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Cornber, Thomas: Diatomaceae.

Melwitsch, Catalogue of African Plants,
Vol. 2, pt 2, 1901 p. 382-395

Comber; Welwitsch Diat. 1901, p. 1
und Fundort

DIATOMACEÆ.

DETERMINED BY THOMAS COMBER.

1. *NAVICULA* Bory in Dict. Class. D'Hist. Nat. xi. p. 472 (1827); Cleve Syn. Navic. Diat. I., II. in K. Sv. Vet. Ak. Handl. xxvi., xxvii. (1894-95).

1. *N. cuspidata* Kuetz. Bacillar. p. 94. t. iii. f. 24, 37 (1844); Cleve, *op. cit.*, I. p. 109 (1894).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

Var. *ambigua* Cleve, *op. cit.*, I. p. 110 (1894).

Navicula ambigua Ehrenb. Verbreit. in Berlin, Abhand. K. Pr. Ak. 1843, t. II. ii. f. 9.

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

2. *N. Perrotettii* Cleve, *op. cit.*, I. p. 110. t. III. f. 12 (1894).

Craticula Perrotettii Grun. in Reise Novara. Bot. I. Alge p. 20. t. I. f. 21 (1867).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

3. *N. atomoides* Grun. in V. Heurck Syn. t. xiv. f. 12-14 (1880).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

4. *N. Rotæana* V. Heurck Syn. t. xiv. f. 17-19 (1880); Cleve, *op. cit.*, I. p. 128 (1894).

Stauroneis Rotæana Rabenh. in Hedwigia I. p. 103. t. xiii. f. 7 (1856).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

5. *N. mutica* Kuetz. Bacillar. p. 93. t. iii. f. 32 (1844).

Var. *Goepfertiana* V. Heurck Syn. t. x. f. 18, 19 (1880), p. 95 (1885).

Stauroneis Goepfertiana Bleisch in Rabenh. Alg. Eur. No. 1183 (1861); Rabenh. Fl. Eur. Alg. p. 248 (1864).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

6. *N. Pupula* Kuetz. Bacillar. p. 93. t. xxx. f. 40 (1844).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

Navicula]

7. N. (1880)
f. 36 (1880)

Diades

PUNGO
near Quib

8. N. (1880)
Diades

xix. p. 1
Cleve, *op.*

GOLUNGO
No. 146.

9. N. (1880)
Stauroneis

(1853).
GOLUNGO

10. N. (1880)
GOLUNGO

11. N. (1880)
Rabenh.

GOLUNGO
No. 146.

12. N. (1880)
GOLUNGO

13. N. (1880)
Var.

f. 35 (1880)
N. c.

(1895).
GOLUNGO

14. N. (1880)
Var.

N. a.
GOLUNGO

15. N. (1880)
(1880)

N. v.
p. 84 (1880)

GOLUNGO

16. N. (1880)
GOLUNGO

17. N. (1880)
p. 82 (1880)

Pin.
GOLUNGO

Welwitsch, Catalogue of African Plants, Vol. 2 pt. 2, 1901

7. **N. (Diademesmis) confervacea** Grun. in V. Heurck Syn. t. xiv. f. 36 (1880).
Diademesmis confervacea Kuetz. Bacillar. p. 109. t. xxx. f. 8 (1844).
 PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.
8. **N. (Diademesmis) gallica** V. Heurck Syn. p. 108 (1885).
Diademesmis gallica W. Smith in Ann. Mag. Nat. Hist. Ser. 2. xix. p. 11. t. ii. f. 16 (1857). *Mastogloia?* (*Diademesmis*) *gallica* Cleve, *op. cit.*, II. 150 (1895).
 GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Mâio; 5 Feb. 1855. No. 147.
9. **N. Crucicula** Donkin Brit. Diat. p. 44. t. vi. f. 14 (1871).
Stauroneis Crucicula W. Smith Br. Diat. I. p. 60. t. xix. f. 192 (1853).
 GOLUNGO ALTO.—Rio Mâio; 5 Feb. 1855. No. 147.
10. **N. gibbula** Cleve, *op. cit.*, I. p. 140. t. v. f. 17 (1894).
 GOLUNGO ALTO.—Rio Mâio; 5 Feb. 1855. No. 147.
11. **N. pelliculosa** Hilse in Rabenh. Alg. Eur. No. 1265 (1862); Rabenh. Fl. Eur. Alg. p. 187 (1868).
 GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854 No. 146.
12. **N. cryptocephala** Kuetz. Bacillar. p. 95. t. iii. f. 26 (1844).
 GOLUNGO ALTO.—Rio Mâio; 5 Feb. 1855. No. 147.
13. **N. veneta** Kuetz. Bacillar. p. 95. t. xxx. f. 76 (1844).
 Var. *pumila* Grun. in V. Heurck Syn. p. 5. t. viii. f. 7, t. xiv. f. 35 (1880-84) (*N. (veneta* var. ?) *pumila*).
N. cryptocephala Kuetz. var. *pumila* Cleve, *op. cit.*, II. p. 14 (1895).
 GOLUNGO ALTO.—Rio Mâio; 5 Feb. 1855. No. 147.
14. **N. rhynchocephala** Kuetz. Bacillar. t. xxx. f. 35 (1844).
 Var. *amphiceros* Cleve, *op. cit.*, II. p. 15 (1895).
N. amphiceros Kuetz. Bacillar. p. 95. t. iii. f. 39 (1844).
 GOLUNGO ALTO.—Rio Mâio; 5 Feb. 1855. No. 147.
15. **N. slesvicensis** Grun. in V. Heurck Syn. t. vii. f. 28, 29 (1880).
N. viridula Kuetz. var. *slesvicensis* Grun. in V. Heurck Syn. p. 84 (1885).
 GOLUNGO ALTO.—Rio Mâio; 5 Feb. 1855. No. 147.
16. **N. humilis** Donkin Brit. Diat. p. 67. t. x. f. 7 (1873).
 GOLUNGO ALTO.—Rio Mâio; 5 Feb. 1855. No. 147.
17. **N. cincta** Kuetz. fide V. Heurck Syn. t. vii. f. 13, 14 (1880); p. 82 (1885).
Pinnularia cincta Ehrenb. Microgeol. t. x. ii. f. 6 (1854).
 GOLUNGO ALTO.—Rio Mâio; 5 Feb. 1855. No. 147.

18. *N. radiosa* Kuetz. Bacillar. p. 91. t. iv. f. 23 (1844).
GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.
19. *N. oblonga* Kuetz. Bacillar. p. 97. t. iv. f. 21 (1844).
Frustulia oblonga Kuetz. Alg. Dec. No. 71 (1833).
GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854.
No. 146.
20. *N. dicephala* W. Smith Br. Diat. I. p. 87. t. xvii. f. 157 (1853).
Pinnularia dicephala Ehrenb. in Berlin, Ber. K. Pr. Ak. 1837.
p. 45; Infusionsth. p. 185 (1838).
GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.
21. *N. lanceolata* Ehrenb. Infusionsth. p. 185 (1838).
Frustulia lanceolata Ag. in Flora x. p. 626 (1827).
GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.
22. *N. anglica* Ralfs in Pritchard Infusoria p. 900 (1861).
N. tumida W. Smith Br. Diat. I. p. 53. t. xvii. f. 146 (1853).
GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854.
No. 146. Rio Múio; 5 Feb. 1855. No. 147.
23. *Navicula* (*Schizonema*) *mollis* Cleve Syn. Navic. Diat. II.
in K. Sv. Vet. Ak. Handl. xxvii. 3. p. 26 (1895).
Schizonema molle W. Smith Brit. Diat. II. p. 77. t. lviii. f. 365 (1856).
LOANDA.—In company with minute plants of *Enteromorpha* on the apices of leaves of *Zostera nana* in the Atlantic Ocean, Praia (shore) de Zamba grande, near Loanda; 3 July 1858. No. 196.
Welwitsch's specimen probably belongs to this species.
2. CALONEIS Cleve Syn. Navic. Diat. II. in K. Sv. Vet. Ak. Handl. xxvii. 3. p. 46 (1895).
1. *C. fasciata* Cleve, *l.c.*, p. 50 (1895).
Navicula fasciata Lagerst. Sötv. Diat. Spetsb. in Bih. K. Sv. Vet. Ak. Handl. I. 14. p. 34. t. ii. f. 11 (1873).
GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854.
No. 146. Rio Múio; 5 Feb. 1855. No. 147.
2. *C. Silicula* Cleve, *l.c.*, p. 51.
Navicula Silicula Ehrenb. Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843, p. 419 (131).
Var. *ventricosa* Cleve, *l.c.*, p. 52.
Navicula ventricosa Ehrenb. in Berlin, Abhandl. K. Pr. Ak. 1830. p. 67.
GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854.
No. 146.
3. *C. amphibæna* Cleve, *l.c.*, p. 58.
Navicula amphibæna Bory in Encycl. Méthod. Zoophytes p. 565 (1824).
GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854.
No. 146.

3. N
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1. N. a
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p. 84;
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3. **NEIDIUM** Pfitzer Bau u. Entw. d. Bacillar. in Hanstein Bot. Abhandl. Bonn, I. ii. p. 39 (1871); Cleve Syn. Navic. Diat. I. in K. Sv. Vet. Ak. Handl. xxvi. 2, p. 67 (1894).

1. *N. affine* Cleve, *loc. cit.*, p. 68 (1894).

Navicula affinis Ehrenb. Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. p. 417 (129). t. II. ii. f. 17, etc.

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

4. **ANOMÆONEIS** Pfitzer Bau u. Entw. d. Bacillar. in Hanstein Bot. Abhandl. Bonn. I. ii. p. 77 (1871); Cleve Syn. Navic. Diat. II. in K. Sv. Vet. Ak. Handl. xxvii. 3. p. 5 (1895).

1. *A. sphærophora* Pfitz., *loc. cit.*, p. 77. t. iii. f. 10 (1871).

Navicula sphærophora Kuetz. Bacillar. p. 95. t. iv. f. 17 (1844).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

2. *A. sculpta* Cleve, *op. cit.*, II. p. 6 (1895).

Navicula sculpta Ehrenb. Microgeol. t. x. i. f. 5 (1854).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

5. **DIPLONEIS** Ehrenb. in Berlin, Ber. K. Pr. Akad. 1844. p. 84; Cleve Syn. Navic. Diat. I. in K. Sv. Vet. Ak. Handl. xxvi. 2. p. 76 (1894).

1. *D. elliptica* Cleve, *op. cit.*, p. 92 (1894).

Navicula elliptica Kuetz. Bacillar. p. 98. t. xxx. f. 55 (1844).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

2. *D. ovalis* Cleve, *op. cit.*, p. 92 (1894).

Pinnularia ovalis Hilse in Breslau, Schles. Ges. Vaterl. Kultur. 1860, p. 82.

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* var. *obcordata* Engl. (cf. Welw. Herb. No. 215) at the sides of the river Cuige near Quibinda; March 1857. No. 130.

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

6. **STAURONEIS** Ehrenb. Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. p. 422 (134); Cleve Syn. Navic. Diat. I. in K. Sv. Vet. Ak. Handl. xxvi. 2. p. 142 (1894).

1. *S. Crucicula* Cleve, *loc. cit.*, p. 151 (1894).

Schizostauron Crucicula Grun. ex Cleve in K. Sv. Vet. Ak. Handl. xviii. 5. p. 16. t. iii. f. 44 (1881).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

7. **PINNULARIA** Ehrenb. in Berlin, Ber. K. Pr. Akad. 1840 p. 213; Cleve Syn. Navic. Diat. II. in K. Sv. Vet. Ak. Handl. xxvii. 3. p. 71 (1895).

1. *P. subcapitata* Greg. in Quart. Journ. Mier. Sci. iv. p. 9. t. I. f. 30 (1856).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

2. *P. microstauron* Cleve, *op. cit.*, II. p. 77 (1895).
Stauroptera microstauron Ehrenb. *Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. p. 423. t. I. iv. f. 1.*
 GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.
3. *P. Legumen* Ehrenb. *Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. p. 384. t. IV. i. f. 7; Cleve, op. cit., II. p. 78 (1895).*
 GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.
4. *P. borealis* Ehrenb. *Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. t. I. ii. f. 6; Cleve, op. cit., II. p. 80 (1895).*
 GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.
5. *P. gibba* W. Smith *Brit. Diat. I. t. xix. f. 180 (1853); Cleve, op. cit., II. p. 82 (1895).*
Stauroptera gibba Ehrenb. *Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. t. I. ii. f. 3.*
 PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.
6. *P. paulensis* Grunow ex Cleve, *op. cit.*, II. p. 86. t. I. f. 20 (1895).
 GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.
7. *P. Dactylus* Ehrenb. *Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. p. 420 (132). t. IV. i. f. 3; Cleve, op. cit., II. p. 90 (1895).*
 GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.
8. **GYROSIGMA** Hassall *Brit. Freshwater Algæ p. 435 (1845); Cleve Syn. Navic. Diat. I. in K. Sv. Vet. Ak. Handl. xxvi. 2. p. 112 (1894).*
1. *G. acuminatum* Cleve, *loc. cit.*, p. 114 (1894).
Frustulia acuminata Kuetz. *Syn. Diat. in Linnæa viii. p. 555, t. xiv. f. 36 (1833).*
 GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.
2. *G. Kuetzingii* Cleve, *loc. cit.*, p. 115 (1894).
Pleurosigma Kuetzingii Grun. in *Wien, Verh. k. k. zool. bot. Ges. x. p. 561. t. vi (4). f. 3 (1860).*
 GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.
9. **GOMPHONEMA** Ag. *Syst. Alg. p. 11 (1824); Cleve Syn. Navic. Diat. I. in K. Sv. Vet. Ak. Handl. xxvi. 2. p. 178 (1894).*
1. *G. parvulum* V. Heurck *Syn. t. xxv. f. 9 (1880), p. 125 (1885).*
Sphenella ? parvula Kuetz. *Bacillar. p. 83. t. xxx. f. 63 (1844).*
 GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.
2. *G. Lagenula* Kuetz. *Bacillar. p. 85. t. xxx. f. 60 (1844); V. Heurck Syn. t. xxv. f. 7, 8 (1880).*

GOLUNGO ALTO.—In company with the variety figured in V. Heurck's Synops. t. xxv. f. 7; Rio Múio; 5 Feb. 1855. No. 147. A rather broad form; on small shells in ponds near Sange; Dec. 1854. No. 146.

Var. *lata* Comber, var. nov.

Much broader and shorter than the typical form, and so nearly symmetrical that it might at first sight be mistaken for a *Navicula*. Many may regard it as a distinct species; in which case it might be named *G. Welwitschii* Comber.

LIBONGO.—Very plentiful, in company with *Wolffia*, in an unfinished shaft of a coal mine above Banza de Libongo; Sept. 1858. No. 137.

3. *G. intricatum* Kuetz. Bacillar. p. 87. t. ix. f. 4 (1844).

Var. *pumila* Grun. in V. Heurck Syn. t. xxiv. f. 35, 36 (1880).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

4. *G. dichotomum* Kuetz. Syn. in Linnæa viii. p. 569. t. xv. f. 48 (1833).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

5. *G. Vibrio* Ehrenb. Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. p. 416 (128). t. II. i. f. 40.

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

6. *G. gracile* Ehrenb. Infusionsth. p. 217. t. xviii. f. 3 (1838).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

Var. *naviculoides* Grun. in V. Heurck Syn. t. xxiv. f. 13 (1880).

Gomphonema naviculoides W. Sm. Brit. Diat. II. p. 98 (1856).

G. gracile var. *naviculacea* Cleve, loc. cit., I. p. 183 (1894).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

7. *G. commutatum* Grun. in V. Heurck Syn. t. xxiv. f. 2 (1880).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

8. *G. oxycephalum* Cleve, loc. cit., I. p. 187. t. v. f. 10 (1894).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

9. *G. olivaceum* Kuetz. Bacillar. p. 85. t. vii. f. 13, 14 (1844).

Echinella olivacea Lyngb. Tent. Hydr. Dan. p. 209. t. 70. f. C, 1-3.

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

10. *G. tenellum* Kuetz. Bacillar. p. 84. t. viii. f. 8, b (1844).

G. olivaceum var. *tenellum* Cleve, loc. cit., I. p. 188 (1894).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

10. **CYMBELLA** Ag. Conspect. Crit. Diatom. p. 1 (1830); Cleve Syn. Navic. Diat. I. in K. Sv. Vet. Ak. Handl. xxvi. 2. p. 156 (1894).

1. *C. lævis* Naeg. ex Kuetz. Sp. Alg. p. 58 (1849); V. Heurck Syn. t. iii. f. 7 (1880), p. 62 (1885).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

2. *C. stauroneiformis* Lagerst. Sötv. Diat. Spetsb. in Bih. K. Sv. Vet. Ak. I. 14. p. 45. t. I. f. 15 (1873).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

3. *C. lacustris* Cleve, *loc. cit.*, p. 167 (1894).

Schizonema lacustre Ag. Syst. Alg. p. 10 (1824). *Encyonema Ungerii* Grun. ex A. Schmidt Atlas t. x. f. 63 (1875).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

4. *C. prostrata* Cleve, *l.c.*, p. 167 (1894).

Monema prostratum Berk. Glean. Br. Alg. p. 15. t. iv. f. 3 (1833). *Encyonema prostratum* Ralfs in Ann. Mag. Nat. Hist. xvi. p. 111. t. iii. f. 3 (1845).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

5. *C. turgida* Greg. in Quart. Journ. Micr. Sci. iv. p. 5. t. I. f. 18 (1856). *Encyonema turgidum* Grun. ex A. Schmidt Atlas t. x. f. 49–53 (1875).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

6. *C. ventricosa* Ag. Consp. Crit. Diat. I. p. 9 (1830)?; Kuetz. Bacillar. p. 80. t. vi. f. 16 (1865).

Encyonema ventricosum V. Heurck Syn. t. iii. f. 15–17, 19 (1880), p. 66 (1885).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

7. *C. turgidula* Grun. ex A. Schmidt Atlas t. ix. f. 23–26 (1875).

Var. *inæqualis* Comber, var. nov.

One end is more produced than the other, so that the valve is sub-claviform.

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

11. **AMPHORA** Ehrenb. in Berlin, Ber. K. Pr. Ak. 1840. p. 205; Cleve Syn. Navic. Diat. II. in K. Sv. Vet. Ak. Handl. xxvii. 2. p. 99 (1895).

1. *A. ovalis* Kuetz. Bacillar. p. 107 (1865).

Frustulia ovalis Kuetz. Synops. in Linnæa viii. p. 539 (1833).

Var. *libyca* Cleve, *loc. cit.*, II. p. 104 (1895).

Amphora libyca Ehrenb., *l.c.*, p. 205 (1840).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

Var. *Pediculus* V. Heurck Syn. p. 59 (1885).

Cymbella ? *Pediculus* Kuetz. Bacillar. p. 80 (1865).

GOLUNGO ALTO.—On small shells in ponds near Sange ; Dec. 1854. No. 146. Rio Múio ; 5 Feb. 1855. No. 147.

2. *A. quadricostata* Rabenh. Süsw. Diatom. t. ix. f. 5 (1853).

A. veneta Cleve, loc. cit., II. p. 118 (1895).

BARRA DO BONGO.—On *Naias* in Lagoa Quifandongo, near Quisequela ; Nov. 1853. No. 135.

12. *COCCONEIS* Ehrenb. Infusionsthierchen, p. 193 (1838) ; Cleve Syn. Navic. Diat. II. in K. Sv. Vet. Ak. Handl. xxvii. 2. p. 168 (1895).

1. *C. Placentula* Ehrenb., l.c., p. 194 (1838).

GOLUNGO ALTO.—On small shells in ponds near Sange ; Dec. 1854. No. 146. Rio Múio ; 5 Feb. 1855. No. 147.

13. *ACHNANTHIDIUM* Kuetz. Bacillar. p. 75 (1844) ; Heiberg Consp. crit. Diat. Danic. p. 118 (1863) ; Cleve Syn. Navic. Diat. II. in K. Sv. Vet. Ak. Handl. xxvii. 2. pp. 164, 191 (1895) (subgenus).

1. *A. lanceolatum* Bréb. ex Kuetz. Sp. Alg. p. 54. 1849.

Var. *Haynaldii*.

Achnanthes Haynaldii Schaarschm. Sp. Phyc. Aequat. in Kanitz Magy. Növénytani Lapok. v. p. 20 (1881). *A. lanceolata* var. *Haynaldii* Cleve in Diatomiste II. p. 99. t. vii. f. 14 (1894).

GOLUNGO ALTO.—Rio Múio ; 5 Feb. 1855. No. 147.

2. *A. delicatulum* Kuetz. Bacillar. p. 75. t. iii. f. 21 (1844).

GOLUNGO ALTO.—Rio Múio ; 5 Feb. 1855. No. 147.

3. *A. Hauckii*.

Achnanthes Hauckiana Grun. in Cleve et Grun. Arct. Diat. in K. Sv. Vet. Ak. Handl. xvii. 2. p. 21 (1880). *A. Hauckii* Grun. in V. Heurck Syn. t. xxvii. f. 14, 15 (1880).

GOLUNGO ALTO.—Rio Múio ; 5 Feb. 1855. No. 147.

14. *MICRONEIS* Cleve Syn. Navic. Diat. II. in K. Sv. Vet. Ak. Handl. xxvii. 2. pp. 164, 187 (1895) (subgenus).

1. *M. exigua*.

Achnanthes exigua Grun. in Cleve et Grun. Arct. Diat. in K. Sv. Vet. Ak. Handl. xvii. 2. p. 21 (1880).

GOLUNGO ALTO.—Rio Múio ; 5 Feb. 1855. No. 147.

15. *NITZSCHIA* Hassall Brit. Freshwater Algae p. 435 (1845) ; Grun. in Cleve et Grun. Arct. Diat. in K. Sv. Vet. Ak. Handl. xvii. 2. p. 67 (1880).

1. *N. Tryblionella* Hantzsch in Rabenh. Alg. Eur. No. 984 (1860) ; Cleve et Grun. Arct. Diat. in K. Sv. Vet. Ak. Handl. xvii. 2. p. 69 (1880).

Tryblionella Hantzschiana Grun. in Wien, Verh. k. k. zool. bot. Ges. xii. p. 552. t. xviii (12). f. 29 (1862).

Var. *Victoriae* Grun. in Cleve et Grun. Arct. Diat., *l.c.*, p. 69 (1880).

Tryblionella Victoriae Grun. in Wien, Verh. k. k. zool. bot. Ges. xii. p. 553. t. xviii (12). f. 34 (1862).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

Var. *calida* V. Heurck Syn. p. 171 (1885).

N. calida Grun. in Cleve et Grun. Arct. Diat., *l.c.*, p. 75 (1880); V. Heurck Syn. t. lix. f. 4, 5 (1882).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

2. *N. perversa* Grun. in Cleve et Grun. Arct. Diat., *l.c.*, p. 70 (1880).

BARRA DO BONGO.—On *Naias* in Lagoa Quifandongo, near Quisquele; Nov. 1853. No. 135.

3. *N. hungarica* Grun. in Wien, Verh. k. k. zool. bot. Ges. xii. p. 568. t. xviii (12). f. 31 (1862).

BARRA DO BONGO.—On *Naias* in Lagoa Quifandongo, near Quisquele; Nov. 1853. No. 135.

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

4. *N. dubia* W. Smith Brit. Diat. I. p. 41 (1853).

BARRA DO BONGO.—On *Naias* in Lagoa Quifandongo, near Quisquele; Nov. 1853. No. 135.

5. *N. Petitiiana* Grun. in Cleve et Grun. Arct. Diat., *l.c.*, p. 104 in adnot. (1880).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

6. *N. dissipata* Grun. in Cleve et Grun. Arct. Diat., *l.c.*, p. 90 (1880).

Synedra dissipata Kuetz. Bacillar. p. 64. t. xiv. f. 3 (1844).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

7. *N. vermicularis* Hantzsch in Rabenh. Alg. No. 889 (1859); Pritchard Infus. p. 781 (1861).

Synedra vermicularis Kuetz. Bacillar. p. 67. t. iv. fig. 35 (1844).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

8. *N. linearis* W. Smith Br. Diat. I. p. 39. t. xiii. f. 110 (1853).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

9. *N. Palea* W. Smith Br. Diat. II. p. 89 (1856).

Synedra Palea Kuetz. Bacillar. p. 63. t. iii. 27, iv. 3 (1844).

LIBONGO.—Rare, in company with *Wolffia*, in an uncompleted shaft of a coal mine above Banza de Libongo; Sept. 1858. No. 137.

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

Var. *debilis* Grun. in Cleve et Grun. Arct. Diat., *l.c.*, p. 96 (1880).

Synedra debilis Kuetz. Bacillar. p. 65. t. iii. f. 45 (1844).

BARRA DO BONGO.—On *Naias* in Lagoa Quifandongo, near Quisquele; Nov. 1853. No. 135.

10. I
Wien,
(1862).

GOL
No. 146

11.
p. 574.

GOL
No. 146

12.
p. 98 (

Syn
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t. 69.

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10. *N. communis* Rabenh. Alg. n. 949 (1859); Grunow in Wien, Verh. k. k. zool. bot. Ges. xii. p. 578. t. xviii (12). f. 18 (1862).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

11. *N. amphibia* Grun. in Wien, Verh. k. k. zool. bot. Ges. xii. p. 574. t. xviii (12). f. 23 (1862).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

12. *N. Frustulum* Grun. in Cleve et Grun. Arct. Diat., *l.c.*, p. 98 (1880).

Synedra Frustulum Kuetz. Bacillar. p. 63. t. xxx. f. 77 (1844).

Var. *Hantzschiana*.

N. Hantzschiana Rabenh. in Hedwig. II. p. 40. t. vi. f. 6 (1860).
N. (Frustulum var.) Hantzschiana V. Heurck. Syn. Atlas p. 72. t. 69. f. 1. 2 (1880-84).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

16. *HANTZSCHIA* Grun. in Cleve et Grun. Arct. Diat. in K. Sv. Vet. Ak. Handl. xvii. 2. p. 103 (1880).

1. *H. amphioxys* Grun., *l.c.*, p. 103 (1880).

Eunotia amphioxys Ehrenb. Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. p. 413 (125). t. I. i. f. 26.

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

17. *SURIRELLA* Turpin in Paris, Mém. Mus. Hist. Nat. xvi. p. 361 (1828). *Survaya* Pfitzer Bau u. Entw. Bacillar. in Hanst. Bot. Abhandl. I. p. 107 (1871).

1. *S. biseriata* Bréb. Alg. Env. Falaise p. 53. t. vii. (1835).

GOLUNGO ALTO.—A small form with scattered apiculi; on small shells in ponds near Sange; Dec. 1854. No. 146. Oval form with scattered apicula; Rio Múio; 5 Feb. 1855. No. 147.

2. *S. splendida* Kuetz. Bacill. p. 62. t. vii. f. 9 (1844).

Navicula splendida Ehrenb. in Berlin, Abhandl. K. Pr. Ak. 1831. p. 81; Infusionsth. p. 186. t. xiv. f. 1 (1838).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

3. *S. tenera* Greg. in Quart. Journ. Micr. Sci. iv. p. 11. t. I. f. 38 (1856).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146.

4. *S. constricta* Ehrenb. Microgeol. t. xiv. f. 37 (1854).

Navicula? constricta Ehrenb. Infusionsth. p. 188. t. xxi. f. 17 (1838).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

Var. *arcta*.

S. arcta A. Schm. Atlas t. xxiii. f. 23-25 (1875).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

5. *S. augusta* Kuetz. Bacillar. p. 61. t. xxx. f. 52 (1844).
 GOLUNGO ALTO.—Rio Múio ; 5 Feb. 1855. No. 147.
 Var. *apiculata* Grun. in Wien, Verh. k. k. zool. bot. Ges. xii.
 p. 455. t. vii. (10). f. 8 (1862).
S. apiculata W. Smith Br. Diat. II. p. 88 (1856).
 GOLUNGO ALTO.—Rio Múio ; 5 Feb. 1855. No. 147.
6. *S. Moelleriana* Grun. in Moeller, Typen Platten 2-3-4
 (Date ?) ; A. Schmidt Atlas t. xxiii. f. 36, etc. (1875).
 GOLUNGO ALTO.—Rio Múio ; 5 Feb. 1855. No. 147.
18. **CYMATOPLEURA** W. Smith in Ann. Mag. Nat. Hist.
 Ser. 2. vii. p. 12 (1851).
1. *C. Solea* W. Smith, *l.c.*, p. 12. t. iii. f. 9 (1851).
Surirella Solea Kuetz. Bacillar. p. 60. t. iii. f. 61 (1844).
 GOLUNGO ALTO.—On small shells in ponds near Sange ; Dec. 1854.
 No. 146. Rio Múio, 5 Feb. 1855. No. 147.
19. **DIATOMA** DC. Flor. Franç. II. p. 48 (1805) ; Heib.
 Consp. Crit. Diat. Danic. p. 55 (1863).
1. *D. elongatum* Ag. Syst. Alg. p. 4 (1824).
 Var. *Ehrenbergii* V. Heurck Syn. p. 160 (1885).
Diatoma Ehrenbergii Kuetz. Bacill. p. 48. t. xvii. f. 18 (1844).
D. grande W. Smith Br. Diat. II. p. 39. t. xl. f. 310 (1856).
 BARRA DO BONGO.—On *Naias* in Lagoa Quifandongo, near Quise-
 quele ; Nov. 1853. No. 135.
20. **SYNEDRA** Ehrenb. in Berlin, Abhand. 1830. p. 40 ;
 Infusionsth. p. 210 (1838) ; Kirchn. in Cohn Krypt.-Flor.
 Schles. II. i. p. 207 (1878).
1. *S. Ulna* Ehrenb. Infusionsth. p. 211. t. xvii. f. 1 (1838).
Bacillaria Ulna Nitzsch Beitr. z. Infus. p. 99. t. v., in Halle,
 Neue Schrift. Naturf. Ges. III. i. (1817).
 PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river
 near Quibinda ; March 1857. No. 130.
 GOLUNGO ALTO.—On small shells in ponds near Sange ; Dec. 1854.
 No. 146. In company with a short broad form in which the blank is
 often unilateral, and also with a constricted form ; Rio Múio, 5 Feb.
 1855. No. 147.
2. *S. splendens* Kuetz. Bacillar. p. 66. t. xiv. f. 16 (1844) ; V.
 Heurck. Syn. t. xxxviii. f. 2 (1880-84).
 GOLUNGO ALTO.—On small shells in ponds near Sange ; Dec. 1854.
 No. 146. Rio Múio ; 5 Feb. 1855. No. 147.
3. *S. Acus* Kuetz. Bacillar. p. 68. t. xv. f. 7 (1844).
 Var. *delicatissima* Grun. in V. Heurck Syn. p. 151 (1885).
S. delicatissima W. Smith Br. Diat. I. p. 72. t. xii. f. 94 (1853).
 GOLUNGO ALTO.—Rio Múio ; 5 Feb. 1855. No. 147.
4. *S. affinis* Kuetz. Bacillar. p. 68. t. xv. f. 6, etc. (1844).

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GOLUNGO ALTO.—The freshwater form *S. putcalis* O'Meara Rep. Ir. Diat. in Dublin, Proc. R. Ir. Acad. Sci. Ser. 2. II. p. 312. t. xxviii. f. 41 (1876); Rio Múio; 5 Feb. 1855. No. 147.

21. **EPITHEMIA** Kuetz. Bacillar. p. 33 (1844). *Epithema* Bréb. Consid. s. 1. Diat. p. 16 (1838).

1. *E. gibba* Kuetz. Bacillar. p. 35. t. iv. f. 22 (1844).

Navicula gibba Ehrenb. in Berlin, Abhandl. K. Pr. Ak. 1830. p. 68; Infusionsth. p. 184. t. xiii. f. 19 (1838).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

Var. *ventricosa* Grun. in V. Heurck Syn. t. xxxii. f. 4, 5 (1880); p. 139 (1885).

E. ventricosa Kuetz. Bacillar. p. 35. t. xxx. f. 9 (1844).

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

Var. *parallela* Grun. in V. Heurck Syn. t. xxxii. f. 3 (1880); p. 139 (1885).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

Var. *ovalis* Comber, var. nov.

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147

Var. *clavata* Comber, var. nov.

E. clavata J. L. B. MS. in Coll. Roy. Micr. Soc. No. 954.

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

2. *E. gibberula* Kuetz. Bacillar. p. 35. t. xxix. f. 54, t. xxx. f. 3 (1844).

Eunotia gibberula Ehrenb. Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. p. 414 (126). t. III. iv. f. 8.

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

GOLUNGO ALTO.—On small shells in ponds near Sange; Dec. 1854. No. 146. Rio Múio; 5 Feb. 1855. No. 147.

22. **EUNOTIA** Ehrenb. in Berlin, Ber. K. Pr. Ak. Wissensch. II. 44 (1837); Grun. in Wien, Verh. k. k. zool. bot. Ges. xii. p. 331 (1862).

1. *E. Arcus* Ehrenb. in Berlin, Ber. K. Pr. Ak. 1837. p. 45; Infusionsth. p. 191. t. xxi. f. 22 (1838).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

2. *E. major* Rabenh. Fl. Eur. Alg. I. p. 72 (*majus*) (1864).

Himantidium majus W. Smith Br. Diat. II. p. 14. t. xxxiii. f. 286 (1856).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

BARRA DO BONGO.—On *Naias* in Lagoa Quifandongo, near Quisequele; Nov. 1853. No. 135.

= *Thopelodia thopala*!

3. *E. pectinalis* Rabenh. Fl. Eur. Alg. I. p. 73 (1864).

Conferva pectinalis Dillw. Brit. Conferv. t. 24 (1809).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

4. *E. minor* V. Heurck Syn. Atlas p. 36. t. xxxiii. f. 20, 21 (1880).

Himantidium minus Kuetz. Bacillar. p. 39. t. xvi. f. 10 (1844).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

5. *E. Eulensteini* Comber, sp. n.

Diatoma Eulensteini Welw. in sched.

It may possibly be identical with *Desmogonium guianense* Ehrenb. [in Schomb. Reisen in Brit. Guian. III. p. 539 (1848)], but it has not the distinctive character upon which that genus was founded.

I find no *Diatoma* in the material; and, as this species is the most characteristic form present, I take it to be what is meant. There are two forms:—

f. biconstricta, with a central inflation.

f. constricta, without a central inflation.

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

23. **TABELLARIA** Ehrenb. in Berlin, Ber. K. Pr. Ak. 1840. p. 217.

1. *T. flocculosa* Kuetz. Bacillar. p. 127. t. xvii. f. 21 (1844).

Conferva flocculosa Roth. Catalect. Botan. I. p. 192. t. iv. f. 4, v. f. 6 (1797).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

24. **CERATAULUS** Ehrenb. in Berlin, Ber. K. Pr. Akad. 1843. p. 270; Ralfs in Pritch. Infus. p. 846 (1861).

1. *C. lævis* Ralfs in *op. cit.*, p. 847 (1861).

Biddulphia lævis Ehrenb. Verbreit. in Berlin, Abhandl. K. Pr. Ak. 1843. p. 410 (122).

GOLUNGO ALTO.—Rio Múio; 5 Feb. 1855. No. 147.

25. **MEOSEIRA** Ag. Syst. Alg. pp. xiv. 8 (1824); Kuetz. Bacillar. p. 52 (1844) (*Melosira*).

1. *M. varians* Ag. in Flora x. p. 628 (1827); Consp. Crit. Diat. p. 64 (1832).

PUNGO ANDONGO.—On roots of *Pistia Stratiotes* in the Cuige river near Quibinda; March 1857. No. 130.

The following numbers represent material which is insufficient for examination, or in which no Diatoms have been detected:—

HUILLA.—No notes. However, the presence of *Eriocaulon huillense* suggests that the gathering came from elevated swamps near Humpata. etc., and should be compared with Alga No. 15. No. 16.

LIBONGO.—In company with *Wolffia* in a disused petroleum mine, full of pure water, above Banza de Libongo; Sept. 1858. No. 129.

64).
9).
e Cuige river

ii. f. 20, 21

f. 10 (1844).

guianense
539 (1848)],
that genus

pecies is the
t is meant.

Cuige river

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l (1844).

. t. iv. f. 4,

Pr. Akad.

ndl. K. Pr.

4); Kuetz.

onsp. Crit.

Cuige river

insufficient
ected:—

on huillense
r Humpata.

teum mine,
No. 129.

LOANDA.—Among *Oscillaria* in wooden buckets partially or not continually filled with water in gardens at Loanda ; in the country garden of Sr. Dr. Mendes Alfonso; 18 Oct. 1858. No. 127. Sediment of *Lemna* and *Chara* from the Represa (pond) of Luis Gomez; Feb. 1858. No. 281. No specimen. Sediment of Infusoria; Represa de Bemposta; 17 June 1858. No. 283.

GOLUNGO ALTO.—Yellowish-red slimy tufts, sometimes floating in bubbly masses on the surface of ponds, sometimes submerged in company with *Conferva*; remarkable for their metallic lustre in the dry state; only once observed, and then it was common in ponds in the banks of the Cuango river near Sange; in Isidro's Varzea (marshy meadow), July 1857. No. 133. With *Conferva* in rivulets near Sange; June 1856. No. 160.

BENGUELLA.—A green Alga, very gregarious, forming yellowish-green scum-like strata over several miles of the ocean about a mile from the coast. Welwitsch records that on the 22nd and 23rd of June 1860, the sea in the Bay of Benguella was for several miles parallel to the coast covered with strata of this Alga; and he hazards the suggestion that it might perhaps have been carried down with the flood out of the river Catumbella. No. 184.