1975: TAB. 1
- , JEFFRIES & JOHNSON, 1976: 98; TAB. 1
- , GAUDY, 1971: 67, 68, 69
- , GAULD & RAYMONT, 1953: 447, 453, 455, 456, 458, 45
- , GAULD, 1966: 321-322
- , VYSHKVARTEVA, 1977: 6, 16, 17, 18, 19, 20
- , PAVSHATKS, 1977: 58, 59, 61, 62
- , CHISLENKO, 1977: TAB. 3
- , BARLOW & BISAOP, 1965: R18, R21, R22
- , BINET & SUISSE DE SAINTE CLAIRE, 1975: 28, 29

- C. finmarchicus, Brodsky, 1960. p. 12
-- --, Marshall & Orr, 1961. pp. 463-488
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-- Baker, 1964, p. 465
-- Brodsky, 1967 p. 1442
-- Brodsky, 1967:222
-- Robertson, 1968, p. 191, 194, 197, 209, ~~210~~ 211.
-- Eloffson, 1971, p. 299, 300, 303, 305 (Fig 6) 308
309 (Fig 9), 311 (Fig 11), 313
-- Brodsky, 1965: 28
-- Rader, 1970, p. 75
-- Fahrenbach, 1962, p. 304
-- Fleminger & Hubemann, 1977, pp 233-248 figs. 2, 4, 6, 7

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(2) (4) 10

- Siefken, & Armitage, 1976, pp. 597-599, 604.
-----, Furuhashi, 1961. pp. 4, 7, 8
-----, Anraku, 1964. pp. 197-198, fig. 1
-----, Anraku, 1964(b). pp. 221-231
-----, Conover, 1960. pp. 403-404
-----, Johnson, 1958. p. 276
-----, Johnson, 1963. pp. 92-93
-----, Honjo et al, 1957. pp. 120-127
-----, Decker, 1964. pp. 18. South Africa
-----, Anraku, 1964. p. 49
-----, Brodsky, 1961. p. 14, pl. 2, fig. 1, pl. 2, fig. 2
5, pl. 3, fig. 2, pl. 4, fig. 2
-----, Jaschnov, 1955, pp. 1213-1215, fig. 2.
-----, F. Schaeffer, A. 1972, p. 5

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CARD ~~12~~ 13

- , DIGBY, 1950: 405, 411, 413; TAB. 18, 19
- , DIGBY, 1954: 300, 301-309, 310, 312; FIG. 1-3, 15, 16;
TAB. 1
- , DAVIS, 1976: 37, 38-39, 41; FIG. 2
- , DEEVEY & BROOKS, 1971: 936
- , FLEMINGER & CLUTTER, 1965: 102
- , FANTA, 1972: 175
- , FANTA, 1976: 211, 213
- , EVANS, 1970: 62, 77

- , BEAUDOUIN, 1973: 123, 128-129
- , ITOH, 1970: TAB. 1, 2; FIG. 3
- , HEINLE, 1966: 73
- , COMITA & ANDERSON, 1959: 47
- , COMITA, ET AL., 1966: 1-16; FIG. 1-6; TAB. 1-5
- , COMITA & COMITA, 1966: 180
- , JOHNSON & OLSON, 1948: 320, 329; TAB. I
- , JOHNSON, 1956a: 9-10, 18, 19; TAB. 1-7
- , JAWED, 1973: 3
- , HAZELWOOD & PARKER, 1961: 271
- HEINLE, 1969: FIG. 8

Calanus finmarchicus

- , Vives, 1978, p. 83
- , COMITA 1956: 579, 589; Tab. 2.
- , COMITA & SCHINDLER 1963: 1.
- , CHATTON 1911: 1, 2.
- , Turner, 1981, p. 369, tbl. 2
- , Frost, 1974, 77-99
- , Grainger, ... Calanus as indicators..., p. 74-83
- , Sretlichnyi, Zagorodnyaya, & Stepanov, 1977, p. 434
- , Ogawa, 1977, p. 3

- Monod, 1931: 399

- Colebrook, J.M., 1963: 17-30.

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card 15

- , Straskraba, 1967, p. 500
- , Brodskij, 1958, p. 27, 28
- , Boxshall, 1982, p. 153
- , Kovalev et al., 1975, p. 195-199
- , Kos, 1972, p. 115
- , Stella, 1964, p. 76
- , Ko, 1969, p. 94
- , Rosenthal, 1972, p. 158
- , Bradford, 1979, *passim*
- , Turner, 1982, p. 269

- , SUTHELLAND, 1982, p. 478
- , VAUPEL KLEIN, 1982, p. 56-57
- JASHNOV, 1966: 494-498, fig. 1-2
- , NISHIDA, 1984: 38; 37 (as MONOCULUS FINMARCHICUS,
- , AULOQUE, 1899: 199 (as "CALANUS FINMARCHIANUS")
- , SCHNACK, 1983: 66
- , PAFFENHÖFER & GARDNER, 1984: 510
- , MOTODA & MINODA, 1974: 207, 211, 212, 215, 228, 232,
FIG. 10.3 (AS CALANUS GLACIALIS)
- HERMAN 1984: 131, 144
- LÖNNING & VADER, 1984: 118, 120 FIG. 11 B, C
- HIRAKAWA 1979: 54-56

Calanus finmarchicus

card 16

- Boeck 1865: 227, 231, 232
- PAWLEY + ALFARO 1984: 1261
- IKEDA 1977a: 19, 23, 27
- DUGAS & KOSLOW 1984: 131
- NIVAL & NIVAL 1973: _____
- MAUCHLINE 1972/73: 27-41.
- SPROSTON 1942: 462.
- UYE & KASAHARA 1978: 109, III
- HEBERER 1937b: 74, 78-79, FIGS. 1, 5 - CHROMOSOMES

Calanus finmarchicus

card 17

-- Williams 1973: Fig. 1

-- WICKSTEAD 1962: 545, 546

-- MICHEL & FOYO 1976: 145

-- KOGA 1968: 16, 18, Pl. I FIG. 1-egg

-- KOGA 1973: 32, FIGS. 4-1, ^{4-2, egg}VEGG

-- KOGA 1984b: 102, 129, 119, FIGS. 11-1, 2; 193

-- MÄEMETS & VELDRÉ 1956a: 18, 43-44, Pl. I FIGS. 1-9
RECORDS - ESTONIA (?)

-- IWASAKI ET AL 1977: 60.

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card 18

- Iwasaki & Kamiya 1977: 52.
- BRUNEL 1959: 21, 54.
- GRAINGER 1959: 474-481, ARCTIC OCEAN.
- GRICE & HART 1962a: 294, W. NORTH ATLANTIC
- GRICE & HART 1962b: TABLE 3
- JERNOLAJEV 1958: 1219-1228, BAY OF FUNDY
- PECHEN' FINENKO & PAULOUSKAYA 1976: 23
- Deevy, 1952a: 87-88
- Deevy, 1952b: 131, 146
- Deevy, 1960a: 15, 31

- Deevay, 1960 b: *passim*
- Fleminger, 1985: 275-291
- Grigg, et al., 1985: 73-83, fig. 1-7
- Dakin & Colefax, 1940: 87, fig. 101 a-d.
- Dakin & Colefax, 1933: 203,
- Turner & Dagg, 1983: 14, 35, fig. 8
- Runge, et al., 1985: 241-245
- Simard, et al., 1985: 598-606
- Tanaka, 1965a: 11, fig. 1a-c
- Harding, et al., 1986: 960-961

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CARD 19

- , ALVAREZ, M. P. J., 1985: 183
- , BRESCIANI, 1986: 126, 127 - tegument
- Deevery & Brooks, 1977: 263
- DeDecker, 1984: 315
- SCHRAM 1986: 453, -457, FIGS. 37-5, 37-6; p. 463
- ALANUS -, CHANG-UEX 1960: 89
- , LAWSON & GRICE 1973: 53
- GOTTO 1957: 286-287
- GRAINGER 1951: 142

Calanus finmarchicus (Gunner)

card 20

-- Vilela 1972:2

-- LI & FANG 1983b: 110

-- Kjørboe, et al, 1985: passim.

-- LABBE' 1929: 614

-- UEDA 1987: 65

-- ZAMORA SANCHEZ 1974: 45

-- LAWSON & GRICE 1970: 188

-- HERDMAN ET AL. 1910: 231

-- HERDMAN ET AL. 1913: 212, ^{224,} ISLE OF MAN; = C.

HELGOLANDICUS OF EARLIER WORKS.

CALANUS FINMARCHICUS (GUNNER)

CARD 21

- HERDMAN ET AL. 1914: 288-290, ISLE OF MAN
- HERDMAN ET AL. 1915: 232-233, ISLE OF MAN
- HERDMAN ET AL. 1919: 28-35, ISLE OF MAN.
- HERDMAN ET AL. 1920: 82, ISLE OF MAN.
- Matthews, et al., 1978: 277-284
- JASHNOV 1966b: 25-29.
- RAYNER + KING 1986: 837
- RAE + FRASER 1991: 175, 180
- RAZOULS, S. ET AL. 1987: 660

Calanus finmarchicus (Gunner)

card 22

-- Runge et al. 1985: 241-246, sw Nova Scotia

-- TUPITSKY 1982: 110-

-- VYSHKVA RTZ E VA 1972b: 161-169

-- COSTE ET AL. 1982: 249

-- CARLI 1971b: 371-2, LIGURIAN SEA

-- THOMPSON, B. M. 1982: 360, NORTH SEA

-- HUNTLEY ET AL. 1987: 103

-- HUNTLEY, MARIN + ESCRITOR 1987: 912-

-- IANORA ET AL. 1987: 30

-- MAUCHLINE 1988: 719

Calanus finmarchicus (Gunner)

card 23

- Sage & Herman 1972: 32-, Sandy Hook Bay, New Jersey
- ZELIKMAN & KAMSHILOV 1960(64): 11-, BARENTS SEA
- DAVIS 1976 b: 820
- DAVIS 1982: 725-, NEWFOUNDLAND
- DAVIS 1986: 29-, "
- BAMSTEDT 1986: 9-
- SARGENT & HENDERSON 1986: 60-, Figs, 2.1, 2.4
- LE BORGNE 1986: 114-
- MAYZAUD 1986a: 165-

Calanus finmarchicus (Gunner, 1765)

card 24

- Corner et al. 1986: 263-
- GROENDALH + HEWNROTH 1986: 311-318, ARCTIC
- TESTER 1986: 475-
- KING ET AL. 1986: 345
- BLADES-ECKELBARGER 1986: 26- , FIGS. 1A, 15
- BJÖRNBERG, T. 1986: 61
- KLEIN BRETELER + GONZALEZ 1986: 80
- HEIP 1986: 100
- SHIH 1986: 105 -
- McLaren, 1986: 1342-45 fig 1

Calanus finmarchicus (Gunner, 1765)

- Mayzaud & Mayzaud 1986: 350-
- McLAREN & CORRETT 1986: 362-367, NOVA SCOTIA
- WATSON 1986: 509, 511
- CORRETT ET AL. 1986: 539-545, SCOTIAN SHELF
- DAVIS, CABELL S. 1986: 628, GEORGES BANK
- MARTENS, P. 1975: 4, 75, OSTSEE; 80-
- ZHADIN & GERD 1961: 254, USSR
- PAFFENHÖFER & STEARNS 1988: 37
- KIMOTO ET AL. 1986: 142
- AYUKAI. 1987: 488

Calanus finmarchicus (Gunner, 1765)

card 26

- McLaren, Seigny^A ^{FROST} 1989: 568 fig 2
- McLaren et al. 1989: 553, 558
- Magnesen 1988:194 - W. Norway
- Frost, 1985: 1,5,10,11 fig 10
- GIBBONS 1938: 494-, FIGS. A, C, NAUPLII; OFF SCOTLAND
- FONTAINE 1955: 858-, UNGAVA BAY
- FLEMINGER & HULSEMAN 1987: 46-
- FERRARI & HAVER 1990: TAB. 1
- KARAVAEV 1894: 42
- CITARELLA 1989: 123-, ST. LAWRENCE GULF, CANADA
- ROMAN ET AL. 1988: 21-

Calanus finmarchicus (Gunner, 1765)

card 27

- Head & Harris 1985: 103-105
- HEAD & HARRIS 1987: 228
- HEAD ET AL. 1985: 281-
- BAASTEDT, 1988: 44-58, KOSTERFJORDEN, SWEDEN;
BARENTS SEA
- RUNGE 1988: 61-71, GULF OF ST. LAWRENCE
- BRADFORD 1988: 74-
- JASCHNOV 1975: 32-
- MARUKAWA 1921: 7-, JAPAN

Calanus finmarchicus (Gunner, 1765)

card 28

- Huntley et al. 1983: 158
- HUNTLEY + BOYD 1984: 458
- HUNTLEY ET AL. 1987: 199 -
- HUNTLEY 1988: 83 -
- SARGENT + FALK-PETERSEN 1988: 101-, BALSFJORD, NORWAY
- TANDE + GRANVIA 1983: 44-, BALSFJORD, NORWAY
- TANDE 1988: 115-126, NORWAY
- CONOVER 1988: 127-, N. ATLANTIC
- WILLIAMS 1988: 151-159, N. ATLANTIC

Calanus finmarchicus (Gunner, 1765)

card 29

- Marin 1988b: 444
- KLEIN BRETELER + GONZALEZ 1988: 208
- R. WILLIAMS + CONWAY 1988: 259-, OFF BRITISH ISLES
- SEVIGNY + McLAREN 1988: 267-274, ATLANTIC
- McLAREN + CORKETT 1984: 828-, NOVA SCOTIA
- McLAREN + MARCOGLIESE 1983: 721-, NOVA SCOTIA
- McLAREN ET AL. 1988: 275-, NOVA SCOTIA
- McLAREN ET AL. 1989: 560-, SCOTIAN SHELF
- UYE + MATSUDA 1988: ~~284~~, 285

Calanus finmarchicus (Gunner, 1765)

card 30

-- Shih et al. 1988: 319-324, Bras d'Or Lakes, Nova Scotia

-- GONZALEZ DE INFANTE 1988: 62

-- HO & PERKINS 1985: 586, ALSO MONOCYCLUS F.

-- DERJUGIN 1928b: 527; KILDIN IS, BARENTS SEA

-- STEPHENSEN 1917: 304, GREENLAND FJORDS

-- JIMÉNEZ PEREZ ET AL. 1988: 86-

-- MARIN 1986: 139-

-- TURNER, J.T. 1984d: 5-, FEEDING

Calanus finmarchicus (Gunner, 1765)

card 31

- Montú 1989:39-, Fig.2A, 3A, feeding
- MCLAREN ET AL. 1966: 1642
- HERZIG 1983: 81
- BURRILL + ZWERNER 1972: 138, CHESAPEAKE BAY
- MILLER 1988: 226 -
- MILLER + CLEMONS 1988: 307-
- PRÉFONTAINE + BRUNEL 1962: 252, ST. LAWRENCE ESTUARY.
- COPLEY ET AL. 1989: 11-, NW ATLANTIC

Calanus finmarchicus (Gunner, 1765)

card 32

- Grant 1977:4-8-, W Atlantic
- HARDING, G. ET AL. 1980:32-, NOVA SCOTIA
- BOTTFER 1985:225-
- SHIH ET AL. 1971:32-35, CANADA-ATLANTIC;
201, ARCTIC
- CITARELLA 1984:138-, SHÉDIAC BAY, NEW BRUNSWICK,
CANADA
- ^{S.L.} DE DECKER 1984b:156-, OFF S. AFRICA
- HIRCHE 1984:233-241, SWEDISH FJORD

Calanus finmarchicus (Gunner, 1765)

card 33

-- Muus 1967:52-

- ALVARIÑO, A. 1989: 64-, OFF PLYMOUTH, ENGLAND

- Wishner & Allison, 1986: 714, f. 6, tbl. 2

- SMYLY 1968: 336 - (cal. finmarchicus)

- WHITEHOUSE & LEWIS 1973: 233 -

- SCHINDLER & COMITA 1966: 126 -

- GAULD 1953: 461-474, CLYDE SEA

- GAULD 1951: 695-706, NE ATLANTIC

- CONOVER 1965: 314 -

Calanus finmarchicus (Gunner, 1765)

card 34

-- Lüling 1953: 4-

-- BOWMAN 1978a: 113-, FIG. 1A, B

-- BRADY 1872: 424, OFF NE ENGLAND

-- ASTTHORSON & GISLASON 1992: 229-234, TAB. 1, ICELAND

-- DAHL, F., 1893: 107.

= FINMARCHICUS

CALANUS FINMARCHIANUS ~~LEACH~~ CARD 34

- SCOTT & SCOTT, 1901: 338
- LEACH, 1819
- , McLAREN, WOODS, SHEA, 1966: 1, 2
- , = C. FINMARCHICUS, BAIRD, 1850: 228
- , McLELLAN & SHIH, 1974: 1348
- , GRAINGER, 1965: 543-564.
- , McLAREN, 1966: 457-469
- , MATTHEWS, 1968: 371-382; FIG. 1-5
- , HAMOND, 1973: 336
- , VYSHKUARTSEVA, 1972: 150

- , BERNARD, 1970: 7, 8, 12, 109, 124
- , PESTA, 1925: 15-16; FIG. 10
- , SATO, 1913: NO. 1; PL. 1
- , FROLANDER, 1962: 659
- , BRIAN 1927: 9, 11.
- Heberer, 1932: 265, passim, fig. 12-14
- Matthews, 1967: 159-175
- Williamson, 1963; PL. III Distr. Map

Calanus finmarchicus (Gunner, 1765)

card 35

-- Ohman 1988b:537-

-- OHMAN ET AL. 1989: 1321-

- Nilborg, 1944: 30-38 passim t. 2-7, fig. 14, 15, 16, 17

- MILLER, C. B. & GRIGG 1991: 479-493, GULF OF MAINE, USA

- MILLER, C. B., COWLES ET AL. 1991: 79-91, S. NEW ENGLAND, USA

- LINDLEY 1992: 368-370, RESISTANT EGGS?

- GRANDORI 1914: 164, VENICE LAGOON

- BOXSHALL 1992: 348, FIG. 1A, 5

- ALEKSEEV 1990b: 33-, DIAPAUSE

CALANUS FINMARCHICUS (GUNNER, 1765)

37

- WYNGAARD + CHINNAPPA 1982: 491-
- TUPITSKII 1976: 108-120, TABS. 1, 2, BARENTS SEA
- ACKMAN ET AL. 1974: 1813-1817, N. ATLANTIC
- CARVALHO, J.P. 1939: 38, FIG. 6, SÃO PAULO, BRAZIL
- NOTI 1991: 3-4
- SALVANES + NORDEIDE 1993: 223, 234, APPENDIX 1,
NORWAY
- GISLASON + ASTTHORSON 1992: 219-221, TAB. 1, ICELAND
- BARTHEL ET AL. 1995: 26, TAB. 1, NORWAY

Calanus finmarchicus (Gunner, 1765)

38

-- ROSE, M. 1927:145, OFF ALGERIA

-- HEUCH + KARLSEN 1997: 735, 742

-- DEFAYE, SUCH + DUSSART 1985:119

-- UYE + MURASE 1997:9

Calanus finmarchicus + allied species:
Differentiation

Brodsky, 1959 Zool. Jour. 38 (10): 1537-1553

CALANUS FINMARCHICUS HELGOLANDICUS TANAKA, 1956

-- TANAKA, 1956a: 254-255

--, CORRAL, 1970: 62

--, CHATTON 1911: 2.

Calanus finmarchicus var. pontica Karavaev, 1894

--- Karavaev 1894: 37-42, Pl. I Figs. 1-18, new variety,
Black Sea

--- Fleminger & Hulsemann 1987: 43-81, raised to species
rank from C. helgolandicus ponticus

Calanus finmarchicus var. telezkensis Stålberg

_____ var. _____ Stålberg 1931, 209-220, figs. 1-13.

Calanidae - Calanoida,

Calanus glavipes Dana, ♀.

— — Dana, 1849, p. 15.

— — Dana, 1852, p. 1068; pl. 73, f. 9, a-b.

— — Giesbrecht, 1896, p. 299 (position doubtful).

— — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. Atlantic near Rio Janeiro,

fam. Calanidae

Calanus fonsecai Oliveira, 1945, p. 458,
pl. 7, fig. 1-4. Rio de Janeiro.

not Calanus

Calanidae - Calanoida.

Calanus furcicaudus Dana, ♀.

— — Dana, 1849, p. 12.

— — Dana, 1852, p. 1055: pl. 72, f. 6, a-c.

— — (= Metridia, sp.) Giesbrecht, 1892, p. 531.

— — Giesb. & Schmeil, 1898, p. 124 (uncertain).

Habitat. Pacific Ocean, tropics.

Calanus gracilis Dana, ~~1855~~¹⁸⁵² - see Neocalanus

Calanus glacialis Jaschnov

-- -- Jaschnov, 1955, pp. 1211-1213, fig. 1.

-- -- Jaschnov, 1957.

-- --, Grice, 1962, pp. 101, 102

-- --, Mullin, 1963. pp. 239-50. Woods Hole, (feeding)

-- --, Johnson, 1963. pp. 92, 93, 97, 99

-- --, Brodsky, 1961. p. 14, pl. 3, fig. 1, pl. 4 fig. 1

-- --, Brodsky, 1960. p. 12

-- --, Sushkina, 1962. pp. 1004-1012

-- -- Wilson, Parrish, 1971, p. 202.

- C. glacialis, Jaschnov, 1958. pp. 838-843
-- --, Jaschnov, 1961. pp. 1314-1334
-- -- McLaren, Woods, Shea, 1966, pp. 1-2.
-- -- Park, 1968, pp. 527-572.
-- -- McLaren, 1966, pp. 457-469.
-- -- Brodsky, 1967 p. 1442
-- -- Brodsky, 1967:222
-- -- . Peruyeva, 1972: passim [feeding]
-- --, Grainger, E.H. 1961 Passim
-- --, Cairns, 1967, p. 559
-- --, Glover, 1967, p. 197
-- -- Brodsky, 1965: 28
-- --, Fleminger & Hulsemann, 1977, p. 233-246
figs 246-7

Calanus glacialis Jaschnov

card 2

--, Jaschnov, 1970, pp. 199-201, fig. 1

--, Pertsova, 1967, p. 240-

--, Meshcheryakova, 1970, p. 95-, 97-

--, Lubni-Gertsik, 1959, p. 71-

-- **Davis and Green, 1974, p. 57**

--, HEIP + Smol, 1976: TAB. 5

--, VYSHKVARTZOVA, 1977: 5-28

--, KOS, 1977: 34-35, 42, 47, 48, 51-52, 53

--, PAVSHTIK, 1977: 56, 57, 58-64, 67, 70, 71

--, PRYGUNKOVA, 1977: 105, 106

- , PAVSH TIKS, 1977: TAB. 1
- , VYSHK VARTZEVA, 1977: 97, 123, 131, 138; FIG. ~~30~~
- , DAMKAER, 1975: 11
- , JAWED, 1973: 3
- , HEINLE, 1969: FIG. 8
- , STEELE, 1975a: 193
- , Mc LAREN, 1969: 1491, 1539-1540, 1548, 1550;
TAB. 11

Calanus glacialis Jaschnov

- -- Grainger, 1965, pp. 543-549 564 (548-549).
- , Maclellan, 1967, p. 102 -, figs. 2 & 4.
- Bradford, Dillett - 1974, pp. 6, 7, 9, 10,
- , Frost, B. W. 1971, pp. 23-29, fig 1 a-c, e, 2-6 (graphs)
- Williams, 1972, pp. 53-60, Pl. 17-19, fig. 134.
- Vyshtkvaartseva 1972, p. 152.
- , Frost, 1974, pp. 77-99, figs 2B-4B, 5, 7, 8, 10B, 14, 16.
- , JASCHNOV, 1972: 279-284; FIG. 1-3; TAB. 1
- , BRODSKY, 1976: 5
- , VYSHKVAARTZEVA, 1976: 13, 23, 28, 30, 33, 35, 36, 39, 40, 44, 45, 48, 50, 57; FIGS. 4-6, 9, 10, 12, 14-25; TAB. 1, 3, 4, 6-27.
- , Grainger, E.H., ... Calanus as indicators... p. 74-76, 83-85

Calanus glacialis Jaschnov

card 4

--, Kos, 1969, p. 605-607

--, Shih & Laubitz, 1978, p. 48

— marshallae, Gardner & Szabo, 1982, pp. 25, 136-137, fig. 8.1.1.

--, Sutherland, 1982, p. 478

— Jaschnov, 1963: 1005-1011, fig 1-4, 6.

— Lacroix, 1966: 52

--, NISHIDA, 1984: 38

--, SCHNACK, 1983: 66, 67

CALANUS GLACIALIS JASCHNOV

CARD 5

--, MOTODA + MINODA, 1974: 207, 211, 212, 215, 228, 232

FIG. 10.3

-- HERMAN 1984: 131

-- Fleminger, 1985: 275-291

-- Runge, et al., 1985: 241-245

-- Horner & Murphy; 1985: 203, passim

-- Matthews, 1967: 161-175

-- VYSHKVA RTZEVA 1972b: 162-171, FIG. 3, 5(2a-b)

-- HUNTLEY, MARIN + ESCRITOR 1987: 912-

Calanus glacialis Jaschnov

card 6

- Runge & Ingram 1988: 280-284, Hudson Bay
- DAVIS 1982: 725-, NEW FOUNDLAND
- DAVIS 1986: 29-, "
- BAMSTEDT 1986: 22-
- SARGENT & HENDERSON 1986: 65-
- GROENDAHN & HERNROTH 1986: 311-318, ARCTIC
- SHIH 1986: 107-
- GRAINGER & MOHAMMED 1986: 304-, ARCTIC
- CORKETT ET AL. 1986: 539-545, SCOTIAN SHELF

Calanus glacialis Jaschnov

card 7

- McLaren & Seignya ^{† FROST} 1989: 568 fig 2
- McLaren et al. 1989: 558

-- FLEMINGER + HULSEMAN 1987: 46 -

- HEAD 1986: 371-379, JONES SOUND (NWT), ELLESMERE IS.
- HEAD & HARRIS 1987: 228
- HEAD ET AL. 1985: 281-288, JONES SOUND, BAFFIN BAY
- HEAD ET AL. 1986: 271-286, ARCTIC (4 LOCALITIES)
- BAKSTEDT 1988: 45-50, BARENTS SEA
- BRADFORD 1988: 74 -
- JASCHNOV 1975: 32-34, FIG. 1, PACIFIC

Calanus glacialis Jaschnov

card 8

- Huntley & Boyd 1984: 458-
- HUNTLEY ET AL. 1987: 208-
- SARGENT & FALK-PETERSEN 1988: 102-
- CONOVER 1988: 127-, N. ATLANTIC
- SEVIGNY & McLAREN 1988: 267-274, ATLANTIC &
HUDSON BAY
- McLAREN & MARCOGLIESE 1983: 721-, NOVA SCOTIA
- McLAREN ET AL. 1988: 275-, NOVA SCOTIA
- McLAREN, TREMBLAY ET AL. 1989: 579-, SCOTIAN SHELF

Calanus glacialis Jaschnov

card 9

- Montú 1989:41-, feeding ; FIG. 4B-1
- Mc LAREN ET AL. 1966: 1642
- SHIH ET AL. 1971: 35-, CANADA-ATLANTIC; 144,
PACIFIC; 201-202, ARCTIC
- BOOMAN 1978a: 113-
- BRODSKY 1972: 8-105, RELEGATES TO SUBSPECIES OF
C. FINMARCHICUS
- WYNGAARD ET AL. 1995: 98-103, RNA; NOVA SCOTIA, CANADA
- SIFERD + CONOVER 1992: 277, TAB. 1, CANADIAN ARCTIC
OCEAN

Calanidae - Calanoida.

Calanus helgolandicus (Claus). ♀.

etochilus Claus, 1863, p. 171: pl. 26, fig. 2-9.

Calanus Sars, 1901, p. 11: pl. 4,

— — Rose, 1929, p. 5

A synonym of Calanus finmarchicus
(Witt, 1915, p. 10).

— — Wilson, 1932, p. 25: fig. 11; 1942, p. 172

— — Rose, 1933, p. 59: fig. 8.

— — Fontaine, 1955, p. 872. Ungava Bay. (1 cop. IV)

- -- , Anraku, 1954. pp. 123-136.. Aleutian Is.
-- --, Anraku, 1954, pp. 1-8.. NW Pacific..
-- --, MORI-1937, P. 14, JAPAN AREA.
-- --, BRODSKY, 1950, P. 88, Fig. 20.
-- --, FURUHASHI 1957, P. 17, MAIZURO BAY, JAPAN.
-- --, Chiba, Tsuruta, + Maeda, 1955! Bikini.
-- --, Mauchline, 1956. Differentiation from C. finmarchicus.
-- --, Tanaka, 1957, p. 9-10.
-- --, Jaschnov, 1957.
-- --, Jaschnov, 1955, pp. 1215-16, fig. 3.
-- --, Grice, 1963. p. 497, fig. 1, B
-- --, Furuhashi, 1961. p. 4
-- --, Mullin, 1963. pp. 239-250. (feeding), Calif. coast
-- --, Brodsky, 1961. p. 15: pl. 1, fig. 1; pl. 2, fig. 2, 6, pl. 3, fig. 3;
-- --, Brodsky, 1959. pp. 35-39 pl. 4, fig. 3

Calanus helgolandicus (Claus, 1863)

(2)

- --, Brodsky, 1960. p. 12
- --, Jaschnov, 1958. pp. 838-843
- --, Jaschnov, 1961. pp. 1314-1334
- -- McLaren, Woods, Shea, 1966, pp. 1-2.
- --, Grice & Hulsemann, 1965, pp. 225,
- --, Moraitou-Apostolopoulou, 1969, pp. 1-3, table 1
- --, Vilela, 1968, p. 7,
- --, Gilat, Kane, & Martin, 1965, pp. 13-20
- Brodsky, 1967 p. 1442
- Brodsky, 1967:222
- Peruyeva, 1971. Passim [feeding]
- , Glover, 1967 passim

(see back)

— —, Aure & Scotti di Carlo, 1968:33

--, Chiba, 1956, p. 9

--, Corral, 1970, p. 62, pl. 6

--, Bernard, 1970, p. ~~141~~ 141, 163

--, Jaschnov, 1970, p. 204-5, fig. 3

--, Stormer, 1929, p. 5

--, Pesta, 1928, p. 15

--, Dolzonolskaya, 1970, p. 38, pl. 1, fig. 4

--, Sazhina, 1970, p. 154, pl. I

--, Sato, 1913, in no. 1

--, Shen & Bai, 1956, p. 218

Galanus helgolandicus

--, Björnberg, 1963: Table 10

--, Ehrhardt, 1967, p. 737-

--, Fahrenbach, 1962, p. 354

--, Corral, 1970, p. 62-3, syns.: Cetochilus h.

C. finmarchicus h., pl. 6

--, Giesbrecht, 1882, p. 152

--, Omori, 1973, pp. 4, 6-9.

--, Brodskii, 1964, p. 211

--, Marumo, 1962, p. 17

--, Allan, 1976, p. 170-

--, Hue, 1967, pp. 14, 21, 22.

--, Roe, 1972a, pp. 280-

--, Roe, 1972b, pp. 314-318

--, Roe, 1972d, pp. 1039.

C. helgolandicus

--, Vives, 1972, pp. 206, 207, 237

--, Ong & Lake, 1969, pp. 9-20.

--, Bradford, Sillett, 1974, pp. 6, 7, 9,

--, Evans, 1972, p. 47, 48, figs 10, 11

--, Frost, B. W. 1971, pp. 23, 29.

-- Robertson, 1968, pp. 197, 209.

-- Hammond, 1973, p. 336

-- Williams, 1972, pp. 53-60, pl. 17-19, fig. 1, 3.

-- Vyshtkivartseva, 1972, p. 152.

-- Fleminger + Huberman, 1977, p. 233-246 figs 2, 4, 6, 7

-- Frost, 1974, pp. 77, 81, 94 fig 6

--, Furuhashi, 1966: 297, 298, 299-302, 304, 306, 311, 315,
316

--, Furuhashi, 1961: 74, 100, 105

Calanus helgolandicus

- , Bjornberg, 1963: 15
- , TANAKA, 1956a : 252, 253, 254
- , MARSHALL & ORR, 1966: 513-530 (RESPIRATION & FEEDING)
- , CORRALY ALVAREZ-OSSORIO, 1978: 138
- , TASHNOV, 1970: 279-284; FIG. 1-3; TAB. 1
- , JEFFRIES & JOHNSON, 1976: 98
- , BAINBRIDGE, 1972: 84, 85
- , HELD & SMOL, 1976: TAB. 5
- , BREEMEN, 1906: 15
- , VYSAK VARTZEVA, 1977: 5-28

- , CHISLENKO, 1977: TAB. 3
- , BRODSKY, 1976: 5
- , VYSHKVARTZEVA, 1976: 27, 28, 30, 33, 35, 36, 38, 44, 45, 48, 50, 57; TAB. 1, 3, 4, 7-18.
- , VYSHKVARTZEVA, 1977: 97, 103, 124, 132, 136, 138
- , BINET & JUISSE DE SAINTE CLAIRE, 1975: 28, 29
- , BJORNBERG & WILBUR, 1968: 407
- , FLEMINGER & CLUTTER, 1965: 100, 101, 102; TAB. 2, 4, 7, 9, 10
- , BEAUDOUIN, 1973: 125-128, 167; FIG. 3-4; TAB. 1
- , ITOH, 1970: FIG. 4
- , HEIP, 1974: 123

CALANUS HELGOLANDICUS

CARD 5

- , COMITA, ET AL., 1966: 2, 14, 15
- , FASHAM, ET AL., 1974: TAB. 1, 4
- , PAFFENHOFER, 1976: 49-58; FIG. 1-5; TAB. 1, 2
- , SCOTTO DI CARLO, ET AL., 1975: 184; TAB. 1
- , ANDRONOV & MAIGRET 1980: 84
- , Chiba & Hirakawa 1972: 74, 76; Tab. 2; Fig. 2
- , Kovalev, A.V., 1968, p. 441
- , Kasahara, S., S. Uye, & T. Okné, 1975, p. 25
- , Svetlichnyi, Zagorodnyaya, & Stepanov, 1977, p. 434

card 6

Calanus helgolandicus

- , Kasahara, S., S. Uye, & T. Obné, 1975, p. 25
- , Vives, 1974, p. 313-318
- , Vives, 1978, p. 83-92
- , Ueda, 1978, p. 57
- , Kovalev, et al., 1975, p. 195-199
- , Cannicci, 1959: *passim*
- PATRITI 1984b: 165, MARSEILLES

card 7

Calanus helgolandicus

- , Fernandez, 1977, p. 580-581, fig. 9-12, 13-16
- , Smol & Heip, 1974, p. 162
- , Bradford, 1979, *passim*
- Conover, 1970: *passim*.
- Hirota, 1969b: *passim*.
- Prahl, et al., 1984: 1235-1236.
- Motoda & Marumo, 1963: *passim*.
- , NISHIDA, 1984: 39
- , SCHNACK, 1983: 67

CALANUS HELGOLANDICUS

CARD 8

- PAFFENHÖFER & GARDNER, 1984: 509, 510
- SPECCHIA & VALLI, 1979: 133-134
- HIRAKAWA 1979: 55-6 (= C. PACIFICUS)
- PAWLEY & ALFARO 1984: 1261
- MASSUTI & NAVARRO 1950: 20-28.
- PROFANT & MEURICE 1982: 162.
- NIVAL & NIVAL 1973: 135-144.
- UYE 1984a: 45
- UYE 1984b: 173

Calanus helgolandicus CLAUS

card 9

- Patrity 1984a: 157-161, Gulf of Fos-sur-Mer
- KOGA 1968: 16-17, 18, Pl. I FIG. 3-EGG
- KOGA 1973: 33, FIG. 4-3, EGG
- KOGA 1984b: FIG. 11-3, EGG; 129, 193
- IWASAKI ET AL 1977: 60.
- IWASAKI & KAMIYA 1977: 53.
- GRICE & HART 1962b: TABLE 3, W. ATLANTIC
- STEPANOV & SUETLICHNII 1976a: 42, 44, 46
- STEPANOV & SUETLICHNII 1976b: 48, 50

Calanus helgolandicus Claus

card 10

- Pechen'Finenko & Pavlovskaya 1976: 23
- ZAGORODNYAYA & SUETLICHNII 1976: 41
- Tanaka, 1965a: 11, fig. 2a
- Devey & Brooks, 1977: 263
- Harris & Malej, 1986: 75-85 (ammonium excretion)
- Hure, 1955: 20
- Hure, 1961: 14
- SUETLICHNY & STEPANOV 1975: 61-64, FIG. 1.
- PAVLOVA & TSAREVA 1975: 64-68

Calanus helgolandicus Claus

card 11

- Sazhina 1975:79, 82, 84
- PETIPA 1975:30-33, FIGS. 2, 3(I)
- VILELA 1972:2
- LI & FANG 1983b:110, 116
- UEDA 1987:65
- HERDMAN ET AL. 1910: 228-297, TEXT FIG. 9, PLATE B, FIG. 4 - ISLE OF MAN.
- HERDMAN & SCOTT 1911: 218-223, ISLE OF MAN
- HERDMAN & SCOTT 1912: 142-146, ISLE OF MAN

CALANUS HELGOLANDICUS CLAUS

CARD 12

-- HERDMAN ET AL. 1913: 212, ISLE OF MAN, = C.

FINMARCHICUS

— Matthews, 1967: 159-175

— Schnack, 1979: 41-46 (feeding)

— Turner & Ferrante, 1979: 671

— Vives, 1978: 265, 269 table 1

-- ASSIS ET AL 1984: 218-, PORTUGAL

-- REGNER 1987: 373 -, EASTERN ADRIATIC

-- VYSHKUARTZEVA 1972b: 162-171, FIG. 4

Calanus helgolandicus Claus

card 13

- Carli 1968: 101-, Ligurian Sea
- CARLI ET AL. 1973 -, 339-359, SICILY
- CARLI + SERTORIO 1964: 207-, LIGURIAN SEA
- CARLI & VALENTE 1981: 731-, " "
- THOMPSON, B.M. 1982: 360, NORTH SEA
- HUNTLEY, MARIN + ESCRITOR 1987: 912-
- MAUCHLINE 1988: 719
- KIORTSIS ET AL. 1969: 36-, AEGEAN
- BAMSTEDT 1986: 9-

Calanus helgolandicus (Claus, 1863)

card 14

- Sargent & Henderson 1986: 61-
- LE BORGNE 1986: 111-
- MAYZAUD 1986a: 187-, FIG. 4.3B
- MAYZAUD 1986b: 235-
- CORNER ET AL. 1986: 261-, FIGS. 6.1, 6.9, 6.10, 6.11,
- CITARELLA 1986: 278-, MARSEILLES
- BLADES-ECKELBARGER 1986: 32, FIG. 10B
- KLEIN BRETELIER + GONZALEZ 1986: 72-
- CONOVER + POULET 1986: 96

Calanus helgolandicus (Claus, 1863)

card 15

- Shih 1986: 107-
- CHEN Q-C 1986: 527
- MULLIN, C.H. 1968: 29-34, PUGET SOUND
- PAFFENHÖFER & STEARNS 1988: 36
- Ayukai, 1987: 488
- McLaren, 1986: 1342, 45
- McLaren, ^{et al.} 1989: 568 fig 2
- McLaren, et al. 1989: 558
- Schnack: 1983: 50, 51, 52 fig 2 tabs 1, 2 NW Africa

Calanus helgolandicus (Claus, 1863)

- Lonsdale et al. 1979: 235
- Soldevilla, et al., 1988: 57 Canary Islands
- Ohman, 1987: 1327

-- FONTAINE 1955: 858-, UNGAVA BAY

-- S.L., FLEMINGER + HULSEMAN 1987: 43-81,
 FIG. 2, MORPHOMETRY, DISTINGUISHED 3 POPULATIONS
 + DISTINGUISHED C. PONTICUS AS SEPARATE SPECIES,
 FROM CALANUS HELGOLANDICUS S. STR.

-- RODRIGUEZ + VIVES 1984: 242; MALAGA HARBOR

-- JASCHNOU 1975: 32-

Calanus helgolandicus (Claus, 1863)

card 17

-- Marin 1988b: 444

- R. WILLIAMS + CONWAY 1988: 259-, N. ATLANTIC

- SEVIGNY + McLAREN 1988: 267-, N. ATLANTIC

- McLAREN ET AL. 1988: 275-, PLYMOUTH, ENGLAND

- MARIN 1986: 139-

- TURNER 1984d: 6-

-- MONTU' 1989: 41-, FEEDING

-- McLAREN ET AL. 1966: 1642

-- SHIH ET AL. 1971: 36, CANADA - ATLANTIC; 202,
ARCTIC

Calanus helgolandicus (Claus, 1863) s. restr.

Fleminger & Hulsemann, 1987

-- Fleminger & Hulsemann 1987:43-81, fig. 2, restricted this species to Atlantic and Mediterranean populations and raised C. h. ponticus Karavaev to species rank.

-- FERRARI & HAYEK 1990: TAB. 1

-- HEAD 1986: 377-

-- BRADFORD 1988: 74-

-- SARGENT & FALK-PETERSEN 1988: 102-

-- CONOVER 1988: 127- N. ATLANTIC

-- Williamson, 1963: Pl. III Distr. Map.

Calanus helgolandicus (Claus, 1863) s. restr. card 20

-- Gauld 1953:469--

- CLOGSTON 1965: 11 -

- OHMAN ET AL. 1989: 1322 -

- TODA & HIROSE 1991: 615

- MILLER, C.B. ET AL. 1991: 80 -

- HELGOLANDICUS, ALEKSEEV 1990/1: 36, DIAPAUSE

Calanus helgolandicus Claus var ponticus Jaschnov

--- Jaschnov, 1955, pp. 1216-1217, fig. 4.

---, Marcus, 1957, p. 91.

---, Jaschnov, 1957.

~~---, Corral, 1970, p. 62~~

---, Corner, 1961, pp. 6, 11, 13, 14.

--- Frost, 1971, pp. 23, 29.

---, Kovalev, et al., 1975, p. 195


--- VVSH KVARTZEVA 19726:170

Calanidae

Calanus hyperboreus Krøyer, ♀.

- — Krøyer, 1838, p. 84: pl. 4, fig. 23.
- — Cleve, 1900, p. 140.
- — Krøyer, 1842-45, pl. 41, fig. 2, a-g.
- — Krøyer, 1848, pp. 542-3: p. 559.
- — Brodsky, 1965: 28

Habitat. Greenland; Denmark Strait; Iceland;
Norwegian Sea.

- With, 1915: 30-35  fig. 6a-b, pl. I, fig a-d.

- — Giesbrecht, 1892, p. 91: pls. 6, f. 6: pl. 7, f. 12
— — Aurivillius, 1898, p. 88. [pl. 8, f. 10, 23
— — Giesbrecht & Schmeil, 1898, p. 15.
— — Th. Scott, 1899, p. 90: 1902, p. 450: 1905, p. 221.
— — Vanhöffen, 1897, p. 278.
— — G. O. Sars, p. 2, 1900: 1901, p. 12: pl. 5.
— — T. & A. Scott, 1901, 338. : Mrázek, 1902, p. 506.
— — Jensen, Johansen, & Levinsen, 1903, p. 303.
— — Norman, 1903, p. 135: Wolfenden, 1904, p. 112.
— — G. O. Sars, 1905, p. 1.
— — Damas & Koefoed, ed, 1907, p. 352, 405.
— — Farran, 1908, p. 20: 1911, p. 89.
— — Rose, 1929, p. 6.

- — v. Bremen, 1908, p. 8: fig. 3.
- — Stephensen, 1913, p. 71: 1913. b, p. 307.
- — Wilt, 1915, p. 30: pl. 1, figs 1. a-d: fig. 6, text.
- — Stephensen, 1916, p. 303.
- magnus Tubbock, 1854, p. 125.
- finmarchicus var major,
- borealis(?) Tubbock, 1854, p. 127.
- plumosus Tubbock, 1854, p. 128.
- finmarchicus (pars), Lilljeborg, 1875, p. 6.
- — Buchholz, 1874, p. 391: pl. 15 (pars).
- — Sars, 1877, p. 363 (pars): 1886, p. 76.

- *finmarchicus* Norman, 1878, p. 4 (pars).
- *hyperboreus* Giesbrecht, 1889, p. 164.
- — Willey, 1919, p.
- — Cleve, 1902, p. 19.
- — Willey, 1920, p. 6K
- — Mrázek, 1902, p. 506.
- — Cleve, 1900, p. 47.
- — Wilson, 1932, p. 21: fig. 8: 1942, p. 173
- — Jaschnov, 1927, p. 14. Kara Sea
- — Linko, 1913, p. 20
- — Jespersen, 1934, p. 34: figs. 9-10. - 1940, p. 7-9, Iceland.
- — Rose, 1933, p. 57: fig. 6.
- — , Fontaine, 1955; p. 872-3. Ungava Bay, Canada.
- — , BRODSKY, 1950, p. 85. USSR.

Calanus hyperboreus Krøyer

(3)

- --, Grice, 1962. pp. 101, 102
- --, Mullin, 1963. pp. 239-50. Woods Hole. (feeding)
- --, Conover, 1962. pp. 190-197, fig. 1-3
- --, Conover, 1960. p. 404
- --, Johnson, 1963. pp. 92, 93, 97, 99
- --, Conover, 1965. pp. 153-158, fig. 1,2, pl. 1
- --, Conover, 1965(b). pp. 306-320, fig. 1-4, pl. 1
- --, Brodsky, 1960 p. 12
- --, Conover, 1966, pp. 187-193
- --, Conover, 1967, pp. 61-72
- --, Conover, 1968, p. 108
- --, Conover, 1964, pp. 81-91

(see back)

-- -- Grainger, 1965, pp. 543-564.

-- -- Brodsky, 1967 p. 1442

-- -- Brodsky, 1967:223

-- Cairns, 1967, 559

-- -- Coull and Vernberg, 1970, p. 342

-- --, Apstein, 1905, p. XVIII, XX, XXXIV, XXXX,
XXXII, XXXIV, XXXVIII, L,
LIV, LVI

--, Chiba, 1956, p. 21

--, Heinrich, "The life histories...", p. 17

--, MARSHALL, ET AL., 1935: 23

--, BAINBRIDGE, 1972: 85

Calanus hyperboreus

card 41

- , Stormer, 1929, p. 5
- , Omori, 1973, pp. 4, 8.
- , Sherman, 1968, p. 6
- , Maclellan, 1967, p. 102.
- , Filteau & Tremblay, 1953, p. 17.
- , Omori, 1970, pp. 122-3.
- , Vyshtkvartseva, 1972, p. 152.
- , Bjornberg, 1963: 100 (+ table)
- , ROBERTSON, ET AL., 1974: 74
- , TANAKA, 1956a: 252, 258
- , MARSHALL & ORR; 1966: 513-530 (RESPIRATION + FEEDING)
- , TASCHNER 1970: 280

- , HEINLE, 1970a: 370
- , HEIPY SMOL, 1976: TAB. 5
- , LACROIX & FILTEAU, 1971: 787, 809, 811, 812; TAB. 17, 18
- , VYSHKUARTZEVA, 1977: 6, 17, 18
- , PAVSHTIKS, 1977: 56, 57, 64-67, 70, 71
- , VYSHKUARTZEVA, 1976: 23, 33, 34, 35, 36, 44, 48; FIG. 6;
TAB. 1, 3, 4, 6, 8, 9, 11, 13, 14, 16
- , TOPITSKY, 1976: 120
- , VYSHKUARTZEVA, 1977: 97, 123, 125, 126, 131; FIG. 10, 29, 30
- , DAMKAER, 1975: 11
- , DIGBY, 1954: 300, 301-304, 307, 308-309, 328; FIG.
1-3, 15; TAB. 1

5
Calanus hyperboreus Kroyer

-- -- Grainger, 1965, pp. 543-564 (548-549).

-- Bradford, Jillett, 1974, pp. 6, 7, 9,

--, Frost, B.W., 1971, pp. 23

--, Harding, 1974, p. 143.

--, Frolander, 1962, p. 659.

--, Frost, 1971, pp. 23.

--, Williams, 1972, pp. ~~53-60, Pl. 17-19, figs. 59~~

--, Vyshtkvaartseva, 1972, p. 152.

--, Frost, 1974, p. 81.

--, COSTE, ET AL., 1978: 466, 478

--, TAUCHI & FUKUCHI, 1975: 159

--, LINDQUIST, 1959: 5

CALANUS HYPERBOREUS

CARD # 6

- Scott & Scott, 1901 : 338
- , Dagg & Littlepage, 1972 : 169
- , Itoh, 1970 : TAB. 2
- , Comita, et al., 1966 : 4, 15
- , Johnson, 1956a : 10, 18, 19; TAB. 1-7
- , Paffenhofer, 1976 : 56
- , Grainger, E.H., ... Calanus as indicators..., p. 86-90
- , Ueda, 1978, p. 57
- , Brodskij, 1958, p. 27, 28
- , Sutherland, 1982, p. 478

- Lacroix, 1966: 52
- Lacroix, 1961: 25
- Lacroix, 1963a: 64
- , SCHNACK, 1983: 66, 67
- HERMAN 1984: 131
- KOGA 1968: 16, 17, 18, PL. I FIG. 4 - EGG
- KOGA 1973: 33, FIG. 4-4 - EGG
- KOGA 1984b: 102, 108, 119, FIG. 11-4, EGG; 128-129;
195
- BRUNEL 1959: 21, 54 - BAIE DES CHALEURS
- GRAINGER 1959: 474, 481-483, ARCTIC OCEAN.

CALANUS HYPERBOREUS

CARD 7

- GRICEY & HART 1962a: 295, W. NORTH ATLANTIC
- GRICEY & HART 1962b: TABLE 3.
- PECHEN' FINENKO & PAVLOVSKAYA 1976: 23
- Fleminger, 1985: 275-291, fig. 5C
- Tande & Slagstad, 1985: 1093-1099
- Deevy & Brooks, 1977: 263
- Horner & Murphy, 1985: 203, passim
- VILELA 1972: 2
- LI & FANG 1983 b: 110
- Kjørbe, et al, 1985: passim.

CALANUS HYPERBOREUS KRØYER, 1838

CARD 8

- UEDA 1987: 65
- Matthews, et al, 1978: 277-284
- ROUCH 1968a: 117
- TUPITSKY 1982: 110 -
- VYSHKVERTZEVA 1972b: 162 - , FIG. 5, 1a-b
- COSTE ET AL. 1982: 249
- HUNTLEY, MARIN & ESCRITOR 1987: 912 -
- MAUCLINE 1988: 719
- ZELIKMAN & KAMSHILOV 1960(64): 32, BARENTS SEA

Calanus hyperboreus Krøyer, 1838

card 9

-- Davis 1982: 727-, Newfoundland

-- DAVIS 1986: 30-, "

-- BAMSTEDT 1986: 18-

-- SARGENT & HENDERSON 1986: 65-

-- LE BORGNE 1986: 123-

-- MAYZAUD 1986 a: 167-

-- MAYZAUD 1986 b: 250-

-- GROENDALH & HERNROTH 1986: 315, ARCTIC

-- BLADES-ECKELBARGER 1986: 36

Calanus hyperboreus Krøyer, 1838

- Corkett et al. 1986: 539-545, Bedford Basin, Nova Scotia
- McLaren & Sevigny^{† FROST} 1989: 568 fig 2
- McLaren et al. 1989: 558
- Ohman, 1987: 1326, 1327
- FONTAINE 1955: 858, UNGAVA BAY
- CITARELLA 1989: 123, ST. LAWRENCE GULF, CANADA
- HEAD 1986: 371-379, JONES SOUND (NWT), ELLESMERE IS.
- HEAD & HARRIS 1985: 99-106, JONES SOUND (NWT)
- HEAD & HARRIS 1987: 228

Calanus hyperboreus Krøyer, 1838

card 10

- Head et al. 1985: 281-288, Jones Sound, Baffin Bay
- HEAD ET AL. 1986: 271-286, ARCTIC (4 LOCALITIES)
- BRADFORD 1988: 74-
- HUNTLEY + BOYD 1984: 458-
- HUNTLEY ET AL. 1987: 197-212, MALANGEN SOUND, NORWAY
- HUNTLEY 1988: 89-
- SARGENT + FALK-PETERSEN 1988: 102-
- TANDE + GRØNVIK 1983: 52-
- CONOVER 1988: 127-, N. ATLANTIC

Calanus hyperboreus Krøyer, 1838

card 11

- R. Williams & Conway 1988: 262, N. Atlantic
- SEVIGNY & McLAREN 1988: 267-, N. ATLANTIC
- HYPERBOREAS, McLAREN & MARCOGLIESE 1983;
721-, NOVA SCOTIA
- McLAREN & MARCOGLIESE 1988: 275-, NOVA SCOTIA
- McLAREN, TREMBLAY ET AL. 1989: 579-, SCOTIAN SHELF
- SHIH ET AL. 1988: 319-324, BRAS D'OR LAKES,
NOVA SCOTIA
- STEPHENSEN 1917: 303-304, OFF GREENLAND (FJORDS)

Calanus hyperboreus Krøyer, 1838

card 12

-- Montu' 1989:38-, feeding

-- MILLER 1988:226 -

-- PRÉFONTAINE + BRUNEL 1962:252, ST. LAWRENCE
ESTUARY

-- COPLEY ET AL. 1989:11-, NW ATLANTIC

-- HARDING, G. ET AL. 1980:32-, NOVA SCOTIA

-- SHIH ET AL. 1971:36, CANADA-ATLANTIC; 202, 203,

ARCTIC

-- CONOVER 1965:308-320, PL. IV, FIGS. 1-3, OFF MAINE
+ MASSACHUSETTS

Calanus hyperboreus Krøyer, 1838

card 13

-- Ohman et al. 1989:1320-

-- Wiborg, 1944: 55

-- MARCOTTE 1977: 191-

-- MOREIRA + VERNBERG 1968: 284

-- C.B. WILSON 1936: 370, CANADIAN ARCTIC.

-- LEGARÉ + MACLELLAN 1960: 434, MAINE/NEW BRUNSWICK

-- BRODSKY, 1972: 8-107, FIGS.

-- TUPITSKII 1976: 108-120, TABS. 1, 2, BARENTS SEA

-- GISLASON + ASTTHORSON 1992: 221, TAB. 1, ICELAND

CALANUS HYPERBOREUS KROYER, 1838

(14)

- ASTTHORSON & GISLASON 1992: 229, 233, TAB.1,

ICELAND

- SIFERD & CONOVER 1992: 277, TAB.1, CANADIAN ARCTIC

Calanidae - Calanoida.

Calanus inauritus Dana, ♀.

— — Dana, 1849, p. 16.

— — Dana, 1852, p. 1072: pl. 74, f. 3, a-c.

— — Giesbrecht, 1892, p. 299 (position doubtful).

— — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. Tropical Atlantic.

Calanidae - Calanocidae.

Calanus inconspicuus Lubbock, ♀.

— — Lubbock, 1856, p. 8: pl. 2.

— — Giesbrecht, 1892, p. 300 (position doubtful).

— — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. Tropical Atlantic.

Actideidae - Calanoida

Calanus latus Lubbock, ♀.

— — Lubbock, 1856, p. 15; pl. 2, f. 12; pl. 11, f. 8-11.
— — (= Euchirella pulchra) Giesbrecht, 1892, p. 233.

A synonym of Euchirella pulchra.

(Esterly, 1905, p. 153).

--, Von Jaupel Klein, 1982, p. 3

— — Lubbock, 1860, p. 4.

Calanidae - Calanoida.

Calanus levis Dana, ♀.

— — Dana, 1849, p. 14.

Fig. 2, a-d

— — Dana, 1852, p. 1062: pl. 73, f. 1, a-b: ^

— laevis Giesbrecht, 1892, p. 300 (position doubtful).

— levis Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. Atlantic near Rio Janeiro.

Calanus lighti Bowman - see Mesocalanus

Calanidae

Calanus longiremis (Claus), ♀

Cetochilus — Claus, 1863, p. 171: pl. 26. f. 1.

— — Claus, 1885, p. 332.

Calanus — Brady & Robertson, 1876, p. 196.

— — (= C. gracilis) Giesbrecht, 1892, p. 90.

Habitat. Mediterranean.

CALANUS -, HERRICK 1887: 6

Calanus longus Lubbock, ♂. ♀.

-- Lubbock, 1854, p. 127: pl. 5, fig. 10.

-- (= Metridia longa) Giesbrecht, 1892, p. 339.

A synonym of Metridia longa.

(Sars, 1902, p. 112).

--, Arcos, 1975, p. 17.

--, DONN & HULSEMANN, 1979: 54, 55

Calanus macrocarinatus Brodsky - see Calanoides

Calanidae - Calanoida

Calanus magellanicus Dana, ♀.

- — Dana, 1849, p. 11,
- — Dana, 1852, p. 1053: pl. 72, f. 4, a-c.
- — Giesbrecht, 1892, p. 300 (position doubtful).
- — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. Pacific Ocean, Patagonia

Calanus magnus Tubbok, ♀

— — Tubbok, 1854, p. 125: pl. 5. figs. 1-11.

— — (= C. hyperboreus) Giesbrecht, 1892, p. 91.

A synonym of Calanus finmarchicus.
(Brady, 1878, p. 38).

A synonym of Calanus hyperboreus.
(Sars, 1901, p. 12).

Calanus Marshalliae Frost, 1974

- Frost, 1974, pp. 77-99, figs. 1-4, 10c, 14, 16.
- , Gardner & Szabo, 1985, pp. 25, 136-137, fig. 8.1.1.
- , NISHIDA, 1984: 38
- , PETERSON + MILLER, 1977: 718, 720-722
- MILLER ET AL. 1984: 1287
- SHIH 1986: 107-
- McLaren, et al., 1989: 568 fig 2
- FROST 1989: 545
- BANSTEDT 1988: 55
- BRADFORD 1988: 76-
- CONOVER 1988: 127-, N. ATLANTIC

Calanus marshallae Frost, 1974

card 2

- Sevigny & McLaren 1988: 267-, ~~Atlantic~~ ^{COAST OF} WASHINGTON
- McLAREN ET AL. 1988: 275, SEATTLE
- UYE 1988: 290-
- PETERSON ET AL. 1990: 91
- COYKE ET AL. 1990: 763-, AUK BAY, ALASKA
- FRYD ET AL. 1991: 683-
- OHMAN 1986: 685-, DABOB BAY, WASHINGTON STATE
- UYE 1991: 634

Calanus mastigophorus Claus - see Clausocalanus

Calanidae - Calanoidea,
Calanus medius Dana, ♀.

— — Dana, 1849, p. 14.

— — Dana, 1852, p. 1063: pl. 73, f. 3, a-b.

— — Giesbrecht, 1892, p. 300 (position doubtful).

— — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. North Pacific.

Calanus minor (Claus) - see Nannocalanus

- — Krøyer, 1845-7, pl. 41, fig. 4.
— — Krøyer, 1848, pp. 543, 552.
— — Giesbrecht, 1892, p. 300 (position doubtful).
A synonym of Pseudocalanus minutus (Krøyer).
(With, 1915, p. 57).

- — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).
— —, GENEVA, 1977: 82, 83
— Andronov, 1986: 297.

Eucalanus mirabilis Lubbock, ♀.

— — Lubbock, 1856, p. 16: pl. 5, f. 1-6.

— — (= Eucal. attenuatus) Giesbrecht, 1892, p. 132.

A synonym of Eucalanus attenuatus.

(Esterly, 1905, p. 133).

Calanus nataliensis Brady, 1914

--, Brodskii, 1964, p. 230

Calanidae - Calanoida,

Calanus nudus Dana, ♀.

— — Dana, 1849, p. 11.

— — Dana, 1852, p. 1052: pl. 72, f. 3, a-b.

— — Giesbrecht, 1892, p. 300 (position doubtful).

— — Giesbrecht & Schmeil, 1898, p. 51 (doubtful).

Habitat. Atlantic Ocean: tropics.

Calanus orientalis Marukawa ♂♀

— — Marukawa, 1908, p. 5-6, ^{Pl. 1} figs 18-34

A deformed *C. vulgaris*; Mori, 1932, p. 33.

--, Chiba, 1956, p. 42

--, TANAKA, 1956a: 265. Undinula vulgaris (Dana) - abnormal specimen with branched caudal setae reported as C. orientalis n.sp. by Marukawa according to Mori 1932?

Habitat. Coast of Japan.

A senior homonym of Calanus orientalis Jaschnov 1975.

Calanidae - Calanoida.

Calanus mundus Dana, ♀.

- — Dana, 1849, p. 16.
- — Dana, 1852, p. 1071: pl. 74, f. 2, a-b.
- — Streets, 1877, p. 139.
- — (= *C. finmarchicus*) Giesbrecht, 1892, p. 89.

Habitat. North Pacific.

Calanus orientalis Jaschnov, 1975

- Jaschnov, 1975: 32, 35-38, Fig. 3, n. sp. ♀♂, Pacific Ocean near Honshu, Japan Fig. 4, Map of distribution
- Bradford 1988: 78, POSSIBLE JUNIOR SYN. OF
C. PACIFICUS OCEANICUS BRODSKY 1959.

A primary junior homonym of Calanus orientalis Marukawa, 1908, which in turn is a junior subjective synonym of Undinula vulgaris (Dana).

No post 1975 publications by Jaschnov in Zool. Record

CAHANUS PACIFICUS BRODSKY (1958)

- — Brodsky, 1948, p. 31, pl. 2, fig. 4-10
- — BRODSKY, 1950, p. 89, Fig. 21, USSR
- —, Jaschnov, 1957.
- —, Jaschnov, 1955, p. 1217¹⁸, fig. 5
- —, Shen + Bai, 1956, pp. 180-182, pl. 1, fig. 1-6.
- —, Brodsky, 1961. p. 15, pl. 1, fig. 3, pl. 2, fig. 3, 9, pl. 3, fig. 4, pl. 4, fig. 4
- —, Brodsky, 1959. pp. 35-39
- —, Brodsky, 1960. p. 12
- —, Brodsky, 1962. pp. 1416-1419

- C. pacificus, Brodsky, 1962. p. 97
-- --, Jaschnov, 1958. pp. 838-843
-- --, Omori, 1965. pp. 18-27
-- -- Park, 1968, pp. 527-572.
-- --: Vaupel-Klein, 1970, pp. 5-7, fig. 1a-f.
- - Brodsky, 1967 p 1442
- - Brodsky, 1967:222
- - , Brodsky, 1965: 57
-- , Jaschnov, 1970, p. 205-7, fig. 4
-- , Shen & Bai, 1956, p. § 218-9, pl. I (1-6)
-- , Fulton, 1968, p. 33, fig. 20, syns.: some refs.
of C. finmarchicus, pacificus, sp.

Calanus pacificus S. I. Brodsky, 1948 ^{card 2}

- , Beklemishev, 1961, p. 140-, 153-, fig. 4
- , Brodskii, 1964, p. 205
- , Lubni-Gertsik, 1959, p. 70-
- ,^{D.S.} Wilson, 1973, p. 912.
- ~~Bradford~~, Jillett, 1974, pp. 6, 7, 9,
- Minoda, 1972, p. 325-330.
- Wilson, Parrish, 1971, p. 202
- Williams, 1972, p. 59.
- Vyshkartsava, 1972, p. 152.
- Frost, 1974, p. 77, 81, 94.
- , Furuhashi, 1966: 316
- , Hirakawa, 1976: 73
- , Blades & Youngbluth, 1980, p. 47.

- , LANDRY, 1978: 1104-1112; FIG. 4, 7, 8; TAB. 1
- , BRODSKY, 1976: 6
- , VYSHKUARTZEVA, 1976: 27, 33, 35, 36, 39, 44, 47, 48, 57;
TAB. 1, 3, 4, 6, 8, 9, 11, 13, 14, 16
- , GELETIN, 1977: 90
- , VYSHKUARTZEVA, 1977: 97, 104; FIG. 1, 29, 30
- , JAWED, 1973: 3, 7-104
- , PAFFENHOFER, 1976: 49, 55, 56, 57
- , TAGUCHI & FUKUCHI, 1975: 146, 150, 153, 157; FIG. 2;
TAB. II-IV; VII
- , FIGUEIRA 1971: 144.
- , Blades & Youngbluth, 1979, p. 353

Calanus pacificus s.l. Brodsky, 1948

- , Gardner & Szabo, 1982, pp. 25, 138-139, fig. 8.1.2
- , Uye, 1982, p. 5-7
- , Shen & Bai, 1956: 180-182, 218-219, fig. 16, pl. 1
- , Jaschnov, 1963: ~~1002-1011~~
1011 — 1016, fig. ~~4-4~~
5-6
- , FERRARI, 1980: 548.
- , HIROTA, 1982: 50
- , SCHNACK, 1983: 66-67

CALANUS PACIFICUS S.L. BRODSKY, 1948

CARD 4

- , PAFFENHÖFER + GARDNER, 1984: 510
- , PAFFENHÖFER, 1984: 330, 332
- MILLER ET AL. 1984: 1274, 1278-1287
- HIRAKAWA 1979: 49-58
- KLEPPEL + MANZANILLA 1983: 155-159.
- IKEDA 1977a: 19-20, 22-23, 25, 26
- NIVAL x NIVAL 1973: TRANSLATION P. 9-10.
- CONLEY + TURNER 1985: 119
- UYE + KASAHARA 1978: 116

Calanus pacificus s.l. Brodsky, 1948

card 5

-- Uye & Kasahara 1983: 155

-- UYE 1984a: 45, 47

-- UYE 1984b: 172

-- KOOA 1984b: 129

→ Runge, 1985: 382-395

— Mackas & Burns, 1986: 383-392

— Dawson & Knatz, 1980: 22, pl. 9, figs a-k

-- AMBLER 1986: 194

-- AMBLER ET AL. 1985: 189, SAN FRANCISCO BAY

— Schiemer, 1985: 3017 Tbl. 2

Calanus pacificus s. l. Brodsky, 1948

card 6

-- Yen 1982: 110, 115

-- YEN 1983: 69-76, PUGET SOUND

-- RAZOULS, S. ET AL. 1986: 887

-- RAZOULS, S. ET AL. 1987: 659

-- COONEY 1971: 101-, PUGET SOUND

-- HUNTLEY ET AL. 1987: 103-113, LA JOLLA

-- HUNTLEY, MARIN + ESCRITOR 1987: 911-, LA JOLLA

-- FORSYTH + JAMES 1984: 809

-- BAMSTEDT 1986: 11-

Calanus pacificus s. l. Brodsky, 1948

card 7

- Sargent & Henderson 1986: 61-
- LE BORGNE 1986: 116-
- MAYZAUD 1986a: 181-
- MAYZAUD 1986b: 234-
- CORNER ET AL. 1986: 304-
- TESTER 1986: 477
- KLEIN BRETELIER & GONZALEZ 1986: 72-
- CONOVER & POULET 1986: 94-
- SHIH 1986: 108-

Calanus pacificus Brodsky, 1948

card 8

-- Sykes & Huntley 1986: 636.

-- PAFFENHÖFFER & STEARNS 1988: 36

-- KIMOTO ET AL. 1986: 142

-- GREENE & LANDRY 1988: 1070-, OFF WASHINGTON STATE

-- McLaren, 1986: 1342, 45

-- Ayukai, 1987: 580, 585, 586

-- McLaren, & Sevigny, ^{F FROST} 1989: 568 fig 2

-- Schnack, 1988: 52

-- Sykes & Huntley, 1987: 19-24 California

Calanus pacificus Brodsky, 1948

card 9

-- Dam, 1986: 157

-- Dey, et al. 1988: 321- figs 5-8 tabs 1,2
Puget Sound WA

-- Frost, 1972: 805-814 Puget Sound WA figs 2-7 tab 2

-- Frost, et al. 1983: 1,8- fig 6 tabs 1,2
East subarctic Pacific

-- Frost, 1985: 1-11, figs 1,2,4,6-10 Dabob bay

-- Frost, 1975: 263-266 figs 1,2 tab 1

-- Huntley, et al 1987: 103-112 figs 2-5, tabs 2,3
La Jolla bay, California

-- FERRARI & HAYEK 1990: TAB. 1

-- CUMMINGS 1982: 120

-- ROMAN ET AL. 1988: 27-

Calanus pacificus Brodsky, 1948

card 10

- Head et al. 1985: 284-
- HEAD ET AL. 1986: 283 -
- BAMSTEDT 1988: 55 -
- RUNGE 1988: 63 -
- BRADFORD 1988: 74 -
- JASCHNOV 1975: 35 -
- HUNTLEY 1985: 41-55, CALIFORNIA
- HUNTLEY ET AL. 1983: 151-160, LA JOLLA, CALIFORNIA
- HUNTLEY + BOYD 1984: 455 -

Calanus pacificus Brodsky, 1948

card 11

- Huntley et al. 1986: 105-120, La Jolla, California
- HUNTLEY 1988: 87-
- SARGENT & FALK-PETERSEN 1988: 102-
- CONOVER 1988: 127-, N. ATLANTIC
- MARIN 1988b: 444-
- MARIN ET AL. 1986: 49-, LA JOLLA BAY, CALIFORNIA
- SEVIGNY & McLAREN 1988: 267-, COAST OF WASHINGTON
- McLAREN & CORRETT 1984: 828-
- McLAREN ET AL. 1988, 275-, SEATTLE

Calanus pacificus Brodsky, 1948

card 12

- Uye 1988: 290-
- GREENE, C.A. 1988: 296-, FIG. 2 C
- JIMENEZ PEREZ ET AL. 1988: 77-90, BAHIA DE TODOS SANTOS, BAJA CALIFORNIA
- JIMENEZ-PEREZ + LARA-LARA 1988: 126-, GULF OF CALIFORNIA
- JIMENEZ PEREZ 1989: 90-, BAHIA DE TODOS SANTOS
- TURNER 1984: 6-
- COPLEY + WIEBE 1990: 12, GUAYMAS BASIN

Calanus pacificus Brodsky, 1948

card 13

- Montú 1989:39--, feeding
- MILLER + CLEMENS 1988:307 -
- BOTTGER 1985:212 -
- SHIH ET AL. 1971:144, CANADA - PACIFIC
- DE DECKER 1984b:158
- ALVARIÑO 1989:65-, OFF S. CALIFORNIA
- GREENE, C.H. + M.R. LANDRY 1985:1408-1416, FIG. 6,
CABOB BAY + PUGET SOUND, WASHINGTON
- FRYD ET AL. 1991:683 -

Calanus pacificus Brodsky, 1948

card 14

-- Ohman 1985:28--

-- OHMAN 1986: 685-, DABOB BAY, WASHINGTON STATE

-- OHMAN 1988b: 533-

-- OHMAN 1990: 276 -

-- OHMAN ET AL. 1989: 1321-

-- OHMAN & WILKINSON 1989: 974, OFF S. CALIFORNIA

-- HADA & UYE 1991: 155-

-- UYE 1991: 634

-- MILLER, C. B. ET AL. 1991: 81-

Calanus pacificus Brodsky, 1948

card 15

-- Steinberg, 1993: 31-

-- BRODSKY 1972: 8-107, FIGS.

-- UYE + MURASE 1997: 7-9

Calanus pacificus f. californicus

- Fleminger, 1985: 275-291, fig 2-3
- FLEMINGER 1986: 87
- FLEMINGER + HULSEMAN 1987: 77
- CALIFORNIENSIS, FERRARI + HAYEK 1990: 114, 123, ^{TAB. 1}
- BRADFORD 1988: 78
- OHMAN 1988a: 143, CALIFORNIA CURRENT
- SMITH, P.E. ET AL. 1989: 95-, OFF S. CALIFORNIA
- BRODSKY 1972: 103

Calanus pacificus var. japonicus Brodsky

-- -- -- Brodsky 1959

-- -- -- Brodsky 1961. p. 16, pl. 5, fig. 5,6; pl. 3,
fig. 5-9, pl. 4, fig. 5

-- --, Heinrich, 1968, *passim*

CALANUS PACIFICUS OCEANICUS BRODSKY, 1959

--- BRADFORD 1988: 78

--- BRODSKY 1972: 103

Calanidae
Calanus parvus Claus, ♂.♀.

— — Claus, 1863, p. 173.

— — (= Paracalanus parvus) Giesbrecht, 1892, p. 164.

A synonym of Paracalanus parvus (Claus)
(With, 1915, p. 54)

ar

Arcos, 1975, p. 12

Calanidae - Calanoidea.
Calanus patagoniensis (Brady), ♀. ①

Calanoides — Brady, 1883, p. 74: pl. 23.

Calanus — Giesbrecht, 1888, p. 331.

— — Giesbrecht, 1892, p. 91: pl. 6. f. 8, 10, 17.

— — Giesbrecht & Schmeil, 1898, p. 16.

— —, Brodsky 1967 p. 191

Habitat. Chonos, Valparaiso.

— —, Brodsky 1965: 28

--, BRODSKY, 1976: 6

--, VYSHKUARTSEVA, 1977: 97; FIG. 20, 30

— — Farran, 1929, p. 215.

— — —, Brodsky, 1960. p. 12

— — Brodsky, 1967: 223

— — Vyshkvartseva, 1972, p. 152.

— —, Brodskii, 1967, p. 191-

— —, Brodskii, 1964, p. 230

— —, Arcos, 1975, p. 9 (syn. Calanoides patagoniensis)

— —, VYSHKVARTZEVA, 1976: 25, 26, 27, 33, 35, 36, 41, 44, 47, 50,
53, 55; TAB. 1, 3, 4, 6, 8, 9, 11, 13, 14, 16

Dakin & Glefax, 1933: 203

— — VYSHKVARTZEVA 1972b: 162-171, FIG. 7(5).

Calanus patagoniensis (Brady, 1883)

card 2

-- Montu 1989:41-, *Fig. 48-3*

Calanus pauper Giesbrecht, 1888 - see Canthocalanus

Calanidae - Calanoida.

Calanus pavo Dana, ♀

- — Dana, 1852, p. 1061: pl. 72, f. 12, a-b.
— — Dana, 1849, p. 13.

A synonym of Calocalanus pavo.
(T. Scott, 1894, p. 37).

- — Thompson, 1888, a, p. 148: 1888, c, p. 139.
— — Giesbrecht, 1892, p. 175.

---, Cleve, 1901, p. 5

Calanidae - Calanoida,

Calanus pellucidus Dana, ♀.

— — Dana, 1849, p. 15

— — Dana, 1852, p. 1067: pl. 73, f. 7.

— — (= Calanus sp.) Giesbrecht, 1892, p. 92.

— — Giesbrecht & Schmeil, 1898, p. 18.

Habitat. Tropical Atlantic.

- — (= *Calanus* sp.) Giesbrecht, 1892, p. 92.
— — Giesbrecht & Schmeil, 1898, p. 18.

Habitat. English Seas.

Calanus perspicax Dana, ♀ - Calanoidea.

— — Dana, 1852, p. 1071: pl. 74, fig. 1, a-c.

A synonym of Calanus finmarchicus.
(Esterly, 1905, p. 125).

Calanus plumchrus Marukawa, 1921 - see Neocalanus

Calanidae - Calanoida.

Calanus plumosus Lubbock, ♀.

— — Lubbock, 1854, p. 126: pl. 5, figs. 4-5.

— — (= *C. hyperboreus*) Giesbrecht, 1892, p. 91.

Habitat. North Atlantic.

Calanus plumulosus Calanidae.
Claus, ♀

— — Claus, 1863, p. 174: pl. 26, fig. 15-16.

— — Carus, 1885, p. 332.

— — (= Calocalanus p-) Giesbrecht, 1892, p. 176.

A synonym of Calocalanus plumulosus.

(T. Scott, 1894, p. 39).

see Ischnocalanus plumulosus (Claus, 1863)

Calanus ponticus Kritschagin

— Kritschagin, 1873: 403-406 pl. II, fig. 11-13
= Paracalanus

Syn = Paracalanus

Calanus ponticus Karavaev 1894

C. FINMARCHICUS VAR. PONTICA, KARAVAEV 1894: 37-
42, PL. I FIGS. 1-19, N. VAR. ♂, ♀, BLACK SEA

-- Fleminger & Hulsemann 1987: 43-81, ⁷⁵ raised to species
rank from C. helgolandicus ponticus

* Calanus ponticus Kritschagin, 1873
has seniority.
Hulsemann placed it in Paracalanus

Calanus princeps Brady, ♂. ♀.

— — Brady, 1883, p. 36: pl. 4, figs. 3-7.

— — Fowler, 1912, p. 496.

— — Giesbrecht, 1892, p. 300 (position doubtful).

A synonym of Macrocalanus princeps (Brady)
(Witt, 1915, p. 37)

— — Giesbrecht & Schmeil, 1898, p. 52 (doubtful).

--, Wolfenden, 1906, p. 25

--, TANAKA, 1956a : 262

Calanidae - Calanoida.

Calanus propinquus Brady, ♀. ♂

— — Brady, 1883, p. 34: pl. 2, f. 1-7: pl. 14, f. 10-11

— — Quidor, 1906, p. 54.

— — T. Scott, 1894, p. 25: 1912, p. 528.

— — Brady, 1915, p. 136!

— — Brodsky, 1967 p. 191

Habitat. Gulf of Guinea: Tropical Atlantic:
Indian Ocean: Australia: Valparaiso:
Rio Janeiro: Malta: France:

- — Giesbrecht, 1888, p. 332.
- — Thompson, 1888, a. p. 147: 1888. c. p. 139.
- — Giesbrecht, 1892, p. 91: pl. 7. f. 31, 34: pl. 8.
- — Giesbrecht & Schmeil, 1898, p. 15. §. 14, 24, 32
- — Giesbrecht, 1902, p. 16: pl. 1, fig. 1-8
- — Wolfenden, 1908, p. 9: pl. 1, figs. 1-4.
- — Wolfenden, 1911, p. 190 ♂
- — Farran, 1929, p. 214.
- — Wilson 1942, p. 173
- —, VERVOORT, 1951, p. 27; FIGS. 14-24, ANTARCTIC ATLANTIC WATERS.
- —, Brodsky, 1962, pp. 709-712
- —, Brodsky, 1960, p. 12

Calanus propinquus Brady, 1883

(2)

- --, Brodsky, 1964. pp. 210-221
- --, Tanaka, 1960. pp. 10-12, fig. 1-8, pl. 1; pl. 2, fig. 1-2
- --; Vervoort, 1957, pp. 26-27.
- - Brodsky, 1967 p. 1442
- - Brodsky, 1967:222
- - (Brodsky) 1965:28
- , Bradford, 1971, p. 15, fig. 8,9
- , Heinrich, "The life histories...", p. 16
- , Seno, Komaki & Takeda, 1963, tab. 2, fig. 4,5
- Bradford & Jillett, 1974, pp. 6,7,9.
- Vervoort, 1957, pp. 23, 24, fig. 3

--, Beklemishev, 1961, p. 164

Brodskii, 1967, p. 191-

Brodskii, 1964, p. 213-27

-- Frost, 1974, p. 81

--, Cushing, 1951, p. 166

-- Vyshkvartseva, 1972, p. 15z.

--, TANAKA, 1964b: 4, 5, TAB. 2, 3

--, VYSHKVARTZEVA, 1977: 15

--, BRODSKY, 1976: 8

--, VYSHKVARTZEVA, 1976: 27, 33, 35, 36, 44, 47, 48, 57; TAB.

1, 3, 4, 6, 8, 9, 11, 13, 14, 16

CALANUS PROPINQUUS

CARD 3

- , VYSHK VARTZ E V A, 1977: 97, 124, 130, 131; FIG. 6, 7, 30
- , Grindley & Lane, 1979, p. 112-117, tbl. 2, figs. 2, 3
- , Brodskij, 1958, p. 27, 28
- , Bradford, 1971, p. 15, figs 8, 9.
- , Hempel, et al., 1983, p. 18.
- , Zvereva, 1975: 251
- , Ramirez, 1969: 35-38, Pl. 4, fig 18-22
- , SCHNACK, 1983: 63-67.
- VORONINA 1975: 60-87, SOUTH ATLANTIC

- Fleminger, 1985: 275-291
- Bjornberg, 1981: 618, fig 205 #7
- De Decker, 1984: 315
- MINODA + HOSHIAI, 1982: 33-37, SOUTH GEORGIA
- ZMIJEWSKA 1983: 33-46, PRYDZ BAY, ANTARCTICA
- VYSHKVARTZEVA 1972b: 162-171, FIG. 5(3).
- MONTÚ + CORDEIRO 1986: 88-, ANTARCTIC
- MONTÚ + OLIVEIRA 1986: 115 -, S. ATLANTIC
- RAMSTEDT 1986: 9- :
- LE BORGNE 1986: 123-
- ALMÆIDA PRADO POR 1986: 517-523, FIG. 2-9,
ANTARCTIC

CALANUS PROPINQUUS BRADY, 1883

CARD 4

- JAZDZEWSKI ET AL. 1982: 214, ~~DRAKE PASSAGE~~
BRANSFIELD STRAIT
- Vervoort, 1972: 96 Antarctica
- Nakamura et al. 1982: 28-30 tab 1 fig 2, 3 S. Indian O
(Antartic)
- FERRARI & DEARBORN 1989: 1318, OFF ANTARCTIC
PENINSULA, SOUTH GEORGIA
- KARAVAEV 1894: 40
- BRADFORD 1988: 74-

Calanus propinquus Brady, 1883

card 5

- Kanayeva 1968: 562-, Scotia Sea
- HUNTLEY ET AL. 1987: 208-
- MARIN 1987: 106-, SCOTIA SEA
- MARIN 1988a: 161-, ANTARCTIC (ATLANTIC SECTOR)
- MARIN 1988b: 439-, SCOTIA & WEDDELL SEAS
- RAZOULS & RAZOULS 1988: 239-
- SEVIGNY & McLAREN 1988: 267-
- ATKINSON & WARD 1988: 329-, SOUTH GEORGIA
- MARIN 1986: 1-177, ANTARCTIC SEAS

Calanus propinquus Brady, 1883

card 6

--Montú 1989:41-, feeding

--SCHNACK-SCHIEL ET AL. 1991:17-, WEDDELL SEA

--P. WARD 1989:144-, S. GEORGIA, ANTARCTIC

--OHMAN ET AL. 1989:1322-

--BRODSKII ET AL. 1983:17-

--RAMÍREZ 1966:5-, LAM. IV FIGS. 1-12, MAR DEL PLATA,
ARGENTINA

--RAZOUKS 1994:25-, PLATES 3, 4, ANTARCTIC

--SCHNACK-SCHIEL + HAGEN 1994:1543; WEDDELL SEA

CALANUS PROPINQUUS BRADY, 1883

7

-- BRODSKY 1972: 8-107, FIGS.

-- BEAUMONT + HOSIE 1997: 121-131, PRYDZ BAY,
ANTARCTIC.

-- QUIDOR 1906: 1, 2, ANTARCTIC

Calanidae - Calanoida
Calanus pygmaeus Claus, ♀.

— — Claus, 1863, p. 174.

— — (= Paracalanus sp.) Giesbrecht, 1892, p. 164.

Habitat. Messina.

Calanidae — Calanoidea.

Calanus quinqueannulatus Krøyer, ♀.

— — Krøyer, 1842-45, pl. 41, §, 3 (no text).

— — Krøyer, 1848, p. 545.

A synonym of Calanus finmarchicus,
(With, 1915, p. 10).

— — (= C. finmarchicus) Giesbrecht, 1892, p. 89.

Calanus ramosus Mori ♂♀.

— — Mori, 1929, p. 208: pl. 10; figs. 9-15.

An abnormal *C. darwini*, Mori, 1932, p. 33.

Habitat S.W. Japan Sea.

Calanidae - Calanoida.

Calanus recticornis Dana, ♀.

— — Dana, 1849, p. 14.

— — Dana, 1852, p. 1064: pl. 73, f. 5, a-b.

— — (= *C. finmarchicus*) Giesbrecht, 1892, p. 89.

Habitat. "Sulu Ocean", Philippines.

Calanus robustior Giesbrecht, 1888 - see Neocalanus

Calanidae - Calanoida.
Calanus rostrifrons Dana, ♀.

— — Dana, 1849, p. 19.

= Rhinocalanus rostrifrons, GREENWOOD, 1976: 16-17

Habitat. Sulu Sea.

Calanidae - Calanoida
Calanus rotundatus Dana, ♀.

— — Dana, 1849, p. 11.

— — Dana, 1852, p. 1049: pl. 72, fig. 1, a-d.

— — Giesbrecht, 1892, p. 301 (position doubtful).

— — Giesbrecht & Schmeil, 1898, p. 52 (doubtful).

Habitat. Pacific Ocean.

Calanidae - Calanoidea,
Calanus sanguineus Dana, ♀

— — Dana, 1849, p. 16.

— — Dana, 1852, p. 1070: pl. 73. f. 11, a-b.

— — Streets, 1877, p. 138.

— — (= *C. finmarchicus*) Giesbrecht, 1892, p. 89.

Habitat. North Pacific; Sulu Sea.

Calanus sanguineus - Calanoida.

var. perspicax Dana, ♀.

-- Dana, 1852, p. 1071: pl. 74, f. 1, a-c.

-- (= C. finmarchicus) Giesbrecht, 1892, p. 89.

Habitat. Feejee Islands.

Calanidae - Calanoidea.

Calanus scutellatus Dana, ♀.

- — Dana, 1849, p. 13.
- — Dana, 1852, p. 1060: pl. 72, f. 11, a-b.
- — (= Temora discaudata) Giesbrecht, 1896, p. 328.

Habitat. "Sulu Ocean", Philippines.

Calanidae - Calanoida -
Calanus septentrionalis (Goodsir), ♀, ♂.

— — Norman + Brady, 1909, p. 111.

— — Goodsir, 1843, p. 339: pl. 6, fig. 1-11.

A synonym of Calanus finmarchicus.
(With, 1915, p. 10).

Calanidae - Calanoida.
Calanus setuligerus Dana, ♀.

— — Dana, 1849, p. 15.

— — Dana, 1852, p. 1065: pl. 73, §. 6, a-d.

— — Lubbock, 1860, p. 4.

— — Giesbrecht, 1892, p. 301 (position doubtful).

Habitat. Tropical Atlantic.

— — Giesbrecht & Schmeil, 1898, p. 52 (abbreviated).

Calanus simillimus Giesbrecht, ♀.

- — Giesbrecht, 1902, p. 17.
- — Wolfenden, 1908, p. 10: pl. 1, figs. 5-6.
- — Wolfenden, 1911, p. 192
- — Farran, 1929, p. 213.
- —, VERVOORT, 1951, P.P. 11, FIGS. 3-14.

Habitat, Antarctic Ocean.

- —, Brodsky 1967 p. 191
- —, Brodsky 1965: 28
- — Bradford & Jillett, 1974, pp. 6, 79

- C. simillimus, Brodsky, 1962. pp. 709-712
-- --, Brodsky, 1960. p. 12
-- --, Brodsky, 1964. pp. 195-210
-- --, Tanaka, 1960. pp. 12-13, pl. 2, fig. 3-10
-- --; Vervoort, 1957, pp. 25-26.
-- -- Brodsky, 1967, p. 1442
-- -- Brodsky, 1967:224
-- --, Seno, Komaki & Takeda, 1963, tab. 2, fig. 4, 5
-- --, Beklemishev, 1961, p. 165
-- --, Brodskii, 1967, p. 191-
-- --, Brodskii, 1964, p. 200-13
-- --, Cushing, 1951, p. 166
-- -- Vyshkvartseva 1972, p 152.
-- -- Frost, 1974, p. 79, 81.
-- --, TANAKA, 1964b: 4, 5, TAB. 2, 3

CALANUS SIMILLIMUS

CARD 2

- , HIRAKAWA + ZAMA, 1985: 115-120, SOUTHERN CHILE
- , ARCOS, 1976: 90, 99; FIG. 4; TAB. II
- , VYSHKVARTEVA, 1976: 27, 33, 35, 36, 44, 48, 57; TAB. 1, 3, 4, 6, 8, 9, 11, 13, 14, 16
- , VYSHKVARTEVA, 1977: 97; FIG. 5, 30
- , Brodskij, 1958, p. 27-29
- , Hempel, et al., 1983, p. 18
- , VORONINA 1975: 60-87, SOUTH ATLANTIC
- Fleminger, 1985: 275-291
- Björnberg, 1981: 618, fig. 205 #8

- De Decker, 1984: 315
- MINODA + HOSHIAI, 1982: 32-37, SOUTH GEORGIA
- MONTÚ + CORDEIRO 1986: 88-, S. ATLANTIC
- VORONINA + ZADORINA 1974: 32-, S. ATLANTIC

Calanus simillimus

- Nakamura et al. 1982: 28-30 figs 2,3 tab 1 S. Indian Ocean
. Antarctic
- Marin & Antezana, 1985: 963,964 tab 1 Chile
- FERRARI & DEARBORN, 1989: 1318, OFF ANTARCTIC
PENINSULA, SOUTH GEORGIA
- BRADFORD 1988: 74-
- KANAYEVA 1968: 562-, SCOTIA SEA
- MARIN 1987: 109-, SCOTIA SEA
- RAZOULS & RAZOULS 1988: 239-246,
- SEVIGNY & MCLAREN 1988: 267-

Calanus simillimus GIESBRECHT

card 3

- Atkinson & Ward 1988: 329-, South Georgia
- MARIN 1986: 12-, ANTARCTIC SEAS
- DE DECKER 1984: 154-, OFF S. AFRICA
- P. WARD 1989: 144-, S. GEORGIA, ANTARCTIC
- RAZOULS 1994: 28-, FIGS. 5, 6, ANTARCTIC
- BRODSKY 1972: 8-107, FIGS.

Calanidae - Calanoida.

Calanus simplicicaudus Dana, ♀.

- — Dana, 1849, p. 16.
- — Dana, 1852, p. 1073: pl. 74, f. 4, a-b.
- — Giesbrecht, 1892, p. 301 (position doubtful).
- — Giesbrecht & Schmeil, 1898, p. 52 (doubtful).

Habitat, North Pacific.

Calanus sinicus Brodsky ♀ ♂ 1962 ①

-- Brodsky, 1965 p. 63

-- Brodsky, 1967:1442

-- Brodsky, 1967:222

--, Gurjanova, 1972, p. 66-7

--, Brodsky, 1972, p. 253-4

--, Brodskii, 1964, p. 203

--, Krylov, 1967?, p. 248

--, Bradford Jillett, 1974, pp. 6, 7, 9,

-- Vushkvar'tseva, 1972, p. 152.

-- Frost, 1974, p. 81

--, HIROTA, 1979a: 14; Fig. 3

--, VYSHKVARTEVA, 1976: 27, 33, 35, 36, 44, 47, ...
TAB. 1, 3, 4, 6, 8, 9, 11, 13, 14, 16

--, VYSHKVARTEVA, 1977: 97, 130, 131; FIG. 2, 30

--, CHENG et al. 1965: 2.

--, Bradford, 1979, *passim*

--, ~~Chen~~ ^{Chen} ~~Chao~~, 1982, p. 261-263, 266

- Chen, 1980: table 1

- Chen, et al, 1982: 260, *passim*

- Pulsifer, 1975: 101-106, fig. A, B

--, HIROTA, 1981: 21 TAB. 1

-- UYE & KASAHARA 1978: 116

Calanus sinicus Brodsky

card 2

-- Uye 1984b: 172

-- KOGA 1984b: 108, 110-113, FIGS. 4-1, 5-1, 6-1, 8-1-2,
9-2-3, NAUPH11; 127, 129, FIG. 13, TABLE 2-1;
FIGS. 57 (1-2), 61 (1)

-- LI & FANG 1983b: 110-118, FIGS. 1-37, DEVELOPMENT

-- UEDA 1987: 72

-- Uye, 1986e: 35-42, fig 1-4 graphs Japan

-- SHIH 1986: 108.

-- CHEN, Q-C & ZHANG 1986: 274, SOUTH CHINA SEA

Calanus sinicus Brodsky

card 3

- Chen, Q-C 1986: 526-
- KIMOTO ET AL. 1986: 142
- Uye, 1986: 35 - figs 3, 4 Inland Sea, Japan
- McLaren & Sevigny, ^{FROST} 1989: 568 fig 2
- BRADFORD 1988: 74 -
- JASCHNOU 1975: 32-35, FIG. 2, PACIFIC
- SEVIGNY + MCLAREN 1988: 267-
- MCLAREN ET AL. 1988: 275-, EAST CHINA SEA
- UYE 1988: 285-293, INLAND SEA, JAPAN

Calanus sinicus Brodsky

card 4

- Uye et al. 1987: 428-, Inland Sea, Japan
- UYE & MATSUDA 1988: 281-, " " "
- UYE & YASHIRO 1988: 48, " " "
- TODA & HIROSE 1991: 613-617, FIGS. 1, 2, EGGS, JAPAN
- UYE 1991: 634
- UYE ET AL. 1990: 851-, INLAND SEA, JAPAN
- BOXSHALL 1992: 382
- UYE & MURASE 1997: 3-10, INLAND SEA, JAPAN
- UYE & MURASE 1997: 97-99, " " "

CALANUS SINICUS BRODSKY

(5)

-- NAGANUMA ET AL. 1997: 783-786, INLAND SEA,
JAPAN

CALANUS SISTATUS

--, BRODSKY, 1976: 8

— calanidae - Calanoidea.
Calanus spitzbergensis Krøyer, ♀.

- — Krøyer, 1843-45, pl. 41, f. 1, a-n (no text).
— — Krøyer, 1848, p. 531

A synonym of Calanus finmarchicus.
(With, 1915, p. 10).

- — (= C. finmarchicus) Giesbrecht, 1892, p. 89.
— — (= C. FINMARCHICUS), HO + PERKINS 1985: 586

Calanus strenuus
--Frost, 1974, p. 78.

Temoridae - Calanoida.

Calanus stylifer Dana, ♀

— — Dana, 1849, p. 13.

— — Dana, 1852, p. 1058; pl. 72, f. 9.

— — (= Temora stylifera) Giesbrecht, 1892, p. 328.

A synonym of Temora stylifera.
(T. Scott, 1894, p. 75).

--, (= TEMORA STYLIFERA) VERVOORT, 1965: 100

Calanidae - Calanoida

Calanus syunpuensis Kurasige ♀.

— — Kurasige, 1933, p. 221: pl. 1.

An immature *C. helgolandicus*, Mori, 1932, p. 33.

Habitat, Tokyo, Japan.

Calanus tenuicornis Dana - see Mesocalanus

Calanus tonsus Brady - see Neocalanus.

Calanus tonsus plumchrus

---, Fulton, 1968, p. 34, a syn. of C. plumchrus

--, TANAKA, 1956a : 253, 257

Temoridae - Calanoida
Calanus turbinatus Dana, ♀.

— — Dana, 1849, p. 12.

— — Dana, 1852, p. 1057: pl. 72, §. 8.

A synonym of Temora longicornis.
(T. Scott, 1894, p. 76).

Habitat. "Sulu Ocean", near Borneo,

--, (= TEMORA TURBINATA) VERVOORT, 1965: 99

— — (= *Temora turbinata*) Giesbrecht, 1892, p. 328.

Calanus turbinalus Dana, 1849

--, Shen, 1963, p. 577, a syn. of Temora turbinata
(Dana); a typo?

Calanidae - Calanoida.

Calanus valgus Brady, ♂. ♀.

--, Corral, 1970, p. 70

-- Brady, 1883, p. 33: pl. 3, figs. 1-7.

-- T. Scott, 1894, p. 24.

-- Esterly, 1905, p. 126 (syn. of C. minor).

-- Thompson, 1888, a, p. 147; 1888, b, p. 139.

--, GREENWOOD, 1976: 7

Habitat. Atlantic Ocean: Mouth of Congo:

— — (= *C. minor*) Giesbrecht, 1892, p. 90.

Calanus vulgaris (Dana) - see Undinula

Calanus vulgaris plumulosus - see Undinula

Calanus sp.

①

- , Sato, 1913, no. 2, pl. 2
- , Seno, Komaki & Takeda, 1963, tab. 2
- Shan, 1962, Fulton, 1968, p. 33: a syn. of
C. pacificus
- , Roe, 1972b, p. 318
- , Frolander, 1962, pp. 662.
- , MAIN, 1962: 2, 4, 5, 6, 32, 42, 57, 76, 80, 95, 99-103, 110, 112, 116
- , CARTER, 1965: 353
- sp., FIGUEIRA 1971: 145-146.
- spp., FIGUEIRA 1971: 145.

- , CRISAFI + CRESCENTI 1975: 210-216.
- , Hempel, et al., 1983, pp. 4, 11, 18-19,
- , VAISSIÈRE + SEGUIN, 1984: 3 TAB. 1, 4, 5 TAB. 3
- , MOTODA + MINODA, 1972: 213
- BRUZZONE ET AL. 1979: 79, GULF OF GENOA
- BRUZZONE ET AL. 1982: 235, GULF OF GENOA
- CARLI 1971a: 61-, LIGURIAN SEA
- CARLI ET AL. 1973: 340-, SICILY
- CARLI + VALENTE 1981: 731-, LIGURIAN SEA
- GÓMEZ AGUIRRE + LEÓN ALVAREZ 1987: 54-,
CHAMELA BAY, MEXICO
- GRAINGER + MOHAMMED 1986: 304-, ARCTIC
- SHIH ET AL. 1971: 145-, CANADA - PACIFIC

Calanus sp.

card 2

-- Brodskii et al. 1983: 13-, Fig. 1, general morphology

Calanus spp.

- Uye & Kasahara 1983: 156.

- MALT 1983a: 464

- MAYZAUD 1986a: 174-

- CORNER ET AL. 1986: 264-

-- SHIH ET AL. 1971: 145, CANADA-PACIFIC

diaptomidae

Calchas

mordmanni

--, BRENN 1949: 416.