

in)

Cyclopoida-Sapphirinidae
Poecilostomatoida

Sapphirina

J. V. Thompson, 1829.

S. gemma (M)

Syn. Edwardsia Costa, 1840, p. 1.

Pyromma Haeckel, 1864, p. 102

Sapphirina Thompson, 1829, p. 46.

Sapphirina, having the color of Sapphire.

Cyanomma Haeckel, 1864, p. 105.

Sapphiridina Haeckel, 1864, p. 105.

Sapphirina Wheeler, 1901, p. 190.

Body depressed, oval; abdomen of ♀ considerably narrower than cephalothorax. 5th. thorax segt in ♂ rudimentary. 5th. legs slender, 1-jointed. swimming legs biramous, both rami 3-jointed. 1st. antennae 5 or 6-jointed, 2nd. joint elongate; posterior legs clawed. Caudal stylets laminate. Males often opaline or metallic. Unpaired eye vesiculate. pigment body of lateral eyes styliform.

- (2)
- Sapphirina Templeton, 1836.
Sapphirina Dana, 1848, p. 41; 1849, p. 281,
Sapphirina Dana, 1852, p. 1234; 1846, p. 185.
Sapphirina Claus, 1863, p. 149; 1860, p. 4.
Sapphirina Giesbrecht, 1892, p. 84, 618, 761
Sapphirina Esterly, 1905, p. 218,
Sapphirina M-Edwards, 1840, p. 414,
Sapphirina Brady, 1883, p. 121.
Sapphirina Giesbrecht, 1892, p. 618,
Sapphirina (pars) Tubbock, 1856, p. 27.
Sapphirina Tubbock, 1860, p. 13.

Sapphirina Fischer, 1860, p.
" " " Brady, 1879, p. 216.
" " " Thompson, 1888, a.p. 153: 1888, c.p. 149.
" " " Giesbrecht, 1891, p. 478.
" " " Pesta, 1921, p. 636.

SAPPHIRINA

Thompson

(3)

- , DANA 1846: 229.
- , Moore & Sander, 1976, p. 595, tbl 3
- DUDLEY, P. 1986: 22
- BLADES - ECKELBARGER 1986: 38
- OLSEN 1949: 115-117, DIAGNOSIS, SYNONYMY, KEY
- FOR 1984: 6-
- SCHMIDT, W.J., 1949: 30-37, COLOR
- MEYER, 1832: 155, PROPOSED CARCINIUM N.G. FOR

Sapphirinidae - Cyclopoidea

Sapphirina angusta Dana, ♀

— — Dana, 1849, p. 41; 1852, p. 1240: pl. 87, f. 3.

— — Sara, 1916, p. 4; Cleve, 1904, p. 196.

— — Giesbrecht, 1891, p. 478; Cleve, 1903, p. 368.

— — Stebbing, 1910, p. 552; Steyer, 1907, p. 163.

Habitat. So. Atlantic; Adriatic; South
Pacific.

— — Steuer, 1910, p. 1034 (30).

— — Giesbrecht, 1895, p. 261.

S - danae Lubbock, 1856, p. 33: pl. 12, f. 9-11.

S - clausii Haeckel, 1864, p. 104, pl. 2, f. 21-25.

S - angusta Giesbrecht, 1892, p. 619, 641: pl. 52, f. 5,
6, 53, 58, 66: pl. 53, f. 6, 17, 29, 30: pl.

54, f. 2, 8, 17, 20, 60, 61.

— — Esterly, 1905, p. 221: text-fig. 58, a-d.

— — danae Brady, 1879, p. 216: pl. 12.

— — angusta Brady, 1883, p. 130.

— — opaca Lubbock, 1856, p. 27: pl. 5: Brady,
1883, p. 127: pl. 49: Thompson, 1888, c. p. 149.

— — clausii Gourret, 1889, p. 474.

SAPPORINA

S. angustia (2)

- S— angustia Pesta, 1921, p. 637: text-fig. R 85.
— — Brady, 1883, p. 130
— — T. Scott, 1912, p. 575; A. Scott, 1909, p. 253
— — Wolfenden, 1911, p. 360.
— — Pesta, 1911, p. 60: fig. 26, text.
— — Farran, 1929, p. 288.
— — Rose, 1929, p. 59.
— — Wilson, 1932, p. 364: fig. 221. 1942, p. 205
— —, Mori, 1937, p. 125, JAPAN
— —, Sewell, 1947, p. 265, — ARABIAN SEA.
— —, Lehnhofer, 1929, pp. 275, 315, figs. 1, 2, 47, 48.

- —, Krishnaswamy, 1956, p. 461.
— —, Chiba, Tsuruta, + Maeda, 1955. Bikini.
-- --, A.G. Fish, 1962. p. 24
-- --, Tanaka, 1960. pp. 72-73
— —, Owre, 1962
-- -- CRISAFI, 1966, p. 653
-- --, Vilela, 1968, p. 34, Est. X fig. 3
-- --, Saraswathy, 1967, p. 102
-- --, Bjornberg, 1963: 10, 87 ~~88~~, 104 (2 tables), Table 10
-, BINET + DESSIER, 444, 456
-, OWRE + FOYO, 1964: 369
- Vives, 1978: 267

Sapphirina angusta

-- TRANTER 1977: 593-625.

---, Elofsson, 1971, p. 299-300, 301, 303, 307, (Fig. 7)

--- Wickstead, 1956 : 19-20

-- --, Hure & Scotto di Carlo, 1968, p. 71.

--, Paiva, 1971, p. 34-6

--, Rose, 1956, p. 464

--, Heron, 1973, pp. 429-435, fig. 1a,d, plates 1 and 2

--, Vives, 1972, pp. 233-4.

--, Furuhashi, 1961: 109

--, TANAKA, 1964b: 14, TAB. 2, 3

- , CHENG et.al. 1965: 2.
- Ramirez, 1969: 93-95, fig. 167
- MASSUTI & NAVARRO 1950: 27.
- YOUNG-BLUTH 1979: 23, CARIBBEAN
- Dakin & Colefax, 1940: 107, fig. 165a-c
- Dakin & Colefax, 1933: 210
- Tanaka, 1965a: 39, fig. 12a-c
- Binet & Dessier, 1968: 9, OFF MADAGASCAR
- Bjornberg, 1981: 671, fig. 226 #1.
- Deevay & Brooks, 1977: 266
- MICHEL ET AL. 1986: 35, ARABIAN GULF
- Hure, 1955: 38
- Hure, 1961: 29

Sapphirina angusta Dana

card 4

-- Carli & Sertorio 1964: 207-, Ligurian Sea

-- CARLI & VALENTE 1981: 731-, " "

-- Soldevilla, et al. 1988: 61 Canary Islands

-- SUAREZ, F. & GASCA 1989a: 198; YUCATAN CHANNEL

-- SUAREZ, F. & GASCA 1990: 62; QUINTANA ROO, MEXICO

-- OLSEN 1949: 9

-- LAKKIS 1984: 290; E. MEDITERRANEAN

-- REID 1990g: 195

-- CARVALHO 1939: 42, 44, SÃO PAULO, BRAZIL

JAPPHIRINA ANGUSTA DANA

5

-- ROSE 1927: 147, OFF ALGERIA

-- ROSE 1934: 54-81, " "

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

Sapphirinidae - Cyrtopoda
Sapphirina aureofurca Giesbrecht, ♀

— Giesbrecht, 1891, p. 478

A synonym of Sapphirina darwini.
(Giesbrecht, 1892, p. 619).

Sapphirinidae - Cyclopoidea

Sapphirina auronitens Claus.

- — Claus, 1863, p. 153; Haeckel, 1864, p. 100.
- — Sara, 1916, p. 4.
- — Thompson & Scott, 1903, p. 287.
- — Giesbrecht, 1892, p. 619; pl. 1-4: 52-54.

Habitat. Indian Ocean: Malay Archip.

- , SCOTO DI CARLO, ET AL., 1975: TAB. 1
- , BINET & DESSIER, 1971: 444

- — Pesta, 1921, p. 638: text-fig. π 86.
— — Cleve, 1901, p. 8; T. Scott, 1912, p. 575
— — A. Scott, 1902, p. 719; 1909, p. 254.
— — Farran, 1929, p. 289.
— — Rose, 1929, p. 60.
— — Wilson, 1932, p. 365: fig. 222 1942, p. 205
— — Steuer, 1898, p. 424
— — MORI, 1937, p. 127, JAPAN.
— —, Chiba, Tsuruta, + Maeda, 1955. Bikini.
— —, CRISAFI, MAZZA, 1966, p. 591
— — CRISAFI, 1966, p. 659

Sapphirina auronitens CLAUS

--, Elofsson, 1971, 299-300, 303, 307

-- --, Hure & Scotto di Carlo, 1968, p. 71.

--, Corral, 1970, pp. 230-1

--, Fruchtl, 1924, p. 102-3

--, Furuhashi, 1961: 109

--, Bjornberg, 1963: 87, 10, ⁸⁸ (S. auronitens Claus-sinui
123 -auda Brady)

--, MOORE & SANDER, 1979: 200

--, DEEVEY, 1971: TAB. 3

--, CRISAFI et al. 1973: 112.

--, Marques, 1975, p. 51-52, fig. 3

- Lian & Lin, 1978: 49 - 50, pl 2, fig 1-5.
- TRANTER 1977: 593-625.
- SANDER & MOORE 1978: 233, BARBADOS.
- YOUNG-BLUTH 1979: 23, CARIBBEAN
- Deevery, 1952b: 131, 147
- Dakin & Colefax, 1940: 107, fig. 168a-c.
- Binet & Dessier, 1968: 10, OFF MADAGASCAR
- Hure, 1955: 38
- Hure, 1961: 29
- Wickstead, 1956: 20
- Tafe & Griffiths, 1983: 112 Australia

Sapphirina auronitens Claus, 1863

card 3

-- Soldevilla, et al. 1988: 61 Canary Islands

-- OLSEN 1949: 9, 126, PL. XXX FIG. 1-5, OFF US
W. COAST; SYNONYMY

-- REID 1990g: 195

-- OKEMWAT REVIS 1986: 31, TAB. 1, KENYA COAST

-- ROSE 1934: 78, OFF ALGERIA

S. AURITONENS, ALVAREZ-SILVA 1996: 19, TAB. 2, VERACRUZ,

MEXICO

-- BÖTTGER-SCHNACK 1997: 409, TAB. 8a, E. MEDITERRANEAN

SAPPHIRINA ARONITEUS-SINUICANDA ^HLENHOFER

- Dewey & Brooks, 1977: 266, SARGASSO SEA
OFF BERMUDA
- EVANS, 1961: 199, OFF CAPE VERDE ISLANDS + MID-ATLANTIC
- , Marques, 1975, p. 52 - CAPE VERDE
- MASSUTI' + NAVARRO 1950: 27, ALBORÁN SEA
- Björnberg, 1981: 672, fig. 226 #8, OFF BRAZIL
-

Sapphirinidae - Cyclopoida.

Sapphirina bella Dana, ♀.

— — Dana, 1849, p. 44.

— — Dana, 1852, p. 1254; pl. 88; f. 3, a-d.

— — Giesbrecht, 1892, p. 621, undetermined.

Habitat. Pacific near Kingmill Islands.

Sapphirinidae - Cyclopoidea

Sapphirina bicuspidata Giesbrecht, ♀,

— — Giesbrecht, 1891, p. 479.

— — Thompson & Scott, 1903, p. 287.

— — Giesbrecht, 1892, p. 619: pl. 1-4: 52-54.

— — Steuer, 1898, p. ⁴²⁵8; A. Scott, 1909, p. 259.

Steuer, 1897, p. 415

Habitat, Indian Ocean: Tropical Pacific.

- — Farran, 1929, p. 289.
- —, SEWELL, 1947, P. 266, ARABIAN SEA AREA.
- — KRISAFI & MAZZA, 1966, p. 586
- —, Saraswathy, 1967, p. 103
- , Furuhashi, 1961: 109
- , CHENG et. al. 1965: 2, 3.
- , Lian & Lin, 1978: 50-51, pl 2, fig 6-9
pl. 3, fig. 1-4

Sapphirinae — Cyrtopoda
Sapphirina clausii (Haeckel). ♀.

Tyromma — Haeckel, 1864, p. 104; pl. 2.

Sapphirina — Carus, 1885, p. 348.

— — Gourret, 1889, p. 474

Edwardsia fulgens — pars Costa, 1838-40 p. 1: pl. 1.

A synonym of Sapphirina angusta.
(Giesbrecht, 1892, p. 619).

Sapphirinidae - Cyclopoidea.

Sapphirina coruscans Dana, ♀

— — Dana, 1849, p. 41.

— — Dana, 1852, p. 1243: pl. 87, f. 6, a-b.

— — Streets, 1877, p. 141.

— — Giesbrecht, 1892, p. 621, undetermined.

Habitat. Tropical Pacific.

Saphirinidae - Cyclopoidea,

Saphirina cylindrica Tubbock, ♀.

— — Tubbock, 1860, p. 184: pl. 29, f. 13-15.

a synonym of Saphirina metallina.
(T. Scott, 1894, p. 125).
(Giesbrecht, 1892, p. 620).

Sapphirinidae - Cyclopoidea

Sapphirina danae Tubbock, ♀.

— — Tubbock, 1856, p. 27: pl. 12.

— — Brady, 1879, p. 216: pl. 12.

A synonym of Sapphirina angusta.
(Giesbrecht, 1892, p. 619).

Sapphirinidae - Cyclopoidea
Sapphirina darwinii Haeckel ♀.

Sapphirina d----- Haeckel, 1864, p. 105, pls. 2 & 3.

Cyanomma d— Haeckel, 1864, p. 105; pl. 2 & 3.

Sapphiridina d— Haeckel, 1864, p. 105.

Sapphirina — Giesbrecht, 1892, p. 619; pl. 1-4, 52.

— aureofurcata Giesbrecht, 1891, p. 478.

Habitat. Messina: Naples.

— darwinii T. Scott, 1912, p. 576.

— — A. Scott, 1909, p. 254.

— — Wilson 1942, p. 206, ATLANTIC

— — MORI, 1937, p. 126.

— — Chiba, Tsuruta, + Maeda, 1955. Bikini.

— — CRISAFI + MAZZA, 1966, p. 594

— — CRISAFI, 1966, p. 660

--, Chiba, 1956, p. 40

--, Corral, 1970, p. 231

S. opalina - darwinii of several authors = S. opalina,
Paiva, 1971, p. 39

card 2

Sapphirina darwini

- , Rose, 1937, p. 154
- , Furuhashi, 1961: 110
- , Bjornberg, 1963: 10, 87 (S. opalina Dana-darwini
Haeckel)
- , DEEVEY, 1971: TAB. 3 - SARGASSO SEA OFF BERMUDA
- , BINET + DESSIER, 1971: 444
- TRANTER 1977: 593-625.
- Soldevilla, et al. 1988: 61 Canary Islands
- JIMENEZ-PEREZ + LARA-LARA 1988: 126,

Sapphirinidae - Cyclopoidea

Sapphirina detonsa Dana, ♀.

— — Dana, 1849, p. 43.

— — Dana, 1852, p. 1247; pl. 87, fig. 11, a-c.

— — Giesbrecht, 1892, p. 620, undetermined.

Habitat. Tropical Pacific.

Sapphirina edwardsii ^{Sapphirinae} Haeckel, ♀.

Tyromma — Haeckel, 1864, p. 103: pl. 2 & 3.

Sapphirina — Costa, 1885, p. 348.

— — Giesbrecht, 1892, p. 618 (= S. gemma).

Habitat: Mediterranean.

Saphirinidae - Cyclopoda

Saphirina elegans Lubbock, ♀.

— — Lubbock, 1860, p. 12: pl. 29, fig. 18-19.

a synonym of Saphirina inaequalis.
(T. Scott, 1894, p. 122).

Saphirina sp. undetermined.
(Giesbrecht, 1892, p. 621).

Sapphirinidae - Cyclopoida.

Sapphirina elongata Dana, ♀.

— — Dana, 1849, p. 41.

— — Dana, 1852, p. 1241; pl. 87, §. 4, a-b.

— — Giesbrecht, 1892, p. 620, undetermined

Habitat. Tropical Pacific.

Sapphirinidae - Cyclopoida.
Sapphirina fulgens Templeton, ♀, ♂.

— — Templeton, 1836, p. 194: pl. 21, f. 8.

Edwardsia — Costa, 1840: pl. 1.

Sapphirina — M. Edwards, 1840, p. 415: pl. 37, f.

— — Leuckart, 1859, pl. 7.

— — Claus, 1859, p. 270: 1860, p. 2: pl. 1.

— — Claus, 1863, p. 151: Brian, 1965, a. p. 2.

— — Sumpff, 1871, p. 26: pl. 2, f. 3, ♂.

A synonym of Sapphirina gemma?
(Giesbrecht, 1892, p. 618).

~~*Dniscus fulgens* Télésius, 1814-19, p. 10: pl. 213, f. 24.~~

Sapphirinidae

Sapphirina gagenbauri (Haeckel), ♀.

Pyromma — Haeckel - 1864, p. 102; pl. 2.
Sapphirina fulgens (pars) Templetou, 1836, p. 194.
Edwardesia fulgens (pars) Costa, 1840, p. 1.
S. gagenbauri Carus, 1885, p. 348.

Habitat. Mediterranean: So. Africa.

Oniscus fulgens (?) Tilesius, 1802, p. 10: pl. 213. f. 24.
— *gegenbauri* Claus, 1866, p. 17.

A synonym of *Sapphirina ovatolanceolata*.
(Giesbrecht, 1892, p. 618).

Sapphirinidae - Cyclopoidea

Sapphirina gastrica Giesbrecht, ♀.

- — Giesbrecht, 1891, p. 478
- — Giesbrecht, 1892, p. 620: pl. 52-54.
- — Thompson & Scott, 1903, p. 286.
- — T. Scott, 1912, p. 576.
- — Thompson, 1900: 288.

Habitat. Tropical Pacific: Red Sea:
Indian Ocean.

- Thompson, 1900, p. 288.
-- A. Scott, 1909, p. 255.
-- Rose, 1929, p. 62.
-- , Matoda and Anraku 1955 p, 212, Idzu Is.
-- , Mori, 1937, p. 129
-- , Chiba, Tsuruta, + Maeda. 1955. Bikini.
-- --, Decker, 1964. p. 24. South Africa
-- --, Saraswathy, 1967, p. 103
-- --, Chiba, 1956, p. 41
-- --, Corra, 1970, pp. 230
-- --, DeDecker, 1962, p. 113
-- --, Furuhashi, 1961: 110

Sapphirina gastrica

card 2

- , Bjornberg, 1963: 104 (2 tables)
- , DEEVEY, 1971: TAB. 3, SARGASSO SEA OFF BERMUDA
EAST CHINA SEA
- , Lian & Lin, 1978: 51-52, pl. 3, fig 5-10, 1
- TRANTER 1977: 593-625, INDIAN OCEAN
- Dakin & Colefax, 1940: 107, Fig. 169 a-c
- Bjornberg, 1981: 672, fig. 226 #5
- Soldevilla, et al. 1988: 61 Canary Islands
- OLSEN 1949: 9, 122-, PL. XXIX FIG. 13, OFF US W.
COAST; SYNONYMY

Sapphirinidae - Cyclopoidea

Sapphirina gemma Dana, ♀.

- (a-f)(a-g)
- — Dana, 1852, p. 1252; pl. 88, f. 1-2 (1855),
- — Wheeler, 1901, p. 191, text-fig. 28.
- — M. Rathbun, 1905, p. 108; Dana, 1849, p. 46
- — Sars, 1916, p. 4; Cleve, 1904, p. 196

Habitat. Gray Head; Atlantic; So. Africa; Australian Ocean; Mediterranean.

- — Mori, 1929: 204 pl 9, fig 4-5

— Giesbrecht, 1892, p. 618: pls. 3, 52, 53, 54.

— Stebbing, 1910, p. 552: Cleve, 1901, p. 9.

— Steuer, 1907, p. 163.

— Sharpe, 1910, p. 409: T. Scott, 1912, p. 575

— Fowler, 1912, p. 488.

— Giesbrecht, 1895, p. 261: 1891, p. 478.

— Lubbock, 1860, p. 13.

— Thompson, 1888, c, p. 149.

— Giesbrecht, 1891, p. 478.

 1863, p. 151

— fulgens Claus, 1860, p. 2: pl. 1: 1859, p. 270: \wedge

— edwardsii Haeckel, 1864, p. 103: pl. 2 & 3.

— gemma Pesta, 1921, p. 638: text-fig. π 88

— Brady - 1883, p. 127: pl. 48, f. 6-8: pl. 50, f. 18

Saphirina

S. gemma DANA (2)

— — Farran, 1929, p. 287.

— — Rose, 1929, p. 59.

— — Cleve, 1900, p. 84.

— — Wilson, 1932, p. 368: fig. 224.

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

— — , Mori, 1937, p. 125.

— — , Chiba, Tsuruta, + Maeda, 1955. Bikini. (in list).

S. ovatolanceolata-gemma, Decker, 1964. p. 24. S. Africa

S. gemma, Tanaka, 1960. pp. 73-74

— — CRISAFI + MAZZO, 1966, p. 577

— — CRISAFI, 1966, p. ~~655~~ 655

(see back)

20110 DI 1100, 1111, 2, 35.
Hure & Scotto di Carlo, 1968, p. 71.

--, Chiba, 1956, p. 10

--, Seno, Komaki & Takeda, 1963, tab. 2

--, Furuhashi, 1961: 109

---, Bjornberg, 1963: 87 (S. ovatolanceolat-gemma)
104 (table 7)

--, TANAKA, 1964b: 14, TAB. 2,3

--, Chiba & Hirakawa 1972: Tab. 2.

Sapphirina gemma Dana

card 3

-- Massuti & Navarro 1950: 27.

-- TRANTER 1977: 593-625.

— Dakin & Colefax, 1940: 107, fig. 167a-d.

— Tanaka, 1965a: 39, fig. 13a-c

— Tafe & Griffiths, 1983: 112 Australia

-- MURAKAWA 1921: 8, JAPAN

-- SUAREZ, F. & GASCA 1989a: 198-, YUCATAN CHANNEL

-- OLSON 1949: 9,

SUNDELL 1971: 57 CANADA ATLANTIC

Sapphirina gemma Dana

card 4

-- Lakkis 1984:290-, e. Mediterranean

-- ALVARIÑO 1989: 70, OFF S. CALIFORNIA

-- BINET + DESSIER 1968:9, OFF MADAGASCAR

-- LEGARE' + MACLELLAN 1960:434, MAINE/NEW BRUNSWICK,
USA/CANADA

-- OKENWA + REVIS 1986:31, TAB.1

Sapphirina gemma Brady, ♀.

— — Brady, 1883, p. 127; pl. 48, 50.

— — Cleve, 1900, p. 142.

— — Wolfenden, 1911, p. 360.

A synonym of Sapphirina salpae.

(Brian, 1905, a, p. 2)

— Chen, 1980: table 1

Sapphirina gemma Brady

card 2

--, Marques, 1975, p. 52

- Binet & Dessler, 1968: 9

-- Soldevilla, et al. 1988: 61 Canary Islands

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

Sapphirina gemma-ovantolanceolata Dana

— Hure, 1955: 38

— Hure, 1961: 29

Sapphirinidae - Cyclopoidea

Sapphirina gibba Rose, ♂, ♀

— — Rose, 1929, p. 62.

— — Rose, 1933, p. 311: fig. 403 (7 figs)

Made a synonym of S. sali Farran -

Habitat. North Atlantic.

Saphirinidae - Cyclopoidea.
Saphirina inaequalis Dana, ♂.♀.

- — Dana, 1852, p. 1244: pl. 87, f. 7, a-b.
Not Brady, 1883, p. 124: pl. 48, f. 1-5.
— — T. Scott, 1894, p. 122: Dana, 1849, p. 42
— elegans, ♀, Lubbock, 1860, p. 12: pl. 29, f. 18-19.

Habitat. Gulf of Guinea: So. Pacific.

— — Giesbrecht, 1892, p. 620, undetermined.

— —, Mori, 1937, p. 129.

—, Corral, 1970, p. 228

Sapphirina inaequalis Dana

card 2

--, Marques, 1975, p. 52

Sapphirinidae - Cyclopoida.

Sapphirina indicator J.V. Thompson.

- — Thompson, 1829, p. 47; pl. 8, f. 2.
- — Dana, 1853, pp. 1203, 1238, 1254.
- — Stebbing, 1910, p. 551.
- — M-Edwards, 1840, p. 415.

Habitat, So. Atlantic.

— — Templeton, 1836, p. 194

— — Giesbrecht, 1892, p. 620, undetermined.

— — MEYER, 1832: 154

Sapphirinidae - Cyclopoidea.

Sapphirina indigotica Dana, ♀

— — Dana, 1849, p. 43.

— — Dana, 1852, p. 1248: pl. 87, f. 12, a-b.

— — Giesbrecht, 1892, p. 621, undetermined.

Habitat. North Pacific.

Sapphirinidae - Cyclopoida

Sapphirina intestinata Giesbrecht, ♀.

— — Giesbrecht, 1891, p. 478.

— — Thompson & Scott, 1903, p. 287.

— — Giesbrecht, 1892, p. 619; pl. 1-4; 52-54.

— — T. Scott, 1912, p. 575.

Habitat, Indian Ocean: Tropical Pacific

- Wolfenden, 1905, p. 1029: 1911, p. 360
-- A. Scott, 1909, p. 255.
-- Farran, 1929, p. 290.
-- , Mori, 1937, p. 128. Pl. 69, Figs. 13-17.
-- intestina, Chiba, Tsuruta, + Maeda, 1950. Bikini. (In list).
S. intestinata, Tanaka, 1960. pp. 74-75
-- CRISAFI, MAZZA, 1966, p. 589
-- , Chiba, 1956, p. 11
-- , Corral, 1970, pp. 228-9
-- , Hue, 1967, p. 15.
-- , Furuhashi, 1961: 109
-- , Bjornberg, 1963: 10, 87, 88, Table 8, 121

SAPPHIRINA INTESTINATA - CARD 2

-- TRANTER 1977: 593-625.

--, MOORE & SANDER, 1979: 200, JAMAICA

--, DEEVEY, 1971: TAB. 3, SARGASSO SEA OFF BERMUDA

--, BINET & DESSIER, 1971: 443, 444

- Chen, 1980: table 1

-- SANDER & MOORE 1978: 233, BARBADOS

- INTESTICULATA, YOUNG-BLUTH 1979: 23, CARIBBEAN

- DAKIN & COLEFAX, 1940: 109, fig. 172a-c

- Binet & Dessier, 1968: 10, OFF MADAGASCAR

- Bjornberg, 1981: 672, fig. 226 #2

— Vives, 1978: 267, 293

Sapphirina intestinata Giesbrecht 1891 card3

-- Soldevilla, et al. 1988 : 61 Canary Islands

-- OLSEN 1949: 9, 117, Pl. XXIX FIG. 1-3, OFF US
W. COAST; SYNONYMY.

-- REID 1990g: 195

-- ROSE 1927: 147, OFF ALGERIA

-- ROSE 1934: 54-81, " "

Sapphirinidae - Cyclopoida.

Sapphirina iris Dana, ♀.

— —, n.sp. Dana, 1849, p. 41.

— — Sara, 1916, p. 4.

— — Giesbrecht, 1895, p. 261 $\sqrt{\text{fig. 2, a-d}}$

— — Dana, 1852, p. 1239: pl. 87, fig. 1, a-c;

— —, Saraswathy, 1967, p. 103

Habitat. South Pacific.

(see back)

- S - salpae, Claus, 1863, p. 152.
— — Giesbrecht, 1892, p. 618, 641: pl. 2, f. 9;
pl. 52, f. 1, 2, 18, 19, 27, 45, 51; pl. 53, f. 7,
23, 24, 60; pl. 54, f. 9, 13, 15, 16, 19, 57.
S - gemma Brady, 1883, p. 127: pl. 48, f. 6-8,
S - iris Esterly, 1905, p. 219: text-fig. 57, a-d,
— — T. Scott, 1912, p. 575
— — Rose, 1929, p. 59.
Q iris Steuer 1898, p. 427
—, SEWELL, 1947, P. 266, ARABIAN SEA AREA.
— CRISAFI, 1966, p. 662

Sapphirina iris (Dana, 1849)

card 2

-- --, Hure & Scotto di Carlo, p. 71.

--, Paiva, 1971, p. 36-8, fig. 8 (syn. S. salpae,
Giesbrecht, 1892)

--, Rose, 1956, p. 464

--, Pesta, 1928, p. 126-7, fig. 107

--, Ehrhardt, 1967, p. 743, *MEDITERRANEAN*

--, Bjornberg, 1963: 87

--, DEEVEY, 1971: TAB. 3, SARGASSO SEA OFF BERMUUDA.

-- WICKSTEAD 1962: 547

-- Bjornberg, 1981: 671, fig. 226 #13

Sapphirina iris Dana 1849

card3

-- Soldevilla, et al. 1988: 61 Canary Islands

-- OLSEN 1949:9, = LONGIFURCA A. SCOTT

-- LAKKIS 1984: 290, F. MEDITERRANEAN

Sapphirinidae-Cyclopoida

Sapphirina lactens Giesbrecht, ♀.

— Giesbrecht, 1892, p. 619; pl. 1-4, 52-54.

— Sars, 1916, p. 4; Steuer, 1910, p. 1034 (30).

— Pesta, 1921, p. 639; text-fig. R 87.

— Steuer, 1895, p. pl. 2, figs. 2-5, ♂.

Steuer, 1898, p. 425

Habitat, Adriatic.

— Bjornberg, 1981: 671, fig. 226. #3, OFF BRAZIL

—, SCOTO DI CARLO, ET AL., 1975: TAB. 1

(see back)

- T. Scott, 1912, p. 575.
- CRISAFI & MAZZA, 1966, p. ~~856~~ 597
- CRISAFI, 1966, p. 661
- --, Hure & Scotto di Carlo, 1968, p. 71.
- , Furuhashi, 1961: 109
- , Bjornberg, 1963: 10, 87, table 17
- , DEEVEY, 1971: TAB. 3, SARGASSO SEA OFF BERMUDA
- Devey & Brooks, 1977: 266 - SARGASSO SEA OFF BERMUDA
- Hure, 1961: 29
- WILSON 1950: _____ PACIFIC OFF ALASKA
- ROSE 1934: 78, OFF ALGERIA

Sapphirina ^{Sapphirinae} lomae Esterly, ♂

— Esterly, 1905, p 223; text-fig, 60, a-d,

Habitat, California Coast.

Sapphirinidae - Cyclopoidea

Sapphirina longifurca A. Scott. ♀

— — A. Scott, 1909, p. 259: pl. 69, f. 15-20

Habitat. Molucca Passage.

Sapphirinidae - Cyclopoidea.

Sapphirina maculosa Giesbrecht

— — Giesbrecht, 1892, p. 619: pl. 52-54.

— — Steuer, 1910, p. 1034 (30).

— — Pesta, 1921, p. 640: text-fig. π 89.

— — A. Scott, 1902, p. 419: ⁴²⁰1909, p. 256.

— — Marikova & Campos, 1967: 68, CUSA

Habitat. Adriatic; New Zealand.

— — Rose & Vaissiere, 1951: 138

— — Bjornberg, 1981: 672, fig. 226^{#4}, OFF BRAZIL

— — Farran, 1929, p. 290

— — Rose, 1929, p. 62.

- - CRISAFI & MAZZA, 1966, p. 608

-- --, Hure & Scotto di Carlo, 1968, p. 71.

--, Vaissiere, 1961, p. 39, fig. 13-18, 19-20?,
pp. 39-52, photo 2

--, Bjornberg, 1963: 10, 88, 104 (2 tables)

— Hure, 1961: 29

-- OLSEN 1949: 9, 119-, Pl. XXIX, FIG. 45, OFF US
W. COAST; SYNONYMY.

-- ROSE 1927: 147, OFF ALGERIA

-- ROSE 1934: 58-81, " "

Sapphirinidae - Cyclopoidea

Sapphirina metallina Dana, ♀.

- — Dana, 1852, p. 1242: pl. 87, f. 5, a-c.
— — Sars, 1916, p. 4; Steyer, 1910, p. 1034 (30).
— — Brady, 1883, p. 128: pl. 50, f. 11-18.
— — T. Scott, 1894, p. 125: pl. 12 f. 4.

Habitat. Gulf of Guinea; Adriatic.
Indian Ocean; Pacific near
Kingsmill Islands.

— *cylindrica* Lubbock, 1860, p. 184: pl. 29, f. 13-15.

— *metallina* Thompson & Scott, 1903, p. 287.

— — Dana, 1849, p. 41; Cleve, 1901, p. 9.

— — Thompson, 1888, a, p. 153.

— — Giesbrecht, 1892, p. 620: pl. 52-54.

— — Pesta, 1921, p. 640: text-fig. T 92

— — A. Scott, 1909, p. 255.

— — Wolfenden, 1911, p. 360.

— — Farran, 1929, p. 290.

— — Rose, 1929, p. 61.

— — Steuer, 1898, p. 425.

— — Wilson, 1942, p. 206, fig. 111, W. & CENTRAL PACIFIC

— — Lehnhofer, 1929, pp. 284, 325, figs. 16-18, 57-58.

— — Krishnaswamy, 1953, p. 73.

— — MORI, 1937, p. 124.

— — SEWELL, 1947, p. 266. — ARABIAN SEA AREA

- - , Chiba, Tsuruta, + Maéda, 1955. Bikini.
- --, Heinrich, 1961. p. 92 (vertical distribution)
- - , Owren, 1962
- CRISAFI A MAZZA, 1966, p. 611
- --, Vilela, 1968, pp. 34-35, Est. X fig. 2
- --, Saraswathy, 1967, p. 103
- --, Hure & Scotto di Carlo, 1968, p. 71.
- - , Chiba, 1956, fig. 7
- , Corral, 1970, pp. 229-30
- DFEVEY, 1971: 230; TAB. 3, SARGASSO SEA OFF BERMUDA

- , Seno, Komaki & Takeda, 1963, tab. 2
- , Vives, 1972, pp. 233-4.
- , Furuhashi, 1966: 310
- , Furuhashi, 1961: 110
- , Bjornbert, 1963: 10, 88, 104 (2 tables), table 17 ^{OFF} BRAZIL
- , BINET & DESSIER, 1971: 444, 456
- , OWRE & FOYO, 1964b: 370
- , OWRE & FOYO, 1970: TAB. 5
- , CHENG et. al. 1965: 2.
- Lian & Lin, 1978: 52; pl. 4, fig. 1-5.
- Ramirez, 1969: 95 ———, fig. 159, 163

Sapphirina metallina Dana

-- Tranter 1977: 593-625.

— Binet & Dessier, 1968: 9, OFF MADAGASCAR

— Bjornberg, 1981: 671, fig. 226 #6

— DeLvey & Brooks, 1977: 266

— Hure, 1955: 38

— Hure, 1961: 29

-- SOLDEVILLA, ET AL. 1988: 61 CANARY ISLANDS

-- BÖTTGER-SCHNACK 1988: 313; RED SEA

-- SUAREZ, F. & GASCA 1989a: 198; YUCATAN CHANNEL

Sapphirina metallina Dana

card 4

- Bottger 1985:123-, Red Sea
- OLSEN 1949: 9, 121-, Pl. XXIX FIG. 11, 12, OFF US W. COAST; SYNONYMY.
- LAKKIS 1984: 290-, E. MEDITERRANEAN
- REID 1990g: 195
- RAZOULS 1994: 12
- ROSE 1934: 60-81, OFF ALGERIA
- ALVAREZ-SILVA 1996: 19, TAB. 2, VERACRUZ, MEXICO
- BÖTTGER-SCHNACK 1997: 409-, TAB. 8a, E. MEDITERRANEAN.

Sapphirina nigromaculata Claus, ♀.
Sapphirinidae

- — Claus, 1863, p. 152: pl. 8, figs. 546.
- — Cleve, 1900, p. 143: 1904, p. 196: 1901, p.
- — Sara, 1916, p. 4: Cleve, 1903, p. 368.
- — Giesbrecht, 1892, p. 619: pls. 52-54.
- — Steuer 1898, p. 425.

Habitat. So. Atlantic: Adriatic.

— Thompson, 1900: 288

- — Stebbing, 1910, p. 553.
- — Steuer, 1907, p. 163; 1910, p. 1034(30).
- — Thompson & Scott, 1903, p. 287.
- naequalis* Brady, 1883, p. 124; pl. 48, f. 1-5.
- — Thompson, 1888a, p. 153; 1888c, p. 149.
- *nigromaculata* Haeckel, 1864, p. 100.
- — Giesbrecht, 1891, p. 478.
- — Pesta, 1921, p. 641: text-fig. T 84.
- — T. Scott, 1912, p. 575.
- — A. Scott, 1902, p. 419; 1909, p. 256.
- — Wolfenden, 1911, p. 361.
- — Pesta, 1911, p. 60. — Cleve, 1900, p. 84.
- — Farran, 1929, p. 289. — Rose, 1929, p. 60.
- — Wilson, 1932, p. 372: Fig. 228

- — Wilson, 1942, p. 206
- — Lehnhofer, 1929, pp. 304, 336, fig. 38-41, 65-66
- — Krishnaswamy, 1953, p. 73
- — , Abraku, 1954, pp. 1-8, N W Pacific
- — , MORI, 1937, P. 124. JAPAN.
- — , SEWELL, 1941, P. 267, ARABIAN SEA AREA.
- — , Krishnaswamy, 1956, p. 461. Madras.
- — , Chiba, Tsuruta, & Maeda, 1955. Bikini (in list)
- — , A.G. Fish, 1962. pp. 24-25
- — , Furuhashi, 1961. p. 10
- — , Decker, 1964. p. 24 South Africa

- S. nigromaculata, Owre, 1962
-- CRISAFI & MAZZA, 1966, p. 601
---, Saraswathy, 1967, p. 104
---, Shmeleva, 1963, p. 141
--, Chiba, 1956, p. 11
--, DEEVEY, 1971: TAB. 3
--, BINET & DESSIER, 1971: 443, 448, 456
--, BINET, ET AL., 1972: 133, 136
--, SCOTTO DI CARLO, ET AL., 1975: TAB. 1
--, EVANS, 1961: 199

Sapphirina nigromaculata Claus, 1863 card 3.

-- --, Hure & Scotto di Carlo, 1968, p. 71.

--, Corral, 1970, pp. 228

--, DeDecker, 1962, p. 113

--, Ehrhardt, 1967, p. 743

--, Vives, 1972, pp. 233-4.

— Chen, 1980: table 1

--, Furuhashi, 1961: 109

--, Bjornberg, 1963: 10, 87 (S. nigromaculata-scarlata
88, 104 (3 tables), table 8, 12), table 17 (S. nigromaculata)

--, CHENG et al. 1965: 2.

--, Chiba & Hiraoka, 1972: 7

Sapphirina nigromaculata Claus, 1863

card 4

- , Marques, 1975, p. 52
- Rose & Vaissiere, 1951: 138
- Mori, 1929: 204, pl. 9, fig. 3, 13-16
- Massutié & Navarro 1950: 20.
- TRANTER 1977: 593-625.
- SANDER & MOORE 1978: 233, BARBADOS.
- YOUNG-BLUTH 1979: 23, CARIBBEAN
- Dakin & Colefax, 1940: 109, fig. 174 a-b.
- Dakin & Colefax, 1933: 209

- Bin et & Dessier, 1968: 10, OFF MADAGASCAR
- Bjornberg, 1981: 672, fig. 226 #9
- MICHEL ET AL. 1986: 35, ARABIAN GULF
- Hure, 1955: 38
- Hure, 1961: 29
- SAZHINA 1975: 80
- Wickstead, 1956: 20-21
- Vives, 1978: 267
- REGNER 1987: 374-, ADRIATIC
- DUDLEY, P. 1986: 8-, FIG. 12

Sapphirina nigromaculata Claus 1863

card 5

-- Soldevilla, et al. 1988: 61 Canary Islands

-- JIMENEZ-PEREZ + LARA-LARA 1988: 126;
GULF OF CALIFORNIA

-- SUAREZ, E. + GASCA 1989a: 199, YUCATAN CHANNEL

-- SUAREZ, E. + GASCA 1990: 62, QUINTANA ROO, MEXICO

-- OLSEN 1949: 9, 123, Pl. XXIX, FIG. 8-10, OFF US
W. COAST; SYNONYMY (= LOMAE ESTERLY)

-- LAKKIS 1984: 290, E. MEDITERRANEAN

-- REID 1990g: 195

SAPPHIRINA NIGROMACULATA CLAUS, 1863

(6)

- OKENWA + REVIS 1986:31, TAB. 1, KENYA COAST
- ROSE 1927: 147, OFF ALGERIA
- ROSE 1934: 54-81, " "
- ALVAREZ-SILVA 1986:19, TAB. 2, VERACRUZ, MEXICO

Sapphirinae - Cyclopoidea.
Sapphirina nitens Tubbock, ♀.

— — Tubbock, 1860, p. 12; pl. 29,

— — Giesbrecht, 1892, p. 621, undetermined.

Habitat. Gulf of Guinea; Indian Ocean.

Sapphirinidae - Cyclopoidea.

Sapphirina obesa Dana, ♀.

— — Dana, 1849, p. 45

— — Dana, 1852, p. 1258: pl. 88, f. 9.

— — Giesbrecht, 1892, p. 621, undetermined.

Habitat. Pacific, near Kingmill Isl.

Sapphirinidae - Cyclopoidea

Sapphirina obtusa Dana, ♀

— — Dana, 1849, p. 46,

— — Dana, 1852, p. 1259; pl. 88, f. 10.

— — Giesbrecht, 1892, p. 621; undetermined.

Habitat, South Pacific,

Saphirinidae - Cyclopoida.

Saphirina opaca Lubbock, ♀

— — Lubbock, 1856, p. 27: pl. 5, §. 9-11.

— — Brady, 1883, p. 127: pl. 49, §. 14-17.

— — T. Scott, 1894, p. 124, ^{7, SOUTH OF}
NOVA SCOTIA

— — Thompson, 1888, c. p. 149.

Habitat. Gulf of Guinea.

A synonym of Sapphirina angusta?

Sapphirina opalina Dana, ♀.

— — Dana, 1852, p. 1254: pl. 88, f. 4, a-b.

— — Cleve, 1900, p. 142; 1904, p. 196.

— — Sars, 1916, p. 4; Dana, 1849, p. 45.

— — Brady, 1883, p. 126: pl. 49, f. 3-6.

Habitat. Gulf of Guinea; Adriatic;
Tropical Atlantic.

- — T. Scott, 1894, p. 123: 1912, p. 576
- thomsoni Lubbock, 1860, p. 186: pl. 29, f. 22-23.
- opalina Giesbrecht, 1892, p. 620: pls. 52-54.
- — Stebbing, 1910, p. 552.
- — Steuer, 1910, p. 1034 (30).
- — Thompson, 1888, c. p. p. 149.
- — Giesbrecht, 1891, p. 478.
- — versicolor Dana, 1849^a, p. 46: 1852, p. 1255.
- — pachygaster Claus, 1863, p. 152: pl. 25
- — Haeckel, 1864, p. 107.
- opalina Pesta, 1921, p. 642: text-fig. T 90
- — A. Scott, 1909, p. 257.
- — Wolfenden, 1911, p. 360.

S. opalina.

(2)

- — Farran, 1929, p. 290.
— — Rose, 1929, p. 60.
— — Cleve, 1900, p. 84.
— — Steuer, 1898 p. 426
— — Wilson 1942, p. 206, fig. 112
— — Matoda and Anraku, 1955, p.,. 212, Idzu Is.
— —, Mori, 1937, p. 126.
— —, Sewell, 1947, p. 267, ARABIAN SEA AREA.
— —, Chiba, Tsuruta, + Maeda, 1955. Bikini. (in list).
— —, Owre, 1962
— — CRISAFI & MAZZA, 1966, p. 584
— — CRISAFI, 1966, p. 658
— —, DEEVEY, 1971: TAB. 3
— —, SCOTTO DI CARLO, ET AL., 1975: TAB. 1

-- Mori, 1929: 203, pl 9, fig 2, 10-12

--, Saraswathy, 1967, p. 103

--, Hure & Scotto di Carlo, 1968, p. 71.

--, Corral, 1970, pp. 231-2

--, Paiva, 1971, p. 39 (syn. S. opalina-darwinii,
Lehnhofer, 1929)

--, Vives, 1972, pp. 233-4.

--, Furuhashi, 1961: 110

--, Bjornberg, 1963: 10, 87 (S. opalina Dana-darwini
Haeckel)
104 (3 tables), table 8, 88
121, table 17

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

--, Chiba & Hirakawa 1972: Tab. 2.

Sapphirina opalina

card 3

-- Tranter 1977: 593-625.

- OPALINATA, SANDER & MOORE, 1978: 233, BARBADOS.

-- YOUNG-BLUTH 1979: 23, CARIBBEAN

- Dakin & Colefax, 1940: 109, fig. 170 a-d

- Dakin & Colefax, 1933: 210

- Tanaka, 1965a: 39, fig. 14 a-b

- Binet & Dessier, 1968: 10, OFF MADAGASCAR

- Deevay & Brooks, 1977: 266

- Hure, 1955: 38

- Hure, 1961: 29

Sapphirina opalina Dana 1849

card 4

-- Soldevilla, et al. 1988: 61 Canary Islands

-- SUAREZ, E. & GASCA 1989a: 199-, YUCATAN CHANNEL

-- SUAREZ, E. & GASCA 1990: 62-, QUINTANA ROO, MEXICO

-- OLSEN 1949: 9

-- LAKKIS 1984: 290-, E. MEDITERRANEAN

-- REID 1990g: 195

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

SAPPHIRINA OPALINA-DARWINI

--, EVANS, 1961: 199

- Bjornberg, 1981: 671, fig. 226 #7

Sapphirinidae - Cyclopoida.

Sapphirina orientalis Dana, ♀, ♂.

- — Dana, 1849, p. 43. f. 14, a-c
— — Dana, 1852, p. 1249; pl. 87, f. 13, a-c; ^
— — Giesbrecht, 1892, p. 621, undetermined.
— — Lubbock, 1860, p. 13.

Habitat. Sulu Sea.

Saphirinidae - Cyclopoidea.

Saphirina ovalis Dana, ♀♂.

- — Dana, 1852, p. 1246: pl. 87, f. 10, a-b.
~~not~~ — Brady, 1883, p. 123: pl. 47, f. 1-12.
— — T. Scott, 1894, p. 122: Dana, 1849, p. 42.
— — Thompson & Scott, 1903, p. 286.

Habitat, Gulf of Guinea; Indian Ocean
Pacific near Tongatabu

— — Giesbrecht, 1892, p.620, undetermined.

Sapphirinidae - Cyclopoidea

Sapphirina ovata Dana, ♀.

— — Dana, 1849, p. 42.

— — Dana, 1852, p. 1245: pl. 87, f. 8, a-b.

— — Giesbrecht, 1892, p. 620, undetermined.

Habitat. Near Borneo.

Sapphirinae
Sapphirina ovatolanceolata Dana, ♀, ♂.

- — Dana, 1849, p. 44,
— — Cleve, 1900, p. 142,
— — Thompson & Scott, 1903, p. 286, f. 16, a-b
— — Dana, 1852, p. 1251: pl. 87, f. 15, a-c;
— — Steuer 1898, p. 426

Habitat, Mediterranean: Indian Ocean:
Red Sea: Atlantic near Rio Janeiro
Tropical Atlantic

- fulgens Gegenbaur, 1858, p. 64: pl. 5.
- ovatolanceolata Tubbock, 1860, p. 13.
- — Giesbrecht, 1891, p. 478.
- — Giesbrecht, 1892, p. 618: pl. 1-4, 52-54.
- gegenbauri Haeckel, 1864, p. 102: pl. 2.
- — Carus, 1885, p. 348.
- — Claus, 1866, p. 17.
- ovatolanceolata Testa, 1921, p. 642: text-f. R 91.
- — T. Scott, 1912, p. 579. A. Scott, 1909, p. 257
- — Wolfenden, 1911, p. 361.
- — Farran, 1929, p. 287.
- — Cleve, 1900, p. 85. — — Wilson, 1932, p. 369: fig. 225

- —, Wilson 1942, p. 206, fig. 110, PACIFIC
- —, Krishnaswamy, 1953, p. 73
- —, Carvalho, 1952, p. 170-171, pl. 2, fig. 107-109. Baía de Santa, Brazil.
- —, SEWELL, 1947, P. 268, ARABIAN SEA AREA.
- --, A.G. Fish, 1962. p. 25, BARBADOS.
- S. ovatolanceolata-gemma, Decker, 1964. p. 24. S. Africa
- —, Owre, 1962
- — CRISAFI & MAZZA, 1966, p 544
- — CRISAFI, 1966, p. 655
- , BINET & DESSIER, 1971: 444

-- --, Saraswathy, 1967, p. 103

Sapphirina ovatolanceolata

- Heberer, 1931: 210
- , Elofsson, 1971, 299-300, 303, 307
- --, Hure & Scotto di Carlo, 1968, p. 71.
- , Corral, 1970, pp. 232-3
- , DeDecker, 1962, p. 113 S. ovatolanceolata-gemma
- , Paiva, 1971, p. 39-40
- , Vives, 1972, pp. 233-4.
- , Bjornberg, 1963: table 10
- , DAHLGREN 1916: 814.

- Dakin & Coletax, 1940: 107, fig. 166a-d.

Sapphirina ovatolanceolata Dana

card 4

-- Massuti & Navarro 1950: 27.

-- TRANTER 1977: 593-625.

-- SANDER & MOORE 1978: 233, BARBADOS.

-- YOUNG-BLUTH 1979: 23, CARIBBEAN

(ovatolanceolata) Deerey & Brooks, 1977: 266

-- Soldevilla, et al. 1988: 61 Canary Islands

— Wickstead, 1956: 21

— Vives, 1978: 267

-- SUAREZ, E. & GASCA 1989a: 199, YUCATAN CHANNEL

Sapphirina ovatolanceolata Dana

card 5

- Lakkis 1984:290-, e. Mediterranean
- SCHMIDT, W.J., 1949:35, COLOR
- OKENWA & REVIS 1986:31, TAB.1, KENYA COAST
- CARVALHO 1939:42, 43, 47, FIG. 15a, b, SÃO PAULO, BRAZIL
- ROSE 1934:60-81, OFF ALGERIA
- ALVAREZ-SILVA 1996:19, TAB.2, VERACRUZ, MEXICO

Sapphirina ovatolanceolata Dana-gemma, Dana

---, Rose, 1956, p. 464

---, Bjornberg, 1963: 87, 104 (3 tables)

--, DEEVEY, 1971: TAB. 3

--, Marques, 1975, p. 52

- Bjornberg, 1981: 672, fig. 226 #11

--- REID 1990g: 195

--- ROSE 1954: 62-81, OFF ALGERIA

Cyclopoidea-Sapphirinidae

Sapphirina salpae Claus, ♂, ♀.

Synonym of Sapphirina iris Dana

— — Claus, 1859, pl. 5.


— — Carus, 1885, p. 349.

— — Claus, 1860, p. 2: pl. 1, figs. 4-6.

— — Claus, 1863, p. 152.

— — Thompson, 1900: 287-288

Host. Branchial cavity of Salpa africana-maxima. Nizza: Philippines: Australia:

- *iris* Dana, 1849, p. 41.
— — Dana, 1852, p. 1239: pl. 87, fig. 1, a-d.
— *scalaris* Fischer, 1860, p. 674: pl. 22.
— *gemma* Brady, 1883, p. 127: pl. 48, fig. 6-8.
— *salpae* Brian, 1905, a, p. 2: pl. 4, fig. 9.
— — Giesbrecht, 1892, p. 618: pls. 2, 52-54.
— — Cleve, 1904, p. 197: Stebbing, 1910, p. 552.
— — Thompson & Scott, 1903, p. 287.
— — Wolfenden, 1911, p. 361.
— — Farran, 1929, p. 287.
— — Wilson 1942, p. 206  fig. 109, PACIFIC
— — FURUHASHI, 1966, p. 123-127

Sapphirina salpae

card 2

- , Paiva, 1971, S. salpae, Giesbrecht, 1892=S. iris
--, Pesta, 1928, " " " " "
--, Bjornberg, 1963: Table 10

Sapphirinidae - Cyclopoida.

Sapphirina scalaris Fischer, ♀

— Fischer, 1860, p. 674: pl. 22.

A synonym of Sapphirina salpae.
(Giesbrecht, 1892, p. 618).

Sapphirina scarlata Giesbrecht, ♀. ①

— — Giesbrecht, 1891, p. 478.

— — Giesbrecht, 1892, p. 620: pls. 52-54; p. 64

— — Cleve, 1904, p. 197: Stebbing, 1910, p. 553.

— — Eisterly, 1905, p. 222: text-fig. 59, a-b.

— — , Lehnhofer, 1929, p. 306, figs. 38-40, 42.

Habitat, So. Atlantic; California Coast.

— — Mori, 1929: 204, pl. 9, figs. 6-9

- A. Scott, 1909, p. 258. Malay Archipelago.
-- Farran, 1929, p. 289. Great Barrier Reef.
-- Wilson, 1932, p. 371: fig. 227; pl. 1 e 1942, p. 206
-- , Mori, 1937, p. 130, JAPAN.
-- , Dakin + Colefax, 1940, p. 109, fig. 173 a-c. New S. Wales.
-- , Krishnaswamy, 1956, p. 460. Madras.
-- , Chiba, Tsuruta, + Maeda, 1955. Bikini.
-- , Omori, 1965. pp. 18-27
-- , Furuhashi, 1966: 305
-- , Furuhashi, 1961: 110
-- , Bjornberg, 1963: 10 (S. nigromaculata-scarlata),
table 8, 115
-- , TANAKA, 1964b: 14, TAB. 2, 3
-- , CHENG et. al. 1965: 2.

Sapphirina scarlata Giesbrecht

card 2

-- Tranter 1977: 593-625.

— Dakin & Colefax, 1940: 109, fig. 173a-c

— Tanaka, 1965a: 41, fig. 15a-e

— Bjornberg, 1981: 671, fig. 226 #10

-- OLSEN 1949: 10

-- REID 1990g: 195

Sapphirinidae - Cyclopoidea

Sapphirina pachygaster Claus, ♀.

— — Claus, 1863, p. 152: pl. 25.

— — Haeckel, 1864, p. 107.

— — Ficker, 1879, p. 516.

A synonym of Sapphirina opalina.
(Giesbrecht, 1892, p. 620).

Sapphirinidae - Cyclopoida

Sapphirina parva Lubbock, ♀.

— — Lubbock, 1860, p. 13: pl. 29.

— — Giesbrecht, 1892, p. 621, undetermined

Habitat. Gulf of Guinea.

SAPPHIRINA PSEUDOLACTEUS LEHNHOFER, 1929

Sapphirinidae — Cyclopoidea.
Sapphirina pyrosomatis Giesbrecht, ♀.

— — Giesbrecht, 1892, p. 619: pl. 1-4: 52-54

— — Farran, 1929, p. 289.

— — Rose, 1929, p. 61.

— — Wilson, 1932, p. 366: fig. 223. MASSACHUSETTS 1942, p. 206

— — CRISAFI & MAZZA, 1966, p. 582

Habitat. Naples: N. Atlantic.

— A. Scott, 1902: 419

— — CRISAFI, 1966, p. 657

--, Corral, 1970, p. 231

--, Furuhashi, 1961: 109

Sapphirina pyrosomatis Giesbrecht, 1892

card 2

--, Marques, 1975, p. 52

Sapphirinidae - Cyclopoidea.

Sapphirina reticulata Brady, ♀

- — Brady, 1883, p. 125: pl. 51, f. 12-14
- — Thompson, 1888, e, p. 149.
- — Giesbrecht, 1892, p. 621, undetermined

Habitat. South Atlantic: Malta.

Sapphirina sali Farran, ♀.

①

— — Farran, 1929, p. 287: text-fig. 34, a-e.

— — CRISAFI & MAZZA, 1966, p. 599

--, Paiva, 1971, p. 38

--, EVANS, 1961: 199, MID-ATLANTIC

Habitat. New Zealand.

-- YOUNG-BLUTH 1979: 27, CARIBBEAN

— Wickstead, 1956: 21-22

-- OLSEN 1949: 9, 120,
W. COAST; SYNONYMY.

PL. XXIX FIG. 6, 7, OFF US

Sapphirina sali Farran, 1929

card 2

-- Reid 1990g: 195

Saphirinidae - Cyclopoidea.

Saphirina serrata Brady, ♀.

— — Brady, 1883, p. 125: pl. 49, f. 1-2.

— — T. Scott, 1894, p. 123.

— — Thompson, 1888, a, p. 153: 1888, c, p. 149.

— — Giesbrecht, 1892, p. 621, undetermined.

— Thompson, 1900: 288-289.

Habitat. Gulf of Guinea.

Cyclopoida Sapphirinidae
Sapphirina sinuicauda Brady, ♀.

— — Brady, 1883, p. 129; pl. 49, fig. 7-10.

— — Cleve, 1900, p. 143; 1904, p. 197.

— — T. Scott, 1894, p. 125; Stebbing, 1910, p. 553

— — Giesbrecht, 1892, p. 620; pls. 52-54.

Habitat, Gulf of Guinea; Ceylon.

--, BIDET & DESSIER, 1971: 444

- — Thompson & Scott, 1903, p. 287. Ceylon Pearl Banks
- — Thompson, 1888, c, p. 149.
- — Giesbrecht, 1891, p. 478.
- — A. Scott, 1909, p. 258.
- — Cleve, 1900, p. 85.
- — Steuer 1898, p. 426. Red Sea.
- —, SEWELL, 1947, p. 268, *N. auronitens* sea area.
- —, Krishnaswamy, 1956, p. 461. Madras.
- — *auronitens sinucauda*, Lehnhofer, 1929, pp. 289, 329, fig. 22-28.
- — KRISAFI, A. Mazza, 1966, p. 606
- , Corral, 1970, p. 230
- , Bjornberg, 1963:
104 (2 tables), 123
- 10, 87 (*S. auronitens*
Claus-*sinucauda* Brady)

Sapphirina sinuicauda Brady

card 2

--, Marques, 1975, p. 52

— Binet & Dessier, 1968: 10, OFF MADAGASCAR

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

Saphirinidae - Cyclopoidea
Saphirina splendens Dana.

- — Dana, 1852, p. 1246: pl. 87, f. 9, a-c
- — Brady, 1883, p. 127: pl. 49, f. 11-13.
- — T. Scott, 1894, p. 124; Dana, 1849, p. 42.
- — Giesbrecht, 1892, p. 621, undetermined.

Habitat. Gulf of Guinea; Pacific
near Assumption Island.

— — Thompson, 1888, c. p. 149.

Sapphirina stellata Giesbrecht, ♀.

- — Giesbrecht, 1891, p. 478.
- — Cleve, 1900, p. 142.
- — Giesbrecht, 1892, p. 620, pl. 52-54.
- *ovalis* Brady, 1883, p. 123, pl. 47, f. 1-12.
- Thompson, 1900: 288

Habitat. Australia; New Guinea; Philippines
 Fiji Islands; Malta; Tropical Pacific

- ovalis Thompson, 1888, c, p. 124.
- stellata T. Scott, 1912, p. 576.
- — A. Scott, 1909, p. 259.
- — Pesta, 1911, p. 61.
- — Rose, 1929, p. 61.
- — Cleve, 1900, p. 85.
- — Wilson 1942, p. 206
- — , Matoda and Anraku, 1955, p. 212, Idzu Is.
- — , Mori, 1937, p. 127, JAPAN. - Pl. 69, F. 6-12.
- — , Sewell, 1947, p. 269 Arabian Sea area.
- — , Chiba, Tsuruta, + Maeda, 1955. Bikini.
- — , Owre, 1962
- — , Saraswathy, 1967, p. 103

Sapphirina stellata

card 2

- -, Chiba, 1956, ~~px~~ fig. 5, fig. 4
- (?), Vives, 1972, pp. 233-4.
- , Furuhashi, 1961: 110
- , Bjornberg, 1963: 10, 88, 104 (3 tables), table 10, 115,
table 17
- , THOMPSON, 1954: 309
- , OWRE & FOYO, 1973: TAB-5
- , EVANS, 1961: 199
- Chen, 1980: table 1
- TRANTER 1977: 593-625.

Sapphirina stellata Giesbrecht, 1891

CARD 3

-- Sander & Moore 1978: 233, Barbados

-- YOUNGBLUTH 1979: 23, CARIBBEAN

-- Dakin & Colefax, 1940: 109, fig. 171a-e

-- Corral Estrada, 1972 b: 8, fig. 9-10

-- Bjornberg, 1981: 671, fig. 226#12

-- Soldevilla, et al. 1988: 61 Canary Islands

-- ALVARIÑO 1989: 70, OFF S. CALIFORNIA

-- REID 1990g: 195

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

Sapphirina stylifera ^{Sapphirina} Tubboek, ♂.

— — Tubboek, 1856, p. 28: pl. 4, f. 9-10 ♂

a synonym of Sapphirinella stylifera.

a synonym of Copilia mirabilis.

{ T. Scott, 1894, p. 113,

{ Giesbrecht, 1892, p. 647).

Sapphirina stylifera ^{Sapphirinidae} Tubbock, ♂.

— — Tubbock, 1856, p. 28: pl. 4, f. 9-10 ♂

a synonym of Sapphirinella stylifera.

a synonym of Copilia mirabilis.

{ T. Scott, 1894, p. 113 }

{ Giesbrecht, 1892, p. 647 }

Sapphirina stylifera

card 2

--, Marques, 1975, p. 52

Sapphirinidae - Cyclopoidea
Sapphirina Tenella Dana, ♀, ♂.

— — Dana, 1849, p. 45.

— — Dana, 1852, p. 1256: pl. 88: f. 6, a-c

— — Giesbrecht, 1892, p. 621, undetermined

Habitat. Tropical Atlantic.

Saphirinidae - Cycloporinae

Saphirina thomsoni Lubbock, ♀.

— Lubbock, 1860, p. 186: pl. 29, fig. 22-23.

A synonym of Saphirina opalina
(T. Scott, 1894, p. 123).
(Giesbrecht, 1892, p. 620).

Sapphirina uncinata ^{Sapphirinidae - 1901} Leuckart. ♀

— — Leuckart, 1853, p. 265.

— — Giesbrecht, 1892, p. 621, undetermined

— Leuckart 1859 syn = S. stylifer

Habitat.

Sapphirinidae - Cyclopoidea

Sapphirina versicolor Dana, ♀.

— — Dana, 1849, p. 45,

— — Dana, 1852, p. 1255; pl. 88, f. 5, a-c.

A synonym of Sapphirina opalina?
(Giesbrecht, 1892, p. 626).

Habitat, Atlantic, near Rio Janeiro.

Sapphirinidae - Cyprid

Sapphirina vorax Giesbrecht, ♀.

- — Giesbrecht, 1891, p. 479.
- — Giesbrecht, 1892, p. 619: pl. 1-4: 52-54.
- — Cleve, 1901, p. 9: T. Scott, 1912, p. 575
- — Wolfenden, 1911, p. 360.
- — A. Scott, 1902: 419

Habitat. Naples: Indian Ocean.

(see back)

- Harran, 1929, p. 289.
--- Rose, 1929, p. 61.
--- Wilson, 1932, p. 370: fig. 226, MASSACHUSETTS
--- CRISAFI A MAZZA, 1966, p. ~~605~~ 604
--- CRISAFI, 1966, p. 661
--- Hure & Scotto di Carlo, 1968, p. 71.
---, Corral, 1970, p. 230
---, Furuhashi, 1961:; 109
--- TRANTER 1977: 593-625.
--- KING 1950: 131, GULF COAST OF FLORIDA

Saphirina sp.

--, Bjornberg, 1963: 99

- spp., BEAUDOUIN, 1973: 125, 165

-- CARVALHO 1939: 42, SÃO PAULO, BRAZIL

Sapphirina sp.

- spp., Chiba & Hirakawa 1972: Tab. 2.
- , Shmeleva & Zaika, 1973, p. 874
- , Madhupratap, et al 1977: tbi. 3
- , Madhupratap, et al 1981: 266-267
- , Sreekumaran, et al 1981: passim
- CARLI ET AL. 1973: 342-, SICILY
- ~~HARDING~~ & MICHEL & HERRING 1984: 328-, ARABIAN GULF

SAPPHIRINA sp.

- , PETERSON + MILLER, 1977: 718, CENTRAL OREGON COAST
- TRANTER 1977: 593-625.
- REGNER 1987: 374-, ADRIATIC.
- BRUZZONE ET AL. 1982: 235, GULF OF GENOA
- BÖTTGER-SCHNACK 1997: 409-, TAB. 8a, E. MEDITERRANEAN

SAPPHIRINA spp.

- ✓ - GRICE & HART 1962b: TAB. 3, W. N. ATLANTIC
- Kimmmerer, et al, 1985: table 4 Australia
- RODRIGUEZ & VIVES 1984: 242-, MALAGA