

Candaciidae: Calanoida

PARACANDACIA GRICE, 1963

-- MAUCKLINE 1988: 713, FIG. 7D - PORE SIGNATURE

Calanoida.

Candacia bispinosa (Claus), ♂. ♀.

1.7-1.95 mm.

Candace — Claus, 1866, p. 12: pl. 1, fig. 3-9.

— — Carus, 1885, p. 337.

— — Cleve, 1900, p. 142: T. Scott, 1912, p. 537.

— — Steyer, 1910, p. 1030 (26)

— — A. Scott, 1902: 405

Habitat. Mediterranean: Tropical  
Pacific.

- — Thompson & Scott, 1903, p. 250,  
— — Claus, 1863, p. 191; pl. 27 & 28.  
— — Thompson, 1888, c. p. 140.  
— — Giesbrecht, 1889, c. p. 815.  
— — Giesbrecht, 1892, p. 424: pl. 4, 21, 22, 39.  
— truncata (pars) Brady, 1883, p. 69: pl. 28, 29.  
— bispinosa Giesb. & Schmeil, 1898, p. 129.  
— — Pesta, 1921, p. 538: text fig. E 52.  
— — A. Scott, 1909, p. 151; Sars, 1925, p. 352.  
— — Wolfenden, 1911, p. 357.  
— — Farran, 1929, p. 272.  
— — Rose, 1929, p. 43. 1933, p. 255.  
— — Cleve, 1900, p. 50. Wilson 1942, p. 124, fig. 9

Candacia bispinosa-2

- — Sewell 1932, p. 334, Indian O.; 1947, p. 246
- — Wilson 1950, p. 181
- — Matoda and Anraku 1955 P. 212 Idzu Is.
- —, MORI, 1937, P. 84, JAPAN.
- —, SEWELL, 1947, P. 246, S. Arabian Sea area.
- —, Chiba, Tsuruta, + Maeda, 1955. Bikini.
- —, Fleminger + Bowman, 1956, p. 331. Gulf of Mexico, SE coast of U.S.
- —, Crisafi, 1963. pp. 101-109, fig. 23-34
- —, Owre, 1962
- —, Havnich 1960. p. 4

- C. bispinosa, Honjo et al, 1957. pp. 120-128  
-- --, Grice, 1962. p. 235, pl. 32, fig. 7-14  
-- --, Heinrich, 1961. p. 89 (vertical distribution)  
-- --, Brodsky, 1962. p. 140, fig. 40  
-- --, Chiba, 1956, p. 14  
-- --, Corral, 1970, p. 201  
-- --, Heinrich, 1960, p. 7,8  
-- --, Furuhashi, 1961: 108  
-- --, Bjornberg, 1963: 9, 55, 56, 104 (3 tables), Tables 8 & 17  
-- --, (= PARACANDACIA BISPINOSA) VERVOORT, 1965: 157-158  
-- --, TANAKA, 1964a: 243, 245 SYN: PARACANDACIA B.

CANDACIA BISPINOSA

CARD 3

- , STEPANJANTS, 1977: 78; TAB. 1,3
- , DEEVEY, 1971: 230; TAB. 3
- , BRIAN 1927: 10.
- , Lawson, 1977, p. 71-92
- Monod, 1931: 399
- TRANTER 1977: 593-625.
- GRICE & HART 1962b: TABLE 3, W. NORTH ATLANTIC
- Binet & Dessier, 1968: 8, OFF MADAGASCAR
- DeDecker, 1984: 317

— Hure, 1955: 35

— Hure, 1961: ~~35~~

-- CARLI 1968: 100-, LIGURIAN SEA

-- KIORTSIS ET AL. 1969: 38-, AEGEAN

Paracandacia bispinosa (Claus, 1863)

- -- Grice, 1963, p.173. = CANDACIA B. (TANAKA, 1964a:245)
- -- Park, 1968, pp. 527-572.
- --; Park, 1970, p. 478.
- --, Hure & Scotto di Carlo, 1968, p. 60.
- , Corral, 1970, pp. 201-2, pl. 53
- , Bowman, 1971, p. 6 -
- , Lawson, 1973a, pp. 303-.
- , VERVOORT, 1965: 157-158 SYN. CANDACIA B.
- , WHEELER, 1970: 4



- , BINET & DESSIER, 1971: 438, 455
- , OWRE & FOYO, 1972: TAB. 3
- , OWRE & FOYO, 1964b: 367
- Bjornberg, 1981: 655, fig. 221#1

Paracandacia bispinosa

- , Roe, 1972a, pp. 300-
- , Roe, 1972d, pp. 1037-8.
- , Vives, 1972, p. 223.
- , BRIGHT, ET AL, 1972: 300
- , SCOTTO DI CARLO, ET AL, 1975: TAB. I
- , CALEF & GRICE (UNPUBL.) IN KETCHUM & RYHER  
1966 (UNPUBL.): TAB. 2; APPENDIX
- , Lawson, 1977, p. 71-92
- , GRICE, 1981: 165, 167
- YOUNG-BLUTH 1979: 22, CARIBBEAN

- Deewey & Brooks, 1977 : 265
- MADHUPRATAP & HARIDAS, 1986: 109, 112, 116 -  
INDIAN OCEAN
- AMBLER & MILLER 1987: 561-576, N. PACIFIC
- MAUCHLINE 1988: 713
- SCHULZ 1986: 465, SARGASSO SEA

Paracandacia bispinosa

card 3

- Soldevilla, et al. 1988: 60; Canary Islands
- DESSIER + DONGUY 1987: 14, 397; EASTERN EQUATORIAL PACIFIC
- CUMMINGS 1982: 32; GULF OF MEXICO
- HERRING 1988: 185-
- SUAREZ, E. & GASCA 1990: 62; QUINTANA ROO, MEXICO
- COPLEY ET AL. 1989: 13; NW ATLANTIC
- CANDACIA -, LAKKIS 1984: 289; E. MEDITERRANEAN
- SUÁREZ, E. ET AL. 1990: 126; W. GULF OF MEXICO

Paracandacia bispinosa (Claus, 1863)

card 4

-- Reid 1990g:186

-- TSENG 1970: 253-, OFF TAIWAN

-- SUÁREZ M., F. 1992: 148-, W. GULF OF MEXICO

-- SUÁREZ + GASCA 1991: 596-, GULF OF MEXICO

CANDACIA-, OKEMWA + REVIS 1986: 31, TAB. 1, KENYA COAST

C.-, ROSE, M. 1934: 70-81, OFF ALGERIA.

Candaciidae - Candacia

Candacia simplex (Giesbrecht) ♀♂.

1.85 - 2.1 mm.

— e — Giesbrecht, 1889, c, p. 815.

— — Giesbrecht, 1892, p. 424: pl. 2, 21, 22, 39.

— ia — Giesbrecht & Schmeil, 1898, p. 130.

— — Pesta, 1921, p. 539: text fig. Fig. 53.

— —, owre, 1962

Habitat. Tropical Pacific: Mediterranean  
Red Sea: Indian Ocean.

- - Cleve, 1901, p. 5.
- - T. Scott, 1912, p. 537; A. Scott, 1909, p. 154.
- - Wolfenden, 1911, p. 357.
- - Farran, 1929, p. 273; Sars, 1925, p. 351.
- - Rose, 1929, p. 45.
- - Wilson, 1942, p. 175, figs. 16, 17; 1950, p. 182
- - Sewell 1932, p. 338, Indian O.; 1947, p. 247-8.
- - , Mori, 1937, p. 87, JAPAN.
- - , Sewell, 1947, p. 247, ARABIAN SEA AREA.
- - , Chiba, Tsuruta, + Maeda, 1955, p. 194 (list). Bikini.
- - , Fleminger + Bowman, 1956, p. 381, Gulf of Mexico; SE coast of U.S.
- - , Crisafi, 1963. pp. 118-123, fig. 44-52
- - , Grice, 1962. pp. 235, 239, pl. 32, fig 15-18;
- - , (= PARACANDACIA SIMPLEX) VERVOORT 1964. pl. 33, fig. 1-5

C. simplex (2) (Candacia)

- -- Park, 1968, pp. 527-572.
- --, Shmeleva, 1963, p. 141
- , Ehrhardt, 1967, p. 741
- --, Chiba, 1956, fig. 32
- , Moryakova & Kampos, 1966: 132, passim Cuba
- , Cleve, 1901, p. 5
- , Corral, 1970, p. 202
- , Rose, 1955, p. 391
- , Rose, 1956, p. 462
- , Kolesnikov, 1966, p. 155
- , Furuhashi, 1961: 108
- , BRIAN 1927: 9.



- , Bjornberg, 1963: 9, 57, 104 (3 tables), Tables 10+17
- Vives, 1978: 266, 284
- , TANAKA, 1964a: 243
- , STEPANIANTS, 1977: 78, 82, 85, 93, 96; TAB. 1, 3
- , DEEVEY, 1971: TAB. 3
- Cannicci, 1959: passim
- Marikova & Campos, 1967: 67
- MASSUTI & NAVARRO 1950: 20.
- TRANTER 1977: 593-625.
- GRICE & HART 1962b: TABLE 3, W. NORTH ATLANTIC
- DeDecker, 1984: ~~26~~ 317
- Kolesnikov & Alfonso, 1966: table 3
- Hure, 1955: 34, Hure 1961: 26

Paracandacia simplex (Giesbrecht)

- -- Grice, 1963, p. 173.  
-- --, Vilela, 1968, p. 27, Est. VIII fig. 2  
-- --, Gilat, Kane & Martin, 1965, pp. 13-20  
-- --; Park, 1970, p. 478.  
-- --, Hure & Scotto di Carlo, 1968, p. 61.  
-- --, Corral, 1970, pp. 202-3, pl. 53  
-- --, Bowman, 1971, p. 6-  
-- --, Lawson, 1973a, pp. 303-.  
-- --, Roe, 1972a, pp. 300-  
-- --, Roe, 1972d, pp. 1037-9

--, Vives, 1972, pp. 223-4.

--, VERVOORT, 1965: 158-159 SYN. CANDACIA S.; C.  
PARASIMPLEX

--, WHEELER, 1970: 4

--, BINET & DESSIER, 1971: 438, 455

--, OWREY & FOYO, 1972: TAB. 3

--, SCOTTO DI CARLO, ET AL., 1975: TAB. 1

--, CALEF & GRICE (UNPUBL.) IN KETCHUM & GRICE  
1966 (UNPUBL.): TAB. 2; APPENDIX

Paracandacia simplex

card 2

- , Lawson, 1977, p. 71-92
- , GRICE, 1981: 165
- SANDER + MOORE 1978: 233
- YOUNG-BLUTH 1979: 22, CARIBBEAN
- Hulsemann, 1984: 254
- Bjornberg, 1981: 655, fig. 221 #2
- Deevery & Brooks, 1977: 265
- MADHUPRATAP & HARIDAS, 1986: 109 - INDIAN OCEAN
- MAUCLINE 1988: 713

PARA-  
Candacia simplex (Giesbrecht, 1889)

card 3

C. - Kiortsis et al. 1969: 38-, Aegean

C. - Soldevilla, et al. 1988: 60 Canary Islands

C. -, JUAREZ, E. & GASCA 1989a: 198-, YUCATAN CHANNEL

P. -, SUÁREZ, E. ET AL. 1990: 126-, W. GULF OF MEXICO

C. -, OKEMWA & REVIS 1986: 31, TAB. 1, KENYA COAST

C. -, ROSE, M. 1927: 147, OFF ALGERIA

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

P. -, ALVAREZ-SILVA 1996: 19, TAB. 2, VERACRUZ, MEXICO

Paracandacia simplex (Giesbrecht)

card 9

- Montú 1980b: 57-, Brazil
- MONTÚ & GLOEDEN 1986: 97-, FIG. 30a-d, BRAZIL
- DESSIER & DONGUY 1987: 14, 397-, EASTERN EQUATORIAL PACIFIC
- CUMMINGS 1982: 33-, GULF OF MEXICO
- SUAREZ, E. & GASCA 1990: 62, QUINTANA ROO, MEXICO
- COPLEY ET AL. 1989: 13-, NW ATLANTIC
- SHIH ET AL. 1971: 37, CANADA-ATLANTIC
- CANDACIA,  
-- LAKKIS 1984: 289-, E. MEDITERRANEAN

Paracandacia simplex (Giesbrecht, 1889)

card 5

-- Reid 1990g:186

CANDACIA-, TSENG 1970: 248-, OFF TAIWAN

P.-, SUÁREZ M., F. 1992: 148-, W. GULF OF MEXICO

P.-, SUÁREZ & GASCA 1991: 596-, GULF OF MEXICO

Candaciidae - Calanoida.

Candacia truncata (Dana).

1.85-2 mm.

Candace Dana, 1852, p. 1118: pl. 78, f. 8, a-d.

— — Brady, 1883, p. 69: pl. 28, f. 12-15: pl. 29,

— — T. Scott, 1894, p. 63, f. 1-14

— bispinosa Claus, 1863, p. 191: pl. 27, f. 9-16: pl. 33, f. 5.

— A. Scott, 1902: 406

Habitat. Gulf of Guinea: Pacific near Samoa:  
Sulu Sea: Australia: Philippines: Fiji  
Islands: Canary Islands: Malta.



- Candace truncata* Dana, 1849, p. 24.  
*Candacia* — Giesbrecht & Schmeil, 1898, p. 130  
— — Cleve, 1904, p. 186: Stebbing, 1910, p. 539.  
— — Thompson & Scott, 1903, p. 250.  
— e — Thompson, 1886, p. 204: 1888, a, p. 148.  
— — Thompson, 1888, c, p. 140.; 1900: 282  
— — Giesbrecht, 1889, c, p. 815.  
— — Giesbrecht, 1892, p. 425: pl. 21, f. 14:  
pl. 22, f. 16, 23: pl. 39, f. 26, 28.  
— — Wolfenden, 1906, p. 1013.  
— — A. Scott, 1909, p. 155.  
— — Sewell, 1912, p. 368: 1914, p. 231.  
— — Wilson, 1942, p. 175, fig. 11

*Candacia truncata*-2

— — Sewell 1932, p. 338, Indian O.

— — Pesta, 1941, p. 169-172, fig. 6-7.

— — Matoda and Anraku 1955 p. 212 Idzu Is.

— —, MORI, 1937, P. 82, JAPAN. Pl. 55, Figs. 1-6.

— —, Chiba, 1956, p. 63, fig. 60 A-D.

— —, Yamada 1935

— —, Tanaka, 1935

— —, Chiba, Tsuruta, + Maeda, 1955, p. 209, fig 9A-D. Bikini.

— —, Grice + Jones, 1960, p. 288, fig. 42-45. Central Pacific.

- C. truncata, Honjo et al, 1957. pp. 120-128  
-- --, Decker, 1964. p. 19. South Africa  
-- --, Grice, 1962. p. 239, pl. 33, fig. 6-14  
-- --, Heinrich, 1961. p. 89 (vertical distribution)  
-- --, Brodsky, 1962. p. 137, fig. 37  
-- -- Park, 1968, pp. 527-572.  
-- --, Saraswathy, 1967, p. 81  
-- --, Chiba, 1956, p. 35, fig. 27, p. 63, fig. 60  
-- --, DeDecker, 1962, p. 104  
-- --, Furuhashi, 1961: 108  
-- --, Bjornberg, 1963: 104 (table 7), table 17  
-- --, (= CAUDACIA BIPINNATA) VERVOORT, 1965: 159

CANDACIA TRUNCATA

CARD 3

- , TANAKA, 1964a: 243, 245 SYN: PARACANDACIA T.
- = PARACANDACIA TRUNCATA (GREENWOOD, 1986: 11)
- , ITOH, 1970: TAB. 1
- , Chiba & Hirakawa 1972: 74, 78; Tab. 2; Fig. 2.
- , Lawson, 1977, p. 71-92
- Chen, 1980: table 1
- Chen & Yin, 197- : 274
- Chen, Zhang, Chen, 19-- : 64
- Chen, Zhang, Chen, 19-- : 82

Paracandacia truncata (Dana)

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-- -- Grice, 1963, p. 173. = CANDACIA T., (TANAKA, 1964a: 245)

--, Krylov, 1967?, p. 248

--, Morris, 1970, p. 2301.

--, Lawson, 1973a, pp. 303--.

--, GREENWOOD, 1978b: 1, 11, FIG. 5; 540. CANDACIA T.; C.

TURGIDA

--, STEPANJANTS, 1977: 78, 84, 96; TAB. 1, 3, 6

--, Lawson, 1977, p. 71-92

--, GRICE, 1981: 165.

PARACANDACIA TRUNCATA (DANA)

CARD 2

-- MADHUPRATAP & HARIDAS, 1986: 109, 110, 112, 113, 116-

INDIAN OCEAN

-- Greenwood, 1982b: table 3

-- DESSIER & DONGUY 1987: 14, 397, EASTERN  
EQUATORIAL PACIFIC

PARACANDACIA WORTHINGTONI GRICE 1981

--, GRICE, 1981:165-168, figs. 1-2, new species. ♀♂

Paracandacia sp.

-- Tranter 1977: 593-625.