

in

Calanoida-Centropagidae

Limnocalanus valid -

G. O. Sars - 1863

L. macrurus

Syn. Limnocalanus Sars, 1863, p. 228.

Limnocalanus Herrick, 1895, p. 48.

Limnocalanus Sars, 1902, p. 80.

Limnocalanus Schmeil, 1898, p. 184.

Λιμνη, a lake and Calanus.

(pars) Centropages, De Guerne, 1886, p. 276.

Limnocalanus, G. & Richard, 1889, p. 127

Limnocalanus Giesb. & Schmeil, 1898, p. 58.

Head separate from 1° segt.; urosome
3-jointed in ♀, 5-jointed in ♂. 1° anten-
nae 25-jointed in ♀ = right antenna in ♂
geniculate. Exopod of 2° antennae longer
than endopod and 7-jointed.
Endopod of all the legs 3-jointed: 5° legs
in ♀ with claw on exopod well marked.

Limnocalanus Marsh, 1925, Art. 8, p. 2.

Limnocalanus Sars, 1863

CARD 2

- Sprules 1984: 322.
- Borutzky, 1960: 14, 20 - KEYS
- Mauchline 1988: 712
- Dussart 1986: 63, SHORT DIAGNOSIS
- Weckel 1914: 190-191, DIAGNOSIS
- Williamson 1991: 788-
- Borutzky et al. 1991: 49, DIAGNOSIS

Limnocalanus grimaldi De Guerne - see L. macrurus
grimaldi

LIMNOCALANUS GRIMALDII GLACIALIS ~~RDS~~
LINDQVIST, 1961

-- LINDQVIST, 1961: 82-83, 86

Limnocalanus grimaldi var. macrurus G. O. SARS, 1863

--, Maemets, 1959, p. 36

-- MAEMETS & VELDRE 1956a: 51-52, PLATE II, FIGS.

9-10 - ESTONIA

-- VEKHOV 1997: 25-26, TAB. 1

Centropagidae - Calanoidae
Limnocalanus johanseni Marsh, 1920

— — Marsh, 1933, p. 6: pl. 1, f. 1-8; pl. 3,
figs. 4-7; pl. 13, fig. 6 -


— — Marsh, 1920, pp. 3; - 4;: pl. 1, f. 1-8.

— — —, Johnson, 1961. p. 317

— — —, Holmquist, 1970, pp. 274-294, 8 figs.

Habitat. Arctic Zone, Collinson Pond -

— — —, Edmondson, 1957, p. 237

— — —, Tash, 1971, 168-107.  fig 7, ^{ALASKA} CAPE THOMSON,

— — —, BRENN 1949: 419.

- Tash, 1967, p. 135.
- , MAIN, 1962: 44, 116
- , CARTER, 1969: 2555
- , FERRARI & ASCOLINI, 1975: 42
- , HEINLE, 1966: 73
- , COMITA & EDMONDSON, 1953: 10; TAB. 1
- , COMITA & COMITA, 1957: TAB. 1
- , JOHNSON, 1956a: 15
- , LINDQUIST, 1959: 5, 7
- , LINDQUIST, 1961: 13, 17, 18, 37, 45, 47, 50, 54, 73, 83, 84; FIG. 1, 2; TAB. 6, 8

Limnocalanus johanseni Marsh, 1920

-- COMITA 1968: 56

-- FERRARI & HAYEK 1990: TAB. 1

-- COMITA 1956: 576, 578, 579, 581, 589; Tabs. 2, 5-8
10, 11; Figs. 2, 4-10.

-- HOLMQUIST 1975: 424-425, NORTHERN ALASKA

-- BORUTSKY 1960: 20, FIG. 3(3); 185

-- SMIRNOV 1929: 324

-- SHIH ET AL. 1971: 203, CANADA - ARCTIC

-- TASH & ARMITAGE 1967: 132, CAPE THOMPSON, ALASKA

-- BAYLY 1997: 29 - FIG. 16 - DISTRIBUTION

LIMNOCALANUS JOHANSENI MARSH, 1920

(3)

-- STRELETSKAYA 1986:97

Limnocalanus macrurus G.O. Sars, ♀.

— — Sars, 1862, p. 17; 1863, p. 228.

— — Richard, 1891, p. 141; pl. 5, fig. 9; pl. 7, fig. 2.

— — Sars, 1902, p. 81; pls. 55 & 56.

— — Herrick, 1895, p. 49; pl. 1, fig. 1-4.

-- FORBES, S. A. 1882: 640, 648-649, MICHIGAN, USA

Habitat Norwegian Coast; North America.

- — Nordquist, 1888, p. 31: pl. 1, f. 9-11: pl. 2, f. 1-5: pl. 3, f. 1-4.
- — De Guerne & Richard, 1889, p. 77: pl. 4, f. 5, 11-12.
- — Marsh, 1892, p. 201: pl. 4, f. 7.
- Centropages grimaldi De Guerne, 1886, p. 1.
- Limnocalanus Forbes, 1882, p. 648.
- — var. auctus Forbes, 1891, p. 706.
- — Marsh, 1897, p. 11: pl. 4, f. 1-2: pl. 5, f. 1-5.
- — Herrick, 1884, p. 143.
- — Stephensen, 1913, p. 303.
- — Marsh, 1918, p. 774: text-fig. 1212.
- — De Guerne & Richard, 1889, pl. 18: table.
- — Giesbrecht & Schmeil, 1898, p. 58.

Limnocalanus

L. macrurus

(2)

— Gurney, 1928, p. 1.

— Gurney, 1931, p. 98.

— Rylow, 1930, p. 64: figs. 5, 13, 15.

— Ekman, 1913, p. : 1920, p. 580

— Marsh, 1933, p. 4: pls. 1, 2, 3, 13.

— Davis, 1961, pp. 933-942. Lake Erie

—, Holmquist, 1970, pp. 273-294, 8 figs.

—, Wierzbicka, 1953, pp. 525-540, fig. 1

~~—, Wierzbicka, 1953, p. 532~~

—, M Wilson, 1953, p. 169

—, Roff, 1972, pp. 155-160, figs. 1-2

—, Davis, 1954: TAB. 3

- , Kiefer, 1952, p. 51
- , Brehm, 1917, p. 616
- macrutus, Cushing, 1951, p. 165
- , Eddy, 1934, p. 31, 32
- Marsh, 1894: 809
- , Forbes, 1890, p. 476
- , Wilson, 1960, p. 165-6
- , Robertson, 1966, pp. 130, 134, 136-7.
- , MAIN, 1962: 8, 14, 122
- , CARTER, 1969: 2543-44, 2546, 2553-56, 2557, 2558, 2559;
FIG. 7, 8; TAB. 1
- , GANNON & BEETON, 1971: 27-37; FIG. 1-4
- , FERRARI & ASCOLINI, 1975: 40, 45
- , FABER & JERMOLATEU, 1971: 1

Limnocalanus macrurus Sars (= L.m. macrurus) CARD 3

- - , Bowman & Long., 1968, pp. 172, 177
- , HALL & WATERMAN, 1968: 188
- , COMITA & EDMONDSON, 1953: 10
- , REED, 1963: 51
- , RIGLER & LANGFORD, 1967: 82, 83, 86, 87;
FIG. 2; TAB. 1
- , LAWSON, 1957: 28
- , LINDQVIST, 1959: 4, 5
- , LINDQVIST, 1961: 5, 7, 13, 16-35, 52, 55, 56, 70, 73,
79-84, 86; FIG. 1-3, 5, 7; TAB. 2-4; SYNONYMS:

L. m. ACUTUS; L. GRIMALDII MACRURUS.

--, BRENN 1949: 419.

--, COMITA 1956: 589.

Limnocalanus macrurus Sars

card 4

--, Lanner & Pejler, 1973, p. 32

--, Shih & Laubitz, 1978, p. 49

--, Robertson & Cannon, 1981, p. 384-385

--, Wilson, 1972, p. 762-763

--, Wilson, 1973, p. 660

--, Sutherland, 1982, p. 478

— Patalas, 1965:40

— Segerstrale, 1957:29

--, PATALAS + SALKI, 1984: 613, 615-616 Table 1, 618 Fig. 6, 624-
626 Fig. 31, 630, 632 Fig. 30, 635

Limnocalanus macrurus Sars

card 5

-- Evans 1984: 489

-- I KEDA 1977b: 33

-- ^{JE}GANNON ET AL. 1982: 1-23, TAB. 3; 70.

-- BRICKER ET AL. 1976: 267.

-- ^{JE}GANNON 1972: 82.

-- ^{JE}GANNON 1974: 32-49.

-- ^{JE}GANNON 1975: 81-89.

-- ^{JE}GANNON 1976: 90-93.

-- ^{JE}GANNON 1981a: 23-36.

-- ^{JE}GANNON 1981b: 1731.

Limnocalanus macrurus Sars

card 6

- JE Gannon & Gannon 1975: 222-223.
- JE GANNON ET AL. 1978: 5-17, FIG. 1, C.
- JE GANNON & STEMBERGER 1978: 19-20, 27
- NILSSON & PETLER 1973: 69.
- BIGELOW 1923: 58-59, LAKE NIPIGON, CANADA
- BREHM 1953: 99
- CHANDLER, D. 1940: 325, L. ERIE
- FREY 1964: 57
- HOLMQUIST 1975: 424-425, NORTHERN ALASKA
- Bradshaw, 1964: ~~passim~~ 703

- Chow-Fraser & Wong 1985: passim
- Patalas & Patalas, 1966: 207, 208, 211, fig 4, 6
- Wong & Chow-Fraser, 1985: 3190-3194, fig 1B
- BORUTSKY, 1960: 30, 185
- Horner & Murphy, 1985: 203
- Kiefer, 1978: 211
- RAMCHARAN ET AL. 1985: 3215-3219, ONTARIO
- REED 1964: 692-, CANADA
- TAYLOR ET AL. 1987: 2181, LAKE ONTARIO
- REED 1959: 24-, RECORDS - CANADA
- SMIRNOU 1929: 324

Limnocalanus macrurus Sars, 1863

card 7

-- Balcer et al. 1984: 74-, Pls. 23, 24, Great Lakes;

SYN. L. M. AUCTUS; SUBSP. L. M. GRIMALDI

-- MAYZAUD 1986: 242-

-- GYLLENBERG 1986: 321-325, LAKE PÄÄJÄRVI, FINLAND

-- WONG 1986: 638.

-- ZHADIN + GERD 1986: 299, 302, 306, 312, 314, 363,
368, USSR

-- SPRULES ET AL. 1988: 137-, LAKE HURON

-- M. S. WILSON, UNDATED: 2, PL. 1, WASHINGTON

Limnocalanus macrurus Sars, 1863

card 8

-- Brehm 1908a: 454-

-- LANGFORD 1938a: 29, ONTARIO

-- LANGFORD 1938b: 158-, ONTARIO

-- WECKER 1914: 191

-- EKMAN 1920: 580-581

-- NORDQVIST 1888: 31-37, Pt. I FIGS. 9-11, II FIGS. 1-5,
III FIGS. 1-4, FINLAND

-- BANSTEDT 1988: 55-

-- GONZALEZ DE INFANTE 1988: 75-

Limnocalanus macrurus Sars, 1863

card 9

- Papinska 1984: 502-, Mikolajskie Lake, Poland
- RAWSON 1956a: 71-, GREAT SLAVE LAKE
- RAWSON 1956b: 23, CANADA
- RAWSON 1959: 52, WOLLASTON LAKE, SASKATCHEWAN
- RAWSON 1960b: 204, LAKES, SASKATCHEWAN
- SMITH & FERNANDO 1978b: 21, FIGS. 20-23, ONTARIO
- L. M. MACRURUS, SHIH ET AL. 1971: 209, CANADA-ARCTIC
- HARDING & SMITH 1974: 9-, FIG. 4a, b, BRITAIN
- Wong & Sprules, 1986: 80-88

Limnocalanus macrurus Sars, 1863

card 10

-- Williamson 1991:795-

-- ALEKSEEV 1992a: 8-

-- ALEKSEEV 1990b: 39-, DIAPAUSE

-- KIEFER 1978c: 36-57, FIG. 1, EUROPE

-- BORUTZKY ET AL. 1991: 49-, FIG. 14, USSR-DIST.

-- BOWMAN 1978a: 114-

-- CZAIIKA 1978: 19-, LAKE ERIE

-- CZAIIKA 1978b: 3-, LAKE ONTARIO

-- CZAIIKA 1982: 441-, FIGS. , DEVELOPMENT; LAKES
SUPERIOR, MICHIGAN, ONTARIO

-CF-, STRELETSKAYA 1986: 65-66, FIG. 1 (I-III);

SIBERIA

-- STRELETSKAYA 1986: 95

-- CARTER, J. ET AL. 1980: 1358, 1360-1362, FIG. 6 TAB. 1,

NE USA, SE CANADA

Centropagis
Limnocalanus macrurus Sars
var. cuctus Forbes, ♀.

— — — Forbes, 1882, p. 648; 1891, p. 706.

— = L. macrurus (LINDQUIST, 1961 p. 13)

Habitat. Great Lakes.

— = L. macrurus, BALGER ET AL. 1984: 75

--- FORBES, S. A. 1890: 706-707, REPEATS DESCRIPTION
OF N. SPP.; LAKE SUPERIOR.

Centropagidae - Calanoida
^{macrurus}
Limnocalanus grimaldii (Guerne) ♀, ♂.

Centropages g — Guerne, 1886, p. 1.

— — (= macrurus) Nordquist, 1888, p.

— — G. O. Sars, 1898, p. 335.

— — G. O. Sars, 1897, p. 38; pl. 4, f. 1-18.

--, GOMITA & EDMONDSON, 1953: 10

Habitat, Gulf of Finland: Caspian Sea:
Siberia.

- — Giesbrecht & Schmeil, 1898, p. 59
— — Willey, 1920, p. 11 K
— — Rylow, 1930, p. 63, : figs. 13 + 14.
— — Jasnov, 1927, p. 20, Kara Sea.
— — Linko, 1913, p. 25.
— — Ekman, 1913, p. : 1914, p. 494.
— — Marsh, 1933, p. 5, pl. 1, figs. 4, 6, 7.
— —, Brodsky, 1950, p. 321, fig. 223.
— —, Jasnov, 1946. Arctic distribution
— —, Bitjukov (БИТЮКОВ), 1960. Ecology in Finnish Bay.
— —, Johnson, 1961. pp. 316-317
— —, Lindquist, 1961. pp. 6-9
— —, Bitjukov, 1960. pp. 1783-1789. fig. 1-5

macrurus

(2)

Limnocalanus, grimaldii (de Guerne)

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

--, Holmquist, 1970, pp. 273-294 (synonym of L. macrurus)

--, Pesta, 1928, p. 27, fig. 19

--, Wierzbicka, & 1953, p. 525

--, Kiefer, 1952, p. 51

--, Haahtela, 1974, p. 239

--, Cushing, 1951, p. 165-

--, Wilson, 1960, p. 166

--, CARTER, 1969: 2546, 2555

--, JOHNSON, 1956a: 11, 15; FIG. 7; TAB. 2, 4

--, REED, 1963: 51

--, LINDQVIST, 1959: 3-19; FIG. 2, 3; TAB. 1-3

--, LINDQVIST, 1961: 5, 7, 12, 13, 16-86; FIG. 1-3, 5-7, 9, 11-13,

17, 19, 20-22; SYN: CENTROPAGES E.; L.

MACRUREUS, Nordqvist, 1988

--, BRENN 1949: 419.

-?, COMITA 1956: 589.

- Segerstrale, 1957: 29

macrurus

Limnocalanus grimaldi (de Guerne)

card 3

- Roen 1962: 170
- KOGA 1984a: 43, 51
- KOGA 1984b: 104, 139
- GRIMALDI, MAEMETS & VELDRE 1956a: 12, 18, 50-51, FIG. 2, TAB. II, FIGS. 7, 8; TAB. III, FIGS 6, 7 - ESTONIA
- GRIMALDI, BORUTSKY 1960: 20, FIG. 3(3); 185
- Zykoff, 1904: 339, 343, 344
- SMIRNOV 1929: 324
- ZELIKMAN & KAMSHILOV 1960(64): 39-, BARENTS SEA

Limnocalanus macrurus grimaldii (Guerne)

CARD 4

--, Bowman, & Long, 1968, pp. 172-178.

--, BALDI 1946: p. 14.

--, Segerstrale, 1966, p. 59

---, BALZER ET AL. 1984: 75, SUBSPECIES OF
MACRURUS..

L. GRIMALDI, ZHADIN & GERD 1961: 254, 260, USSR

L. G.; FERRARI & HAYEK 1990: TAB. 1

L. GRIMALDI TYPICA, MAEMETS 1959: 36

L. GRIMALDII, BREHM 1908a: 454-

L. GRIMALDII, EKMAN 1920: 580-581

Limnocalanus macrurus grimaldii (Guerne)

card 5

L. Grimaldii, Akatova 1949:347-, Kolyma River

L. GRIMALDII, LINDQUIST 19596:53-, BOTTENSEE
(GULF OF BOTHNIA)

L. M. GRIMALDI, SHIH ET AL. 1971:203-209, CANADA
ARCTIC

L. GRIMALDII, SARS 1898:335-, Pl. 8 FIG. 7, SIBERIA

L. GRIMALDI, ROEN 1968:46-47, GREENLAND

-- STAFLETSKAYA 1986:65, SYN. OF L. MACRURUS

Centropagidae - Calanoidae
Limnocalanus sarsii Daday.

— — Daday, 1901, p. 350: no figures

--, LINDQUIST, 1961: 13

- SARSI, FORRÓ 1986: 561

Habitat, Patagonia.

LIMNOCALANUS SINENSIS POPPE, 1889 - SEE

SINOCALANUS SINENSIS

LIMNOCALANUS SINENSIS VAR. TENELLUS - SEE

SINOCALANUS TENELLUS

Limnocalanus sp.

-- --, Apstein, 1905, p. VI, VIII, XXIV, XXVI

-- RAWSON 1960a: 19, LAKES, SASKATCHEWAN

LIMNOCALANUS spp.

-- ARRHENIUS 1996: 709