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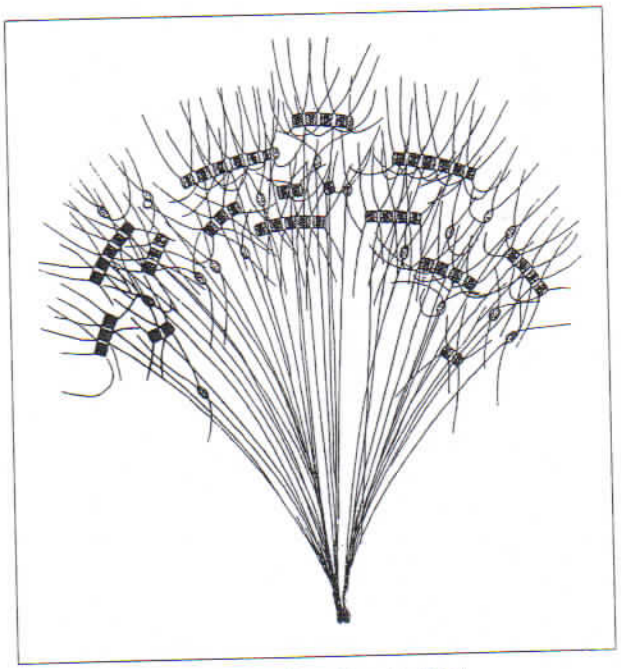
Diatoms (Bacillariophyta) of the Gulf of Mexico

David M. Krayesky, Esther Meave del Castillo, Eugenia Zamudio, James N. Norris, and Suzanne Fredericq

The Bacillariophyta (Diatoms) represent a very large group of unicellular algae present in marine, freshwater, terrestrial, and aerial ecosystems. Although long studied in fossil and living environs, their diversity is still not completely known. Small-subunit ribosomal RNA (ssRNA) sequence data support the premise that the Bacillariophyta are a monophyletic group within the chromophyte or brown algal lineage (Medlin, Williams, and Sims 1993). More recently, Adl et al. (2005, 423) recognized 20 groups within the Chromalveolata, one of 6 clusters of eukaryotes that are considered to be evolutionarily related and represent the basic groups (or traditional kingdoms) in their nameless ranked higher-level classification.

The Chromalveolata are composed of: (1) the Alveolata (includes ciliates, dinoflagellates, and Apicomplexa); (2) the Stramenopiles (includes diatoms, Phaeophyceae [brown algae], many zoosporic fungi, and the opalinids, among others); and (3) the Haptophyta and Cryptophyceae. It has been argued that the Chromalveolata are derived from an alga, and that then some groups arose through plastid loss, or possibly they branched off before the appearance of plastids within the group. Plastid reduction as well as reacquisition has also occurred in some (Adl et al. 2005). It has been argued that the chromalveolates are derived from a single symbiosis of a phagotrophic heterotrophic eukaryote with a photosynthetic red algal eukaryote, and that the plastid was secondarily lost in several lineages (Adl et al. 2005).

As is the case for all taxa previously referred to as "Protists," we have here followed a hierarchical system without formal rank designations such as class, subclass, super order, or order, as this approach is currently the preferred decision—primarily motivated by utility—to avoid the common problem of a single change causing a cascade of changes to the system (Adl et al. 2005).

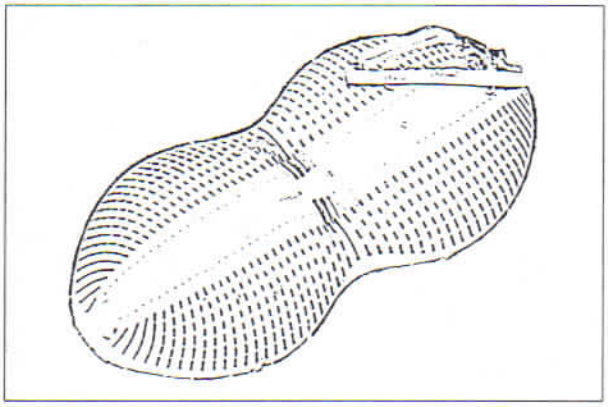


Bacillariophyta (Diatoms). After Mangin 1908.

At present there are over 250 genera of living diatoms, with 10,000–12,000 species recognized and an estimated diversity of 100,000–10,000,000 species (Round, Mann, and Crawford 1990, Norton, Melkonian, and Andersen

1996). Traditionally, diatoms have been classified into "centric" and "pennate" on the basis of pattern (radial organization versus bilateral organization), pattern center (ringlike annulus versus elongate sternum), and sexual reproduction (oogamy versus morphological isogamy), diatom shape/symmetry, and plastid structure and number (Round, Mann, and Crawford 1990). Molecular data show the centrics as a whole to be paraphyletic, but relationships between the principal groups, and whether particular groups are monophyletic or paraphyletic, is currently unclear (Adl et al. 2005); furthermore, several major clades are cryptic, with no or few morphological or life history traits that can be convincingly argued to be synapomorphies. In order to reflect the historical treatment of diatom taxonomy, we have opted for the conservative approach that follows the subdivision of the Bacillariophyta into the Bacillariophyceae (pennates), Fragilariophyceae (araphid pennates), and Coscinodiscophyceae (centrics; Round, Mann, and Crawford 1990). The more phylogenetically correct treatment (Adl et al. 2005) divides the Diatoms into Coscinodiscophytina and Bacillariophtina.

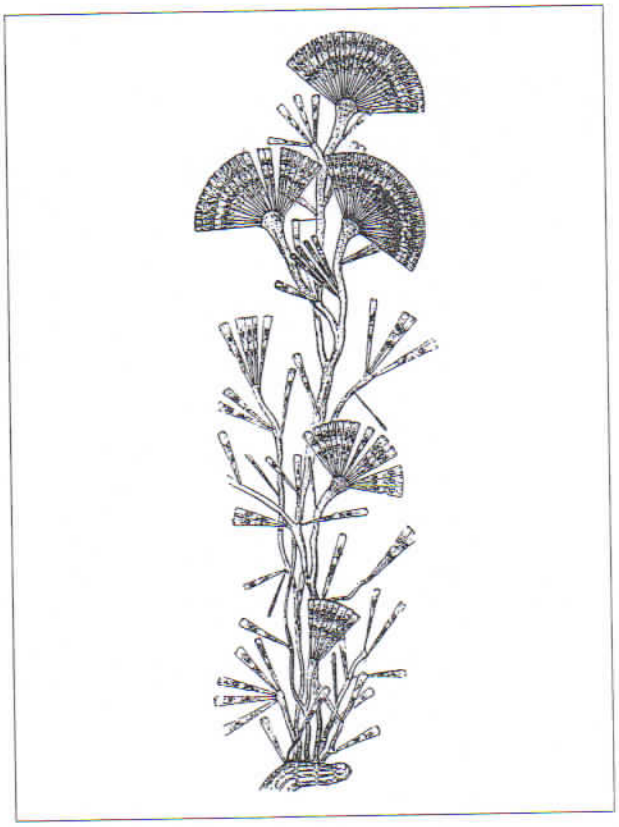
Diatoms are reported to be ubiquitous in all waters worldwide except for regions of extreme heat and salinity. Both planktonic and benthic taxa occur within the Bacillariophyta, as well as epipelic, epipsammic, epilithic, epiphytic, and epizoic individuals/communities (Round, Mann, and Crawford 1990). Of great ecological and commercial significance, diatoms are a major component of the marine phytoplankton and represent the base of the food web for many marine organisms. Furthermore, marine diatoms, due to their abundance and productivity, are responsible for approximately 25% of the world's carbon fixation contribution (Werner 1977, Tréguer et al. 1995). Commercially, diatomaceous earth (fossilized diatoms) has industrial uses, as it is made into abrasives and filtering aids. Recently, diatoms have been used as model organisms for biofuels, as they are triglyceride-rich, with triglycerides accounting for approximately half of their mass (Danielo 2005).



Bacillariophyta (Diatoms). Modified by F. Moretzsohn after a photograph from http://www.ualg.pt/adiac/pubdat/pubdat.html

Since the treatment by Conger (1954) of the Diatoms in the Gulf of Mexico, many regional studies have been conducted (Curl 1959, Simmons and Thomas 1962, Wood 1963, Ivanov 1966, Saunders and Glenn 1969, Sullivan 1978, Sullivan 1981, Stowe 1982, Prasad 1987, Prasad, Nienow, and Livingston et al. 1990, Prasad, Fryxell, and Livingston 1993, Prasad and Livingston 1993, Lehman and Wood 1996, Prasad, Nienow, and Riddle 2001, Gallegos et al. 2004, Prasad and Livingston 2005, Prasad and Nienow 2006). A second checklist of the Bacillariophyta was accomplished by Conger et al. (1972), which was predominantly a compilation of names of taxa along with some information on the environmental implications of 14 species occurring in particular regions of the study area. This list reported over 700 species, including alphabetized intraspecific taxa, but did not indicate in which families the taxa belonged, nor how many families occurred throughout the Gulf of Mexico. In the past 35 years the systematics of the Bacillariophyta has changed significantly, and there has been the addition of species previously unreported from the Gulf of Mexico. The present study reports about 1000 diatom species, including previously reported species, updates the nomenclature of reported species names, and is the first attempt to group them into families for the region. As this chapter reports the biodiversity of a group that falls within the confines of botany, the species names and authors reported herein follow the rules of the International Code of Botanical Nomenclature (McNeill et al. 2006); author(s) of species names follow Brummitt and Powell (1992).

The checklist furnished here for Gulf of Mexico diatoms is in several ways unique to this volume. Rather than representing a thorough review of regional vouchers, it is a compilation of species putatively occurring in Gulf of Mexico waters. As such, we must acknowledge that not all records are equally verifiable or based upon accessible vouchers. For example, many of the records reported here are based on the work of Conger et al. (1972), a study that listed the known diversity of the group in the Gulf of Mexico up until that time. A large number of the species listed therein were based on personal identifications by the authors or were "compiled from old literature" (with



Bacillariophyta (Diatoms). After Mangin 1908.

ambiguity as to which was the case); none of these records included information on habitat and distribution and no reference was made to vouchers. Short of tracking down everything that could qualify as old literature and deducing from this which were new records, there is no way to verify the sources. With the lack of habitat and distributional information in that aformentioned major Gulf of Mexico summary, and our concern regarding possible overvaluation of reports from the Gulf of Mexico that should themselves require better documentation in years to come, we elected to not treat habitats and distributions to the same extent as in other chapters of this volume. Although a modern species nomenclator for the Bacillariophyta does exist, namely the Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms (Van Landingham 1967, 1968, 1971, 1975, 1978a, 1978b, 1979), online sources such as Index Nominum Algarum (Silva 2006), AlgaeBase (Guiry and Guiry 2007), and the California Academy of Sciences Diatom Names (Fourtanier and Kociolek 2006) provide additional information on the diversity of this group. Therefore, these online sources are being used to confirm reported species as distinct.

We envision that taxonomic treatments, along with ecological (temporal and spatial), distributional accounts, as well as phylogenetic analyses will elucidate the composition of the Gulf of Mexico diatoms. The most tractable approach will be on a regional basis within the Gulf of Mexico. Toward such ends, our present effort provides a baseline of diatom taxa reported from the Gulf of Mexico for future workers.

Abbreviations

All abbreviations for Habitat-Biology used in this checklist are given with their definitions in the following. We realize that some benthic species are at certain points in time found in the water column and are regarded as tychoplanktonic. In the checklist, habitat data are reported under the ecological term(s) that best fits specimen collection information. The Habitat-Biology terms herein reflects the Habitat-Biology information as reported from Gulf of Mexico literature. Although diatoms can be epilithic (i.e., growing on a hard substratum—hsb), investigators have not focused on this habitat in the Gulf of Mexico.

The following terminology is used for this chapter's checklist. Ecological habitat: ben = benthic; plk = planktonic; epi = epibiotic. General depth/strata: bns = bay and nearshore; osp = oceanic surface and epipelagic. Substrate/biotic associations: sft = soft substrates (mud, sand, clay); hsb = hard substrate.

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References

1. Adl, S. M., A. G. B. Simpson, M. A. Farmer, R. A. Andersen, J. Barta, S. Bowser, G. Brugerolle, R. Fensome, S. Fredericq, T. Y. James, S. Karpov, P. Kugrens, J. Krug, C. Lane, L. A. Lewis, J. Lodge, D. H. Lynn, D. Mann, R. M. McCourt, L. Mendoza, Ø. Moestrup, S. E. Mozeley-Standridge, T. A. Nerad, C. Shearer, F. Spiegel, and M. F. J. R. Taylor. 2005. The new higher level classification of eukaryotes and taxonomy of protists. Journal of Eukaryotic Microbiology 52: 399–432.
2. Brummitt, R. K., and C. E. Powell, eds. 1992. Authors of Plant Names. Royal Botanical Gardens, Kew, U.K.
3. Conger, P. S. 1954. Present status of diatom studies in the

Gulf of Mexico. Pp. 227–232 *in* P. S. Galtsoff, ed. Gulf of Mexico, Its Origin, Waters, and Marine Life. Fishery Bulletin 89. Fishery Bulletin of the Fish and Wildlife Service, Vol. 55, Washington, D.C.

4. Conger P. S., G. A Fryxell, and S. Z. El-Sayed. 1972. Diatom species reported from the Gulf of Mexico. Pp. 18–23 *in* S. Z. El-Sayed et al., eds. Serial Atlas of the Marine Environment, Folio 22: Chemistry, Primary Productivity and Benthic Algae of the Gulf of Mexico. American Geographical Society, New York.
5. Curl, H. Jr. 1959. The phytoplankton of Apalachee Bay and the northeastern Gulf of Mexico. Publications of the Institute of Marine Science, Austin, Texas 6: 277–320.
6. Danielo, O. 2005. Un carburant à base d'huile d'algue. "An algae-based fuel." Biofutur 24/255. http://biofutur.revues online.com/article.jsp?articleId=6215. [Accessed 12 January 2007.]
7. Fourtanier, E., and J. P. Kociolek. 2006. California Academy of Sciences Diatom Names, Hanna Database. http:// www.calacademy.org/research/diatoms. [Accessed 12 January 2007.]
8. Gallegos M., M., E. Meave del Castillo, A. Sentíes G., K. A. Dreckmann, M. E. C. Álvarez Silva, R. Chacón Alvarado, R. Chacón Alvarado, R. Roldán Serralde Zamudio Resendiz, R. Pérez Guillé, and M. E. Callejas J. 2004. Biodiversidad costera en la Sonda de Campeche. Pp. 127–204 *in* L. A. Soto and M. C. Gonzáles-Macias, eds. PEMEX y la Salud Ambiental de la Sonda de Campeche, México. Mexico.
9. Guiry, M. D., and G. M. Guiry. 2007. AlgaeBase version 4.2. World-wide electronic publication, National University of Ireland, Galway. http://www.algaebase.org [Accessed 13 January 2007.]
10. Ivanov, A. I. 1966. Some data on phytoplankton of the Gulf of Mexico and Florida Strait. Pp. 81–90 *in* Studies on the Central American Seas, I. Acad. Sci. Ukr. SSR., Kiev. [English translation by U.S. Dept. of Commerce, Joint Publ. Res. Serv., 1968].
11. Lehman, R. L., and T. Wood. 1996. Bacillariophytes (Diatoms). Pp. 3–21 *in* J. W. Tunnell Jr., and S. A. Alvarado, eds. Checklist of Species within Corpus Christi Bay National Estuary Program Study Area: References, Habitats, Distribution, and Abundance. Vol. 4. CCBNEP06-D. Texas Natural Resource Conservation Commission. Austin, Texas.
12. McNeill, J., F. R. Barrie, H. M. Burdet, V. Demoulin, D. L. Hawksworth, K. Marhold, D. H. Nicolson, J. Prado, P. C. Silva, J. E. Skog, J. H. Wiersema, and N. J. Turland. 2006. International Code of Botanical Nomenclature (Vienna Code). Regnum Vegetabile, vol. 146. Ruggell, Lichenstein, A.R.G. Gantner Verlag.
13. Medlin, L. K., D. M. Williams, and P. A. Sims. 1993. The evolution of the diatoms (Bacillariophyta). I. Origin of the group and assessment of the monophyly of its major divisions. European Journal of Phycology 28: 261–275.
14. Norton, T. A., M. Melkonian, and R. A. Andersen. 1996. Algal Biodiversity. Phycologia 35: 308–326.
15. Prasad, A. K. S. K. 1987. Marine Diatoms of St. George Sound, northeastern Gulf of Mexico: II. *Neodelphineis pelagica* Takano (Diatomaceae, Bacillariophyceae). Northeast Gulf Science 9: 125–129.
16. Prasad, A. K. S. K., G. A. Fryxell, and R. J. Livingston. 1993. The genus *Thalassiosira* (Bacillariophyta): *T. cedarkeyensis*, a new marine benthic diatom from the Florida coast of the Gulf of Mexico. Phycologia 32: 204–212.
17. Prasad, A. K. S. K., and R. J. Livingston. 1993. Frustule morphology of the planktonic pennate diatom *Fragilaria gessneri* Hustedt (Bacillariophyceae) from the Florida coast of Gulf of Mexico, with a description of *Desikaneis* gen. nov. Phycologia 32: 434–443.
18. Prasad, A. K. S. K., and R. J. Livingston. 2005. Fine structure and taxonomy of *Synedropsis karsteteri* sp. nov. (Fragilariaceae, Bacillariophyta), a bloom-forming, brackish-water, planktonic, araphid diatom from Perdido Bay, northeastern Gulf of Mexico. Diatom Research 20: 145–162.
19. Prasad, A. K. S. K., and J. A. Nienow. 2006. The centric diatom genus *Cyclotella* (Stephanodiscaceae: Bacillariophyta) from Florida Bay, USA, with special reference to *Cyclotella choctawhatcheeana* and *Cyclotella desikacharyi*, a new marine species related to the *Cyclotella striata* species. Phycologia 45: 127–140.
20. Prasad, A. K. S. K., J. A. Nienow, and R. J. Livingston. 1990. The genus *Cyclotella* (Bacillariophyta) in Choctawhatchee Bay, Florida, with special reference to *C. striata* and *C. choctawhatcheeana* sp. nov. Phycologia 29: 418–436.
21. Prasad, A. K. S. K., J. A. Nienow, and K. A. Riddle. 2001. Fine structure, taxonomy and systematics of *Reimerothrix* (Fragilariaceae: Bacillariophyta), a new genus of synedroid diatoms from Florida Bay, USA. Phycologia 40: 35–46.
22. Round, F. E., D. G. Mann, and R. M. Crawford. 1990. The Diatoms: Biology and Morphology of the Genera. Cambridge University Press, U.K.
23. Silva, P. C. 2006. (edited by R. Moe). Index Nominum Algarum. University Herbarium, University of California, Berkeley. Available from http://ucjeps.berkeley.edu/ INA.html. [Accessed 13 January 2007.]

24. Saunders, R. P., and D. A. Glenn. 1969. Diatoms. Memoirs of the Hourglass Cruises, Vol. 1, Pt. 3: 1–119. Contribution no. 127. St. Petersburg, Florida: Marine Research Laboratory, Florida Dept. of Natural Resources.
25. Simmons, E. G., and W. H. Thomas. 1962. Phytoplankton of the eastern Mississippi. Publications of the Institute of Marine Science, Austin, Texas 8: 269–289.
26. Stowe, W. C. 1982. Diatoms epiphytic on the emergent grass *Spartina alterniflora* in a Louisiana salt marsh. Transactions of the American Microscopical Society 101: 162–173.
27. Sullivan, M. J. 1978. Diatom community structure: taxonomic and statistical analyses of a salt marsh. Journal of Phycology 14: 468–475.
28. Sullivan, M. J. 1981. A preliminary checklist of marine benthic diatoms of Mississippi. Gulf Research Reports 7: 13–18.
29. Tréguer, P., D. M. Nelson, A. J. Bennekom, D. J. DeMaster, A. Leynaert, and B. Quéquiner. 1995. The silica balance in the world ocean: a reestimate. Science 268: 375–379.
30. Van Landingham, S. L. 1967. Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms, Pt. I: *Acanthroceras* through *Bacillaria*. Lehre: J. Cramer.
31. Van Landingham, S. L. 1968. Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms, Pt. II: *Bacteriastrum* through *Coscinodicus*. Lehre, Germany: J. Cramer.
32. Van Landingham, S. L. 1969. Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms, Pt. III: *Coscinophaenas* through *Fibula*. Lehre, Germany: J. Cramer.
33. Van Landingham, S. L. 1971. Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms, Pt. IV: *Fragilaria* through *Naunema*. Lehre, Germany: J. Cramer.
34. Van Landingham, S. L. 1975. Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms, Pt. V: *Navicula*. Vaduz: J. Cramer.
35. Van Landingham, S. L. 1978a. Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms, Pt. VI: *Neidium* through *Rhoiocosigma*. Vaduz: J. Cramer.
36. Van Landingham, S. L. 1978b. Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms, Pt. VII: *Rhoicosphenia* through *Zygoceros*. Vaduz: J. Cramer.
37. Van Landingham, S. L. 1979. Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms, Pt. VIII: Supplementary Taxa (through 1964). Vaduz: J. Cramer.
38. Werner, D. 1977. Introduction with a note on taxonomy. Pp. 1–17 *in* D. Werner, ed. The Diatoms. Blackwell Scientific Publications, Oxford.
39. Wood, E. J. F. 1963. A study of the diatom flora of fresh sediments of the south Texas bays and adjacent waters. Publications of the Institute of Marine Science, Austin, Texas 9: 237–310.

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Taxonomic summary for diatoms (Bacillariophyta) of the Gulf of Mexico.

Component subgroups	Total species	Component subgroups	Total species
Bacillariophyceae	**548**	Bellerocheaceae	2
Achnanthaceae	13	Biddulphiaceae	26
Achnanthidiaceae	1	Chaetocerotaceae	61
Amphipleuraceae	11	Corethraceae	1
Anomoeoneidaceae	3	Coscinodiscaceae	38
Bacillariaceae	99	Cymatosiraceae	4
Berkeleyaceae	1	Endictyaceae	1
Catenulaceae	66	Gossleriellaceae	1
Cavinulaceae	1	Heliopeltaceae	6
Cocconeidaceae	18	Hemiaulaceae	9
Cosmioneidaceae	2	Hemidiscaceae	8
Cymbellaceae	5	Hyalodiscaceae	3
Diadesmidaceae	2	Lauderiaceae	1
Dictyoneidaceae	3	Leptocylindraceae	3
Diploneidaceae	27	Lithodesmiaceae	4
Entomoneidaceae	1	Melosiraceae	12
Eunotiaceae	4	Paraliaceae	1
Gomphonemataceae	1	Plagiogrammaceae	17
Lyrellaceae	15	Pyxidiculaceae	2
Mastogloiaceae	30	Rhizosoleniaceae	25
Naviculaceae	125	Skeletonemaceae	2
Neidiaceae	1	Stephanodiscaceae	14
Pinnulariaceae	5	Stephanopyxidaceae	4
Plagiotropidaceae	3	Stictodiscaceae	1
Pleurosigmataceae	28	Thallassiosiraceae	23
Proschkiniaceae	1	Triceratiaceae	45
Rhopalodiaceae	5		
Scolioneidaceae	1	**Fragilariophyceae**	**70**
Scoliotropidaceae	1	Climacospheniaceae	2
Sellaphoraceae	15	Fragilariaceae	37
Surirellaceae	55	Licmophoraceae	2
Stauroneidaceae	4	Protoraphidaceae	1
Thalassiophysaceae	1	Psammodiscaceae	1
		Rhabdonemataceae	2
Coscinodiscophyceae	**330**	Rhaphoneidaceae	7
Anaulaceae	5	Striatellaceae	8
Asterolampraceae	9	Thalassionemataceae	8
Aulacodiscaceae	1	Toxariaceae	2
Aulacoseiraceae	1		
		Total	**948**

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico.

Taxon	Habitat-Biology	References/Endnotes
Bacillariophyta		
Class: Bacillariophyceae		
Family: Achnanthaceae		
Achnanthes brevipes C. Agardh, 1824	plk, ben, bns	*4, 8, 11, 27*[1]*, 28*
Achnanthes coarctata (Bréb. ex W. Sm.) Grunow, 1880		*28*
Achnanthes curvirostrum J. Brun, 1895	ben, bns	*4, 11, 28*
Achnanthes danica (Flögel) Grunow in Cleve & Grunow, 1880		*4*
Achnanthes delicatula (Kütz.) Grunow, 1880	ben, bns, sft	*4, 11, 27*[2]*, 28*[3]
Achnanthes exilis Kütz., 1833	ben, bns	*4, 11*
Achnanthes hungarica (Grunow) Grunow, 1880	ben, bns	*4, 11*
Achnanthes lanceolata (Bréb. ex Kütz.) Grunow, 1880	ben, bns, sft	*27, 28*
Achnanthes lemmermannii Hustedt, 1933		*4, 28*
Achnanthes longipes C. Agardh, 1824	plk, bns	*4, 11*
Achnanthes manifera Brun, 1895	plk, bns	*4, 8*
Achnanthes temperei M. Perag. in Tempère & Peragallo, 1908	ben, bns, sft	*27, 28*
Achnanthes tenera Hustedt, 1955	ben, bns	*4, 11*
Family: Achnanthidiaceae		
Achnanthidium biasolettianum (Grunow) Round & Bukhtiyarova, 1996	ben, bns	*4*[4]*, 11*[5]*, 28*[6]
Family: Amphipleuraceae		
Amphiprora alata (Ehrenb.) Kütz., 1844		*4*
Amphiprora decussata Grunow, 1880	ben, bns, sft	*27*
Amphiprora gigantea Grunow, 1860	plk, osp	*4, 24, 28*
Amphiprora pulchra Bailey, 1851	ben, bns, sft	*27, 28*
Amphiprora similis Hustedt, 1955	ben, bns, sft	*27, 28*
Cistula lorenziana (Grunow) Cleve, 1894		*4*
Frustulia asymmetrica (Cleve) Hustedt, 1954	ben, bns, sft	*27, 28*
Frustulia creuzburgensis (Krasske) Hustedt, 1957	ben, bns, sft	*27*[7]*, 28*[8]
Frustulia interposita (F. W. Lewis) De Toni, 1891	ben, plk, bns	*4, 8, 11*
Frustulia rhomboides (Ehrenb.) De Toni, 1891	ben, plk, bns	*4, 8, 11, 28*
Frustulia similis Hustedt, 1954		*28*
Family: Anomoeoneidaceae		
Anomoeoneis vitrea (Grunow) R. Ross, 1966		*28*
Staurophora amphioxys (W. Greg.) D. G. Mann, 1990	ben, bns, sft	*27*[9]*, 28*[10]
Staurophora salina (W. Smith) Mereschk., 1903	ben, bns, sft	*27*[11]*, 28*[12]
Family: Bacillariaceae		
Bacillaria longa (Grunow in Cleve & Grunow) De Toni, 1892		*4*
Bacillaria paxillifer (O. F. Müller) Hendey, 1951	ben, plk, bns, osp	*8, 11, 24*[13]*, 27*[14]*, 28*
Cylindrotheca closterium (Ehrenb.) Reimann & Lewin, 1964	plk, bns, osp	*8, 11*[15]*, 24*[16]*, 28*[17]
Cylindrotheca gracilis (Bréb.) Grunow, 1882		*28*
Denticula subtilis Grunow, 1862	epi, ben, bns, sft	*26, 27, 28*
Fragilariopsis doliolus (G. C. Wall.) Medlin & P. A. Sims, 1993	plk, bns	*4*[18]*, 11*[19]
Hantzschia amphioxys (Ehrenb.) Grunow, 1877	plk, bns	*4, 8, 11*[20]
Hantzschia distincte-punctata Hustedt in Schmidt et al., 1921		*28*
Hantzschia elongata (Hantzsch) Grunow, 1877	plk, osp	*8*
Hantzschia marina (Donkin) Grunow, 1877	ben, bns	*4, 11*
Nitzschia acicularis (Kütz.) W. Sm., 1853	plk, osp	*4, 8*
Nitzschia angularis W. Sm., 1853	ben, bns, sft	*4, 27, 28*
Nitzschia amphibia Grunow, 1862	epi, bns	*26*
Nitzschia bicapitata Cleve, 1901	plk, osp	*4, 8*
Nitzschia bifurcata Kaczmarska & Licea, 1986	plk, osp	*8*
Nitzschia bilobata W. Sm., 1853	ben, plk, bns	*4, 11, 27, 28*
Nitzschia braarudii Hasle, 1960		*4*
Nitzschia brevissima Grunow, 1881	ben, bns, sft	*27*[21]*, 28*

(continued)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Nitzschia brevistriata Grunow, 1880		*4*
Nitzschia communis Rabenh., 1860	ben, bns, sft	*27, 28*
Nitzschia commutata Grunow, 1881	ben, bns, sft	*27*[22], *28*[23]
Nitzschia constricta (Kütz.) Ralfs, 1861	epi, ben, bns	*4, 27*[24], *28, 28*[25]
Nitzschia dietrichii Simonsen, 1974	plk, osp	*8*
Nitzschia dissipata (Kütz.) Grunow, 1860	ben, bns, sft	*27, 28*
Nitzschia distans W. Greg., 1857	ben, plk, bns	*4, 11*
Nitzschia dubia W. Sm., 1853	ben, bns, sft	*27, 28*
Nitzschia dubiiformis Hustdet, 1939		*28*
Nitzschia epithemoides Grunow, 1880	ben, bns, sft	*27, 28*
Nitzschia eximia Grunow, 1880		*4*
Nitzschia fasciculata (Grunow) Grunow in Van Heurck, 1881		*28*
Nitzschia filiformis (W. Sm.) Hustedt, 1896	ben, bns, sft	*27, 28*
Nitzschia fluminensis Grunow, 1862		*4*
Nitzschia frustulum (Kütz.) Grunow, 1880	ben, plk, bns, osp	*8, 26, 27*
Nitzschia gandersheimiensis Krasske, 1927		*28*
Nitzschia gracilis Hantzsch, 1860	ben, bns	*4, 11*
Nitzschia grana M. H. Hohn & Hellerman, 1966	ben, bns, sft	*27, 28*
Nitzschia gruendleri Grunow, 1878		*4*
Nitzschia hustedtiana Salah, 1953	ben, bns, sft	*27, 28*
Nitzschia insignis W. Greg., 1857		*4*
Nitzschia kolaizeckii Grunow, 1877		*4*[26]
Nitzschia lanceolata W. Sm., 1853	epi, plk, bns	*8, 26*
Nitzschia levidensis (W. Sm.) Grunow, 1856	ben, bns, sft	*27, 28*
Nitzschia longa Grunow in Cleve & Grunow, 1880	plk, bns	8
Nitzschia longissima (Bréb. ex Kütz.) Grunow, 1862	ben, plk, bns, osp	*4, 8, 11, 24*
Nitzschia lorenziana Grunow, 1880	ben, plk, bns	*4, 8, 11, 27, 28*
Nitzschia macilenta W. Greg., 1859		*4*
Nitzschia major Grunow in Van Heurck, 1881		*4*
Nitzschia majuscula Grunow, 1880		*4*
Nitzschia marina Grunow, 1880		*4*
Nitzschia microcephala Grunow, 1880	ben, bns, sft	*27, 28*
Nitzschia minutula (Grunow) Grunow, 1881		*28*
Nitzschia obsidialis Hustedt, 1949	ben, bns, sft	*27, 28*
Nitzschia obtusa W. Sm., 1853	ben, plk, bns	*4, 8, 11, 27, 28*
Nitzschia ovalis Arn., 1880	plk, osp	8
Nitzschia pacifica Cupp, 1943	plk, bns, osp	*4, 8, 11*
Nitzschia palea (Kütz.) W. Sm., 1856	ben, bns	*4, 11, 28*
Nitzschia paleacea (Grunow) Grunow, 1881	epi, bns	*28*
Nitzschia plana W. Sm., 1853	ben, bns, sft	*4, 11, 27, 28*
Nitzschia pulcherrima (Grunow ex Kitton) Grunow in Cleve & Möller, 1878		*4*
Nitzschia punctata (W. Sm.) Grunow, 1878	ben, bns	*4, 11*
Nitzschia recta Hantzsch in Rabenh., 1862	ben, bns, sft	*27, 28*
Nitzschia romana Grunow, 1881		*28*
Nitzschia romanoides Manguin, 1952		*28*
Nitzschia scalaris (Ehrenb.) W. Sm., 1853	ben, bns, sft	*27, 28*
Nitzschia scaligera Grunow, 1880		*4*
Nitzschia semicostata Boyer, 1920		*4*
Nitzschia sicula (Castrac.) Hustedt, 1958		*4*
Nitzschia sigma (Kütz.) W. Sm., 1853	ben, plk, bns, osp	*4, 8, 11, 27, 28*
Nitzschia sigmaformis Hustedt, 1955	plk, bns	*4, 11*
Nitzschia sigmoidea (Nitzsch) W. Sm., 1853	plk, bns, osp	*4, 8*
Nitzschia silicula Hustedt, 1955	ben, bns	*4, 11*
Nitzschia socialis W. Greg., 1857	ben, plk, bns, osp	*8, 27, 28*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Nitzschia tenuirostris Manguin, 1952		4
Nitzschia tryblionella Hantzsch, 1860	epi, ben, plk, bns	4, 8, 11, 26, 27, 28
Nitzschia valida Cleve & Grunow, 1878		4
Nitzschia visurgis Hustedt, 1957		28
Nitzschia vitrea G. Norman, 1860	ben, bns, sft	27, 28
Nitzschia weissflogii Grunow, 1878		4
Psammodictyon constrictum (W. Greg.) D. G. Mann, 1990	plk, osp	8
Psammodictyon mediterraneum (Hustedt) D. G. Mann, 1990	ben, bns	4[27], 11[28]
Psammodictyon panduriforme (W. Greg.) D. G. Mann, 1990	ben, plk, bns, osp	4[29], 8, 11[30], 27[31], 28[32]
Pseudo-nitzschia delicatissima (Cleve) Heiden in Heiden & Kolbe, 1928	plk, bns,osp	8, 11[33]
Pseudo-nitzschia prolongatoides (Hasle) Hasle, 1993	plk, osp	8
Pseudo-nitzschia pseudodelicatissima (Hasle) Hasle, 1993	plk, osp	4[34], 8
Pseudo-nitzschia pungens (Grunow ex Cleve) Hasle, 1993	plk, osp	8, 11[35], 24[36]
Pseudo-nitzschia multiseries (Hasle) Hasle, 1995		4[37]
Pseudo-nitzschia subfraudulenta (Hasle) Hasle, 1993		4[38]
Pseudo-nitzschia subpacifica (Hasle) Hasle, 1993	plk, bns	8[39]
Pseudo-nitzschia seriata (Cleve) H. Perag., 1908	plk, bns, osp	4[40], 8, 11[41]
Tryblionella acuta (Cleve) D. G. Mann, 1990	plk, bns, osp	8[42]
Tryblionella brightwellii (Kitton in A. Pritch.) D. G. Mann, 1990		4[43]
Tryblionella calida (Grunow in Cleve & Grunow) D. G. Mann, 1990		28[44]
Tryblionella campechiana (Grunow) D. G. Mann, 1990		4[45]
Tryblionella constricta W. Greg., 1855		4[46]
Tryblionella granulata (Grunow) D. G. Mann, 1990	ben, plk, bns	4[47], 8[48], 11[49] 27[50], 28[51]
Tryblionella hungarica (Grunow) Freng., 1942	ben, bns	4[52], 11[53], 27[54], 28[55]
Tryblionella marginulata (Grunow) Freng., 1945		4[56]
Tryblionella perversa (Grunow) D. G. Mann, 1990	ben, bns, sft	27[57], 28[58]
Tryblionella visurgis (Hustedt) D. G. Mann, 1990	ben, bns, sft	27[59]
Family: Berkeleyaceae		
Berkeleya rutilans (Trentep.) Cleve, 1880		28
Family: Catenulaceae		
Amphora acuta W. Greg., 1857		4
Amphora alata H. Perag., 1888		4
Amphora angularis W. Greg., 1855	ben, bns	4, 11
Amphora angusta W. Greg., 1857	epi, ben, bns	4, 11, 26, 27, 28
Amphora arcuata A. Schmidt, 1875	ben, bns	11
Amphora arenaria Donkin, 1858	ben, bns	4, 11
Amphora areolata Grunow, 1876		4
Amphora aspera Petit, 1877	ben, bns	4, 11
Amphora bigibba Grunow ex A. Schmidt, 1875		4
Amphora bigibbosa Cleve, 1895		4
Amphora binodis W. Greg., 1857		4
Amphora capensis A. Schmidt, 1875		4
Amphora caroliniana Giffen, 1980		28
Amphora cingulata Cleve, 1875		4
Amphora clevei Grunow, 1875		4
Amphora coffeaformis (C. Agardh) Kütz., 1844	ben, epi, bns	4, 11, 26, 27, 28
Amphora contracta Grunow, 1875		4
Amphora costata W. Sm., 1853		4
Amphora crassa W. Greg., 1857		4
Amphora cymbifera W. Greg., 1857		4
Amphora cymbiformis Cleve, 1895	epi, bns	28
Amphora decussata Grunow, 1867	plk, osp	4, 24
Amphora delphinea L. W. Bailey, 1895		4

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Amphora dubia W. Greg., 1857	ben, bns	*4, 11*
Amphora egregia Ehrenb., 1861	ben, bns	*4, 11*
Amphora elegantula Hustedt, 1955	plk, bns	*11*
Amphora exigua W. Greg., 1857	ben, bns, sft	*27, 28*
Amphora exsecta Grunow, 1875		*4*
Amphora farcimen Grunow, 1875		*4*
Amphora flexuosa Grev., 1863		*4*
Amphora fluminensis Grunow, 1863		*4*
Amphora formosa Cleve, 1875		*4*
Amphora fusca A. Schmidt, 1875		*4*
Amphora gibba A. Schmidt, 1876		*4*
Amphora gigantea Grunow, 1875		*4*
Amphora graeffii (Grunow) Cleve 1895	ben, bns	*4, 11*
Amphora granulata W. Greg., 1857	ben, plk, bns	*4, 11, 27*
Amphora grevilleana W. Greg., 1857		*4*
Amphora gruendleri Grunow, 1875		*4*
Amphora hyalina Kütz., 1844	ben, bns	*4, 11*
Amphora inflata Grunow, 1875		*4*
Amphora janischii A. Schmidt, 1875		*4*
Amphora javanica A. Schmidt, 1875	ben, bns	*4, 11*
Amphora laevis W. Greg., 1857	ben, bns	*4, 11, 28*
Amphora libyca Ehrenb., 1840		*28*
Amphora lyrata W. Greg., 1857		*4*
Amphora marina W. Sm., 1857		*4*
Amphora mexicana A. Schmidt, 1857	ben, bns	*4, 11*
Amphora micans A. Schmidt, 1857		*4*
Amphora obtusa W. Greg., 1857	plk, bns	*4, 11*
Amphora ocellata Donkin, 1861		*4*
Amphora oculus A. Schmidt, 1875		*4*
Amphora ovalis (Kütz.) Kütz., 1844		*4*
Amphora pediculus (Kütz.) Grunow, 1875	epi, bns	*28*
Amphora proteus W. Greg., 1857	ben, bns	*4, 11, 28*
Amphora rhombica Kitton, 1876		*4*
Amphora robusta W. Greg., 1857	ben, epi, bns	*4, 11, 28*
Amphora sabyii Salah, 1955	ben, bns, sft	*27, 28*
Amphora schmidtii Grunow, 1875		*4*
Amphora spectabilis W. Greg., 1857	ben, plk, bns	*4, 11*
Amphora tenerrima Aleem & Hustedt, 1951	ben, bns, sft	*27, 28*
Amphora tenuissima Hustedt, 1955		*28*
Amphora terroris Ehrenb., 1853	ben, bns	*4, 11*
Amphora truncata W. Greg., 1857		*4*
Amphora turgida W. Greg., 1857	ben, bns	*11*
Amphora weissflogii A. Schmidt, 1857	ben, bns	*4, 11*
Family: Cavinulaceae		
Cavinula cocconeiformis (W. Greg ex Grunow) D. G. Mann & Stickle, 1990		*28*[60]
Family: Cocconeidaceae		
Cocconeis apiculata A. Schmidt, 1895	ben, bns	*4, 11*
Cocconeis campechiana Cleve, 1894		*4*
Cocconeis costata W. Greg., 1855		*4*
Cocconeis deperdita Giffen, 1975		*28*
Cocconeis dirupta W. Greg., 1857	plk, bns	*8*
Cocconeis discrepans A. Schmidt, 1894		*4*
Cocconeis disculoides Hustedt, 1955	ben, plk, bns, sft	*4, 11, 27, 28*
Cocconeis disculus (Schumann) Cleve, 1882	ben, bns	*4, 11*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Amphora dubia W. Greg., 1857	ben, bns	*4, 11*
Amphora egregia Ehrenb., 1861	ben, bns	*4, 11*
Amphora elegantula Hustedt, 1955	plk, bns	*11*
Amphora exigua W. Greg., 1857	ben, bns, sft	*27, 28*
Amphora exsecta Grunow, 1875		*4*
Amphora farcimen Grunow, 1875		*4*
Amphora flexuosa Grev., 1863		*4*
Amphora fluminensis Grunow, 1863		*4*
Amphora formosa Cleve, 1875		*4*
Amphora fusca A. Schmidt, 1875		*4*
Amphora gibba A. Schmidt, 1876		*4*
Amphora gigantea Grunow, 1875		*4*
Amphora graeffii (Grunow) Cleve 1895	ben, bns	*4, 11*
Amphora granulata W. Greg., 1857	ben, plk, bns	*4, 11, 27*
Amphora grevilleana W. Greg., 1857		*4*
Amphora gruendleri Grunow, 1875		*4*
Amphora hyalina Kütz., 1844	ben, bns	*4, 11*
Amphora inflata Grunow, 1875		*4*
Amphora janischii A. Schmidt, 1875		*4*
Amphora javanica A. Schmidt, 1875	ben, bns	*4, 11*
Amphora laevis W. Greg., 1857	ben, bns	*4, 11, 28*
Amphora libyca Ehrenb., 1840		*28*
Amphora lyrata W. Greg., 1857		*4*
Amphora marina W. Sm., 1857		*4*
Amphora mexicana A. Schmidt, 1857	ben, bns	*4, 11*
Amphora micans A. Schmidt, 1857		*4*
Amphora obtusa W. Greg., 1857	plk, bns	*4, 11*
Amphora ocellata Donkin, 1861		*4*
Amphora oculus A. Schmidt, 1875		*4*
Amphora ovalis (Kütz.) Kütz., 1844		*4*
Amphora pediculus (Kütz.) Grunow, 1875	epi, bns	*28*
Amphora proteus W. Greg., 1857	ben, bns	*4, 11, 28*
Amphora rhombica Kitton, 1876		*4*
Amphora robusta W. Greg., 1857	ben, epi, bns	*4, 11, 28*
Amphora sabyii Salah, 1955	ben, bns, sft	*27, 28*
Amphora schmidtii Grunow, 1875		*4*
Amphora spectabilis W. Greg., 1857	ben, plk, bns	*4, 11*
Amphora tenerrima Aleem & Hustedt, 1951	ben, bns, sft	*27, 28*
Amphora tenuissima Hustedt, 1955		*28*
Amphora terroris Ehrenb., 1853	ben, bns	*4, 11*
Amphora truncata W. Greg., 1857		*4*
Amphora turgida W. Greg., 1857	ben, bns	*11*
Amphora weissflogii A. Schmidt, 1857	ben, bns	*4, 11*
Family: Cavinulaceae		
Cavinula cocconeiformis (W. Greg ex Grunow) D. G. Mann & Stickle, 1990		*28*[60]
Family: Cocconeidaceae		
Cocconeis apiculata A. Schmidt, 1895	ben, bns	*4, 11*
Cocconeis campechiana Cleve, 1894		*4*
Cocconeis costata W. Greg., 1855		*4*
Cocconeis deperdita Giffen, 1975		*28*
Cocconeis dirupta W. Greg., 1857	plk, bns	*8*
Cocconeis discrepans A. Schmidt, 1894		*4*
Cocconeis disculoides Hustedt, 1955	ben, plk, bns, sft	*4, 11, 27, 28*
Cocconeis disculus (Schumann) Cleve, 1882	ben, bns	*4, 11*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Cocconeis distans W. Greg., 1855	ben, plk, bns	*4, 8, 11*
Cocconeis grata A. Schmidt, 1894		*4*
Cocconeis heteroidea Hantzsch, 1863		*4*
Cocconeis maxima (Grunow) H. Perag. & Perag., 1897		*4*
Cocconeis neodiminuta Krammer, 1991		*4*[61]
Cocconeis pensacolae A. Schmidt, 1894	ben, bns	*4, 11*
Cocconeis placentula Ehrenb., 1838	epi, ben, bns	*4, 11, 26, 28*
Cocconeis pseudomarginata W. Greg., 1857		*4*
Cocconeis scutellum Ehrenb., 1835	epi, ben, plk, bns	*4, 8, 11, 26, 27, 28*
Cocconeis stauroneiformis (Van Heurck) Okuno, 1957	ben, bns	*4*[62], *11*[63]
Family: Cosmioneidaceae		
Cosmioneis delawarensis (Grunow ex Cleve) D. G. Mann, 1990	ben, bns	*4*[64], *11*[65]
Cosmioneis pusilla (W. Sm.) D. G. Mann & Stickle, 1990		*28*[66]
Family: Cymbellaceae		
Brebissonia weissflogii Grunow, 1878		*4*
Cymbella cistula (Hemprich & Ehrenb.) Kirchner, 1878	ben, bns	*4, 11*
Cymbella pusilla Grunow, 1875	ben, bns, sft	*27, 28*
Cymbella turgida (Ehrenb.) Hassall, 1845	plk, bns	*8*
Cymbella yarrensis (A. Schmidt) Cleve, 1894	ben, bns	*4, 11*
Family: Diadesmidaceae		
Luticola dismutica (Hustedt) D. G. Mann, 1990	ben, bns, sft	*27*[67]
Luticola mutica (Kütz.) D. G. Mann, 1990	epi, bns	*28*[68], *26*[69]
Family: Dictyoneidaceae		
Dictyoneis marginata (F. W. Lewis) Cleve, 1890		*4*
Dictyoneis spectatissima (Grev.) Cleve, 1890		*4*
Dictyoneis subconstricta Cleve, 1894		*4*
Family: Diploneidaceae		
Diploneis aestuarii Hustedt, 1939		*28*
Diploneis bomboides (A. Schmidt) Cleve, 1894		*4*[70]
Diploneis bombus (Ehrenb.) Ehrenb., 1853	ben, plk, bns, osp	*4, 8, 11*
Diploneis chersonensis (Grunow) Cleve, 1894	ben, bns	*4*[71], *11*
Diploneis constricta (Grunow) Cleve, 1894		*4*[72]
Diploneis contigua (A. Schmidt) Cleve, 1894		*4*[73]
Diploneis crabro (Ehrenb.) Ehrenb., 1856	plk, bns	*4, 8*
Diploneis cynthia (A. Schmidt) Cleve, 1894	ben, bns	*4, 11*
Diploneis elliptica (Kütz.) Cleve, 1894	ben, bns, sft	*27, 28*
Diploneis fusca (W. Greg.) Cleve, 1894	ben, bns	*4, 11*
Diploneis gemmatula (Grunow) Cleve, 1894	ben, bns	*4, 11*
Diploneis gruendleri (A. Schmidt) Cleve, 1894		*28*
Diploneis hudsonis (Grunow) Cleve, 1894		*28*[74]
Diploneis interrupta (Kütz.) Cleve, 1894	epi, bns	*4, 26*
Diploneis littoralis (Donkin) Cleve, 1894		*4*[75]
Diploneis mediterranea (Grunow) Cleve, 1894	ben, bns, sft	*27, 28*
Diploneis nitescens (W. Greg.) Cleve, 1894		*4*[76]
Diploneis notabilis (Grev.) Cleve, 1894		*4*[77]
Diploneis obliqua (Brun) Hustedt, 1937	epi, bns	*28*
Diploneis ovalis (Hilse) Cleve, 1894	ben, bns	*4, 11*
Diploneis papula (A. Schmidt) Cleve, 1894	ben, bns	*4*[78], *11*
Diploneis pseudovalis Hustedt, 1930	ben, bns, sft	*27, 28*
Diploneis puella (Schum.) Cleve, 1894		*28*
Diploneis smithii (Bréb.) Cleve, 1894	ben, bns	*4, 11, 28*
Diploneis suborbicularis (W. Greg.) Cleve, 1894		*4*[79]
Diploneis splendida (W. Greg.) Cleve, 1894	ben, bns	*4, 11*

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Diploneis vacillans (A. Schmidt) Cleve, 1894		*4*
Diploneis weissflogii (A. Schmidt) Cleve, 1894	ben, plk, bns, osp	*4, 8, 11*
Family: Entomoneidaceae		
Entomoneis paludosa (W. Sm.) Reimer, 1975		*28*[80]
Family: Eunotiaceae		
Colliculoamphora reichardtiana (Grunow) D. M. Williams & G. Reid, 2006		*4*[81]
Eunotia hebridica Åke Berg, 1939		*4*
Eunotia naegelii Migula, 1907		*28*
Euodia barbadensis Grev., 1861		*4*
Family: Gomphonemataceae		
Gomphonema parvulum Kütz., 1849	plk, bns	*8*
Family: Lyrellaceae		
Lyrella approximata (Grev.) D. G. Mann, 1990		*4*[82]
Lyrella californica (Grev.e) D. G. Mann, 1990		*4*[83]
Lyrella clavata (W. Greg.) D. G. Mann, 1990	plk, bns	*4*[84], *11*[85]
Lyrella diffluens (A. Schmidt) D. G. Mann, 1990	plk, bns	*4*[86], *11*[87]
Lyrella excavata (Grev.) D. G. Mann, 1990		*4*[88]
Lyrella exsul (A. Schmidt) D. G. Mann, 1990		*4*[89]
Lyrella hennedyi (W. Sm.) Stickle & D. G. Mann, 1990		*4*[90]
Lyrella irrorata (Grev.) D. G. Mann, 1990		*4*[91], *8*
Lyrella lyra (Ehrenb.) Karajeva, 1978	plk, bns	*4*[92], *8*
Lyrella praetexta (Ehrenb.) D. G. Mann, 1990		*4*[93]
Lyrella spectabilis (W. Greg.) D. G. Mann, 1990		*4*[94]
Petroneis granulata (Bailey) D. G. Mann, 1990	ben, bns	*4*[95], *11*[96]
Petroneis punctigera (Hustedt) D. G. Mann, 1990		*4*[97]
Petroneis marina (Ralfs in A. Pritch.) D. G. Mann, 1990		*4*[98]
Petroneis subdiffusa (Hustedt) D. G. Mann, 1990	ben, bns	*4*[99], *11*[100]
Family: Mastogloiaceae		
Mastogloia acutiuscula Grunow in Cleve, 1883	ben, bns	*4, 11*
Mastogloia angulata F. W. Lewis, 1861	ben, plk, bns	*4, 8, 11*
Mastogloia apiculata W. Sm., 1856	plk, bns	*4, 8*
Mastogloia asperula Grunow in Cleve, 1892	ben, bns	*4, 11*
Mastogloia baldjikiana Grunow in Schmidt et al., 1893	ben, bns	*4, 11*
Mastogloia binotata (Grunow) Cleve, 1895		*4*
Mastogloia braunii Grunow, 1863	ben, bns	*4, 11*
Mastogloia capitata (Brun) Cleve, 1895		*4*
Mastogloia chersonensis A. Schmidt, 1893	ben, bns	*4, 11*
Mastogloia cocconeiformis Grunow, 1860	ben, bns	*4, 11*
Mastogloia cribrosa Grunow, 1860	ben, plk, bns	*4, 8, 11*
Mastogloia crucicula (Grunow) Cleve, 1895	ben, bns	*4, 11*
Mastogloia erythraea Grunow, 1860	ben, plk, bns	*4, 8, 11*
Mastogloia exigua F. W. Lewis, 1861		*28*
Mastogloia fimbriata (Brightw.) Grunow, 1863		*4*[101]
Mastogloia goesii (Cleve) Cleve, 1892		*4*
Mastogloia gruendleri A. Schmidt, 1893		*4*
Mastogloia horvathiana Grunow, 1860	ben, bns	*4, 11*
Mastogloia labuensis Cleve, 1893	ben, bns	*4, 11*
Mastogloia lanceolata Thwaites ex. W. Sm., 1856	ben, bns	*4, 11*
Mastogloia latericia (A. Schmidt) Cleve, 1895	ben, bns	*4, 11*
Mastogloia pumila (Grunow) Cleve, 1895	ben, bns, sft	*4, 11, 27, 28*
Mastogloia pusilla Grunow, 1878	ben, epi, bns	*4, 11, 28*
Mastogloia quinquecostata Grunow, 1860		*4*
Mastogloia rhombica Cleve, 1883		*4*
Mastogloia rostellata Grunow, 1867		*4*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Mastogloia rostrata Hustedt, 1933	plk, osp	*4, 8*
Mastogloia smithii Thwaites ex. W. Sm., 1856	ben, plk, bns	*4, 8, 11*
Mastogloia subaffirmata Hustedt, 1927		*4*
Mastogloia submarginata Cleve & Grunow in Cleve, 1881		*4*
Family: Naviculaceae		
Caloneis hardmaniana Cleve, 1894		*4*
Caloneis latiuscula (Kütz.) Cleve, 1894	plk, bns	*4, 11*
Caloneis linearis (Grunow) Boyer, 1927		*4*[102]
Caloneis liber (W. Sm.) Cleve, 1894	plk, bns	*4, 11*
Caloneis mexicana Heiden, 1906		*4*
Caloneis permagna (Bailey) Cleve, 1894	plk, bns	*4, 11*
Caloneis probabilis (A. Schmidt) Cleve, 1894	plk, bns	*4, 11*
Caloneis westii (W. Sm.) Hendey, 1964	ben, plk, bns	*4, 8*[103]*, 27, 28*
Capartogramma crucicula (Grunow) R. Ross, 1963		*28*
Cymatoneis sulcata (Grev.) Cleve, 1894		*4*
Haslea frauenfeldii (Grunow) Simonsen, 1974	plk, osp	*8*
Haslea wawrikae (Husedt) Simonsen, 1974	plk, osp	*8, 24*[104]
Navicula abunda Hustedt, 1955	ben, plk, bns, osp	*8, 27, 28*
Navicula algida Grunow, 1844	plk, bns	*8*
Navicula alpha Cleve, 1893	ben, bns, sft	*27, 28*
Navicula ammophila Grunow, 1882		*4*
Navicula antillarum (Cleve & Grunow) Mann, 1907		*4*
Navicula apiculata Bréb., 1854		*4*
Navicula bifissa A. Schmidt, 1897	ben, bns, sft	*27, 28*
Navicula binodulosa M. J. Sullivan & Reimer, 1975	plk, bns	*4, 8*
Navicula brasiliensis Grunow, 1863		*4*
Navicula campylodiscus Grunow, 1875		*4, 11*
Navicula cancellata Donkin, 1873		*28*
Navicula capitata Ehrenb., 1836		*4*
Navicula caribaea Cleve, 1874	plk, bns	*4, 11*
Navicula carinifera Grunow, 1874	ben, bns, sft	*27, 28*
Navicula circumtexta F. Meister in Schmidt et al., 1934		*28*
Navicula clamans Hustdet, 1939		*28*
Navicula clementis Grunow, 1882		*4*
Navicula coarctata A. Schmidt, 1875		*4*
Navicula confecta A. Schmidt, 1875		*4*
Navicula couperi (Bailey) Ralfs, 1861		*4*
Navicula crabroniformis Grunow, 1875	plk, bns	*8*
Navicula cuspidata (Kütz.) Kütz., 1844		*4*
Navicula dalmatica Grunow, 1860		*4*
Navicula didyma (Ehrenb.) Kütz., 1844		*4*
Navicula diffusa A. Schmidt, 1874		*28*
Navicula digito-radiata (W. Greg.) Ralfs, 1861		*4*
Navicula diplosticta Grunow, 1875	ben, plk, bns	*4, 8, 11*
Navicula directa (W. Sm.) Ralfs, 1861		*4*
Navicula dirrhombus A. Schmidt, 1875		*4*
Navicula discrepans A. Schmidt, 1875	ben, bns, sft	*27, 28*
Navicula diserta Hustedt, 1939	ben, plk, bns	*4, 11*
Navicula distans (W. Sm.) Ralfs, 1861	ben, bns	*4, 11*
Navicula diversistriata Hustedt, 1955		*4*
Navicula egena A. Schmidt, 1890		*28*
Navicula fauta Hustedt, 1954	ben, bns, sft	*27, 28*
Navicula flanatica Grunow, 1860		

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Navicula formentarae Cleve, 1881		*4*
Navicula formicina Grunow in Cleve, 1878		*4*
Navicula gemmata Grev., 1859		*4*
Navicula gemmatula Grunow, 1875		*4*
Navicula giebelii A. Schmidt, 1875		*4*
Navicula graeffii Grunow, 1875		*4*
Navicula gregaria Donkin, 1861	epi, bns	*26, 28*
Navicula grevilleana Hendey, 1964	ben, bns	*4*[105], *11*[106]
Navicula gruendleri (Cleve & Grunow) Cleve, 1895		*4*
Navicula halophila (Grunow) Cleve, 1894	plk, bns	8
Navicula hanseni H. Moeller, 1950		*28*
Navicula impressa Grunow, 1875	ben, bns	*4, 11*
Navicula incerta Grunow ex Van Heurck, 1885	ben, bns, sft	*27, 28*
Navicula incomposita Hagelst., 1939		*28*
Navicula intercedens A. Schmidt, 1890		*4*
Navicula lacrimans A. Schmidt, 1875		*4*
Navicula lanceolata (C. Agardh) Kütz., 1844	ben, bns, sft	*27*[107], *28*[108]
Navicula longa (W. Greg.) Ralfs ex A. Pritch., 1861	ben, bns	*4, 11*
Navicula maculata (Bailey) A. M. Edwards, 1859		*28*
Navicula margarita A. Schmidt, 1892		*4*
Navicula mendotia Van Land., 1975		*27*[109], *28*
Navicula menisculus Schum., 1867	ben, bns, sft	*27*
Navicula muscaeformis Grunow, 1875		*4*
Navicula nolens Simonsen, 1959	ben, bns, sft	*27, 28*
Navicula obsoleta Hustedt, 1942	ben, bns, sft	*27, 28*
Navicula orbiculata Patrick, 1959		*28*
Navicula parca A. Schmidt, 1875		*4*
Navicula pavillardii Hustedt, 1939	epi, bns	*26, 28*
Navicula pelagi A. Schmidt, 1875		*4*
Navicula pennata A. Schmidt, 1876		*4*
Navicula peregrina (Ehrenb.) Kütz., 1844	ben, bns, sft	*4, 11, 27, 28*
Navicula permagna (Bailey) A. M. Edwards, 1859		*4*
Navicula platyventris F. Meister, 1935	epi, bns	*26*
Navicula praestes A. Schmidt, 1875		*4*
Navicula probabilis A. Schmidt, 1877		*4*
Navicula pseudobacillum Grunow, 1880		*4*
Navicula pseudocrassirostris Hustedt, 1961	ben, bns, sft	*27, 28*
Navicula quarnerensoides Hustedt, 1961		*4*
Navicula radiostriata Hustedt, 1936		*28*
Navicula regularis Hustedt, 1955	ben, bns, sft	*27, 28*
Navicula rhynchocephala Kütz., 1844		*4, 28*
Navicula rostellata Kütz., 1844	ben, bns	*4, 11*
Navicula ruttneri Hustedt, 1937	ben, bns	*4, 11*
Navicula salinarum Grunow, 1880	ben, bns, sft	*27, 28*
Navicula salinicola Hustedt, 1939	ben, bns, sft	*27, 28*
Navicula salva A. Schmidt, 1876		*4*
Navicula schmidtiana Grunow, 1876		*4*
Navicula schroeteri F. Meister, 1932		*28*
Navicula schultzei Kain, 1889		*4*
Navicula scintillans A. Schmidt, 1881		*4*
Navicula scoliopleura A. Schmidt, 1876		*4*
Navicula sectilis A. Schmidt, 1877		*4*
Navicula seductilis A. Schmidt, 1874	ben, bns	*4, 11*
Navicula sejuncta A. Schmidt, 1874		*4*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Navicula semitecta A. Schmidt, 1874		4
Navicula separabilis A. Schmidt, 1875		4
Navicula serratula Grunow, 1875		4
Navicula simplex Krasske, 1925		4
Navicula specula (Hickie) Cleve, 1894		28
Navicula spuria Cleve, 1895	ben, plk, bns	4, 11
Navicula subapiculata (Grunow) Hustdet, 1939	plk, bns	11
Navicula subcarinata (W. Greg. ex. A. Schmidt) Hendey, 1951		4
Navicula subirritans Giffen, 1970	ben, bns, sft	27, 28
Navicula suspecta A. Schmidt, 1875		4
Navicula taraxa M. H. Hohn & Hellerman, 1966	ben, bns, sft	27, 28
Navicula tripunctata (O. F. Müller) Bory, 1827	epi, ben, bns	4[110], 26, 27, 28
Navicula triundulata Grunow, 1867		4
Navicula vacillans A. Schmidt, 1875		4
Navicula vidovichii Grunow, 1863		4
Navicula viridula (Kütz.) Kütz., 1844	ben, bns	4, 11
Navicula weissflogii A. Schmidt, 1875	ben, bns	4, 11
Navicula yarrensis Grunow, 1876	ben, plk, bns	4, 8, 11, 27, 28
Navicula zostreti Grunow, 1860	ben, epi, bns	4, 11, 27, 28
Meuniera membranacea (Cleve) P. C. Silva, Hasle, & Syvertsen, 1996	plk, bns, osp	8, 11[111], 24[112]
Seminavis cymbelloides (Grunow) D. G. Mann, 1990	epi, bns	28[113]
Trichyneis antillarum (Cleve and Grunow in Cleve) Cleve, 1884		4[114]
Trachyneis aspera (Ehrenb.) Cleve, 1894	epi, plk, bns	4, 8, 28
Family: Neidiaceae		
Neidium affine (Ehrenb.) Pfitzer, 1871		4
Family: Pinnulariaceae		
Oestrupia musca (W. Greg.) Hustedt, 1935		4[115]
Oestrupia powellii (F. W. Lewis) Heiden ex. Hustedt, 1935	plk, bns	4[116], 8
Pinnularia elegans (W. Sm.) Krammer, 1992	ben, bns	4[117], 11[118]
Pinnularia rectangulata (W. Greg.) Rabenh., 1864		4[119]
Pinnularia viridis (Nitzsch) Ehrenb., 1841		4
Family: Plagiotropidaceae		
Plagiotropis lepidoptera (W. Greg.) Kuntze, 1898	ben, plk, bns, osp	11[120], 24[121], 27, 28[122]
Tropidoneis maxima (W. Greg.) Cleve, 1894	plk, bns	4, 11, 28
Tropidoneis vitrea (W. Sm.) Cleve, 1894	ben, bns, sft	27
Family: Pleurosigmataceae		
Gyrosigma acuminatum (Kütz.) Rabenh., 1853	plk, bns	11
Gyrosigma balticum (Ehrenb.) Rabenh., 1853	ben, plk, bns, osp	4[123], 11, 24, 28
Gyrosigma beaufortianum Hustdet, 1955		28
Gyrosigma delicatulum (W. Sm.) J. W. Griff. & Henfr., 1856		28[124]
Gyrosigma distortum (W. Sm.) J. W. Griff. & Henfr.,1856	ben, bns	4[125], 11[126]
Gyrosigma elongatum (W. Sm.) J. W. Griff. & Henfr.,1856	ben, plk, bns	8[127], 4[128], 11[129]
Gyrosigma fasciola (Ehrenb.) J. W. Griff. & Henfr., 1856	ben, bns	4[130], 8, 11[131]
Gyrosigma formosum (W. Sm.) J. W. Griff. & Henfr., 1856	ben, plk, bns, osp	4[132], 8[133], 11[134]
Gyrosigma intermedium (W. Sm.) J. W. Griff. & Henfr., 1856	plk, bns	8[135]
Gyrosigma macrum (W. Sm.) J. W. Griff. & Henfr., 1856	ben, bns, sft	27, 28
Gyrosigma obliquum (Grunow) Boyer, 1927	ben, plk, bns	8, 27, 28
Gyrosigma obscurum (W. Sm.) J. W. Griff. & Henfr., 1856	ben, bns, sft	27, 28
Gyrosigma peisonis (Grunow) Hustedt, 1930	ben, bns, sft	4[136], 27, 28
Gyrosigma prolongatum (W. Sm.) J. W. Griff. & Henfr., 1856	plk, bns	8
Gyrosigma spencerii (Bailey ex E. J. Quekett) J. W. Griff. & Henfr., 1856	plk, bns	4, 8
Gyrosigma strigosum (W. Sm.) J. W. Griff. & Henfr., 1856		4[137], 28[138]
Gyrosigma tenuissimum (W. Sm.) J. W. Griff. & Henfr., 1856		4

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Pleurosigma angulatum (E. J. Quekett) W. Sm., 1852	ben, plk, bns	*4, 11*
Pleurosigma decorum W. Sm., 1853	plk, bns	*4, 8, 11*
Pleurosigma distinguendum Hustedt, 1955	ben, bns, sft	*4, 27, 28*
Pleurosigma gruendleri Grunow, 1880		*4*
Pleurosigma longinum W. Sm. ex. Brightw., 1859		*4*
Pleurosigma naviculaceum Bréb., 1854	ben, bns	*4, 11*
Pleurosigma normanii Ralfs, 1861	plk, bns, osp	*4, 8*
Pleurosigma reticulatum (Norman) Hustedt, 1955		*4*
Pleurosigma rostratum Hustedt, 1955		*4*
Pleurosigma salinarum (Grunow) Grunow, 1880	ben, bns, sft	*27, 28*
Pleurosigma simile Grunow, 1880	ben, bns	*4, 11*
Family: Proschkiniaceae		
Proschkinia longirostris (Hustdet) D. G. Mann, 1990		*28*[139]
Family: Rhopalodiaceae		
Epithemia argus (Ehrenb.) Kütz., 1844		*4*
Epithemia zebra (Ehrenb.) Kütz., 1844		*4*
Rhopalodia gibba (Ehrenb.) O. F. Müller, 1895		*4*[140]
Rhopalodia gibberula (Ehrenb.) O. F. Müller, 1899	ben, bns, sft	*4, 27, 28*
Rhopalodia musculus (Kütz.) O. F. Müller, 1899		*4*
Family: Scolioneidaceae		
Scolioneis tumida (Bréb. ex Kütz.) D. G. Mann, 1990	plk, bns	*8*[141]
Family: Scoliotropidaceae		
Biremis ambigua (Cleve) D. G. Mann, 1990		*4*[142]
Family: Sellaphoraceae		
Fallacia aequorea (Hustedt) D. G. Mann, 1990	ben, bns, sft	*27*[143], *28*[144]
Fallacia amphipleuroides (Hustedt) D. G. Mann, 1990	epi, bns	*28*[145]
Fallacia auriculata (Hustedt) D. G. Mann, 1990	ben, bns, sft	*27*[146]
Fallacia bioculata (Grunow ex A. Schmidt) D. G. Mann, 1990		*4*[147]
Fallacia fenestrella (Hustedt) D. G. Mann, 1990		*28*[148]
Fallacia floriniae (H. Moeller) Witkowski, 1993		*28*[149]
Fallacia forcipata (Grev.) Stickle & D. G. Mann, 1990	ben, bns	*4*[150], *11*[151]
Fallacia hudsonis (Grunow ex Cleve) Stickle & D. G. Mann, 1990	ben, bns, sft	*27*[152]
Fallacia hummii (Hustedt) D. G. Mann, 1990	ben, bns	*4*[153], *11*[154]
Fallacia nummularia (Greville) D. G. Mann, 1990		*4*[155]
Fallacia pseudony (Hustedt) D. G. Mann, 1990	ben, bns, sft	*27*[156], *28*[157]
Fallacia pygmaea (Kütz.) A. J. Stickle & D. G. Mann, 1990		*4*[158]
Fallacia subforcipata (Hustedt) D. G. Mann, 1990		*28*[159]
Fallacia tenera (Hustedt) D. G. Mann, 1990		*28*[160]
Fallacia teneroides (Hustedt) D. G. Mann, 1990		*28*[161]
Family: Surirellaceae		
Campylodiscus adornatus A. Schmidt, 1877		*4*
Campylodiscus ambiguus Grev., 1860		*4*
Campylodiscus biangulatus Grev., 1862	ben, bns	*4, 11*
Campylodiscus bifurcatus A. Schmidt, 1877		*4*
Campylodiscus bimarginatus A. Schmidt, 1875		*4*
Campylodiscus birostratus Deby, 1891		*4*
Campylodiscus biseriatus Deby, 1891		*4*
Campylodiscus browneanus Grev., 1862		*4*
Campylodiscus campecheanus Deby, 1891		*4*
Campylodiscus concinnus Grev., 1860		*4*
Campylodiscus crebrecostatus Grev., 1863		*4*
Campylodiscus ecclesianus Grev., 1857		*4*
Campylodiscus echeneis Ehrenb. ex Kütz., 1844	plk, bns	*4, 11*
Campylodiscus greenleafianus Grunow, 1875		*4*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Pleurosigma angulatum (E. J. Quekett) W. Sm., 1852	ben, plk, bns	*4, 11*
Pleurosigma decorum W. Sm., 1853	plk, bns	*4, 8, 11*
Pleurosigma distinguendum Hustedt, 1955	ben, bns, sft	*4, 27, 28*
Pleurosigma gruendleri Grunow, 1880		*4*
Pleurosigma longinum W. Sm. ex. Brightw., 1859		*4*
Pleurosigma naviculaceum Bréb., 1854	ben, bns	*4, 11*
Pleurosigma normanii Ralfs, 1861	plk, bns, osp	*4, 8*
Pleurosigma reticulatum (Norman) Hustedt, 1955		*4*
Pleurosigma rostratum Hustedt, 1955		*4*
Pleurosigma salinarum (Grunow) Grunow, 1880	ben, bns, sft	*27, 28*
Pleurosigma simile Grunow, 1880	ben, bns	*4, 11*
Family: Proschkiniaceae		
Proschkinia longirostris (Hustdet) D. G. Mann, 1990		*28*[139]
Family: Rhopalodiaceae		
Epithemia argus (Ehrenb.) Kütz., 1844		*4*
Epithemia zebra (Ehrenb.) Kütz., 1844		*4*
Rhopalodia gibba (Ehrenb.) O. F. Müller, 1895		*4*[140]
Rhopalodia gibberula (Ehrenb.) O. F. Müller, 1899	ben, bns, sft	*4, 27, 28*
Rhopalodia musculus (Kütz.) O. F. Müller, 1899		*4*
Family: Scolioneidaceae		
Scolioneis tumida (Bréb. ex Kütz.) D. G. Mann, 1990	plk, bns	*8*[141]
Family: Scoliotropidaceae		
Biremis ambigua (Cleve) D. G. Mann, 1990		*4*[142]
Family: Sellaphoraceae		
Fallacia aequorea (Hustedt) D. G. Mann, 1990	ben, bns, sft	*27*[143], *28*[144]
Fallacia amphipleuroides (Hustedt) D. G. Mann, 1990	epi, bns	*28*[145]
Fallacia auriculata (Hustedt) D. G. Mann, 1990	ben, bns, sft	*27*[146]
Fallacia bioculata (Grunow ex A. Schmidt) D. G. Mann, 1990		*4*[147]
Fallacia fenestrella (Hustedt) D. G. Mann, 1990		*28*[148]
Fallacia floriniae (H. Moeller) Witkowski, 1993		*28*[149]
Fallacia forcipata (Grev.) Stickle & D. G. Mann, 1990	ben, bns	*4*[150], *11*[151]
Fallacia hudsonis (Grunow ex Cleve) Stickle & D. G. Mann, 1990	ben, bns, sft	*27*[152]
Fallacia hummii (Hustedt) D. G. Mann, 1990	ben, bns	*4*[153], *11*[154]
Fallacia nummularia (Greville) D. G. Mann, 1990		*4*[155]
Fallacia pseudony (Hustedt) D. G. Mann, 1990	ben, bns, sft	*27*[156], *28*[157]
Fallacia pygmaea (Kütz.) A. J. Stickle & D. G. Mann, 1990		*4*[158]
Fallacia subforcipata (Hustedt) D. G. Mann, 1990		*28*[159]
Fallacia tenera (Hustedt) D. G. Mann, 1990		*28*[160]
Fallacia teneroides (Hustedt) D. G. Mann, 1990		*28*[161]
Family: Surirellaceae		
Campylodiscus adornatus A. Schmidt, 1877		*4*
Campylodiscus ambiguus Grev., 1860		*4*
Campylodiscus biangulatus Grev., 1862	ben, bns	*4, 11*
Campylodiscus bifurcatus A. Schmidt, 1877		*4*
Campylodiscus bimarginatus A. Schmidt, 1875		*4*
Campylodiscus birostratus Deby, 1891		*4*
Campylodiscus biseriatus Deby, 1891		*4*
Campylodiscus browneanus Grev., 1862		*4*
Campylodiscus campecheanus Deby, 1891		*4*
Campylodiscus concinnus Grev., 1860		*4*
Campylodiscus crebrecostatus Grev., 1863		*4*
Campylodiscus ecclesianus Grev., 1857		*4*
Campylodiscus echeneis Ehrenb. ex Kütz., 1844	plk, bns	*4, 11*
Campylodiscus greenleafianus Grunow, 1875		*4*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Campylodiscus gruendleri Grunow, 1875		*4*
Campylodiscus hibernicus Ehrenb., 1842	ben, bns	*4, 11*
Campylodiscus hodgsonii W. Sm., 1853		*4*
Campylodiscus imperialis Grev., 1860		*4*
Campylodiscus incertus A. Schmidt, 1875	plk, bns	8
Campylodiscus intermedius Grunow, 1875		*4*
Campylodiscus lineatus Grunow, 1875		*4*
Campylodiscus muelleri A. Schmidt, 1875		*4*
Campylodiscus phalangium A. Schmidt, 1875		*4*
Campylodiscus punctulatus Grunow, 1875		*4*
Campylodiscus ralfsii W. Sm., 1853		*4*
Campylodiscus rotula Grunow, 1875		*4*
Campylodiscus samoensis Grunow, 1875		*4*
Campylodiscus sauerbeckii Gründler, 1877		*4*
Campylodiscus schmidtii Grunow, 1875		*4*
Campylodiscus simulans W. Greg., 1857		*4*
Campylodiscus tabulatus A. Schmidt, 1877		*4*
Campylodiscus triumphans A. Schmidt, 1875		*4*
Campylodiscus weissflogii Deby, 1891		*4*
Stenopterobia intermedia (F. W. Lewis) Van Heurck, 1933	plk, bns	*4, 8*
Surirella angustemarginata Hustedt, 1927		*4*
Surirella atomus Hustedt, 1955		*28*
Surirella biseriata Bréb., 1835		*4*
Surirella campechiana Hustedt, 1925		*4*
Surirella comis A. Schmidt, 1874		*4*
Surirella fastuosa (Ehrenb.) Ehrenb., 1843	ben, plk, bns, osp	*4, 8, 11*
Surirella febigerii F. W. Lewis, 1862	plk, bns	8
Surirella fluminensis Grunow, 1862		*4*
Surirella gemma (Ehrenb.) Kütz., 1844	plk, bns	*4, 8, 11*
Surirella incerta Hustedt, 1927		*4*
Surirella litoralis Hustedt, 1955		*28*
Surirella mexicana A. Schmidt, 1874		*4*
Surirella ovalis Bréb., 1838		*28*
Surirella ovata Kütz., 1844		*4*
Surirella patella Kütz., 1844	ben, bns	*4, 11*
Surirella recedens A. Schmidt, 1875	plk, bns, osp	*4, 8*
Surirella regina C. Janisch, 1875		*4*
Surirella reniformis Kitton, 1877		*4*
Surirella sentis A. Schmidt, 1875		*4*
Surirella striatula Turpin, 1828	ben, bns, sft	*4, 27, 28*
Tabellaria fenestrata (Lyngb.) Kütz., 1844		*4*
Family: Stauroneidaceae		
Craticula accomoda (Hustedt) D. G. Mann, 1990	ben, bns, sft	*27*[162], *28*[163]
Craticula ambigua (Ehrenb.) D. G. Mann, 1990	ben, bns	*4*[164], *11*[165]
Stauroneis anceps Ehrenb., 1841		*4*
Stauroneis brevis (Dippel) Metzeltin & Lange-Bert., 1998		*4*[166]
Family: Thalassiophysaceae		
Thalassiophysa rhipidis Conger, 1954	plk, osp	*4, 24*
Class: Coscinodiscophyceae		
Family: Anaulaceae		
Anaulus balticus Simonsen, 1959	ben, bns, sft	*27, 28*
Eunotogramma debile Grunow, 1883		*4*
Eunotogramma laeve Grunow, 1883		*4, 28*

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Eunotogramma marinum (W. Sm.) H. Perag. & Peragallo, 1908		*4*
Porpeia quadriceps Bailey, 1861		*4*
Family: Asterolampraceae		
Asterolampra grevillei (G. C. Wall.) Grev., 1860		*4*
Asterolampra marylandica Ehrenb., 1844		*4*
Asteromphalus brookei Bailey, 1856		*4*
Asteromphalus flabellatus (Bréb.) Grev., 1859	ben, bns, osp	*4, 8, 11*
Asteromphalus heptactis (Bréb.) Ralfs, 1861	plk, bns	*4, 11*
Asteromphalus hookerii Ehrenb., 1844	plk, osp	*24*
Asteromphalus regularis G. Karst., 1905		*4*
Asteromphalus sarcophagus G. C. Wall., 1860		*4*
Asteromphalus shadboltianus (Grev.) Ralfs, 1861		*4*
Family: Aulacodiscaceae		
Aulacodiscus argus (Ehrenb.) A. Schmidt, 1886		*24*
Family: Aulacoseiraceae		
Aulacoseira granulata (Ehrenb.) Simonsen, 1979	ben, plk, bns	*4*[167], *8*[168], *11*[169]
Family: Bellerocheaceae		
Bellerochea malleus (Brightw.) Van Heurck, 1885	plk, osp	*24*
Streptotheca tamesis Shrubsole, 1891	plk, osp	*24*
Family: Biddulphiaceae		
Biddulphia alternans (Bailey) Van Heurck, 1885	plk, bns, osp	*8, 24*
Biddulphia antediluviana (Ehrenb.) Van Heurck, 1883		*4*[170]
Biddulphia balaena (Ehrenb.) Brightw., 1859		*4*
Biddulphia biddulphiana (J. E. Smith) Boyer, 1901	ben, plk, bns	*4*[171], *8, 11*[172]
Biddulphia dubia (Brightw.) Cleve, 1883		*4*
Biddulphia granulata Roper, 1859		*4*
Biddulphia interrupta Boyer, 1898		*4*
Biddulphia obtusa (Kütz.) Grunow, 1868		*4*
Biddulphia pentacrinus (Ehrenb.) Boyer, 1901		*4*
Biddulphia reticulum (Ehrenb.) Boyer, 1901		*4*[173]
Biddulphia sculpta (Shadbolt) Van Heurck, 1885		*4*
Biddulphia spinosa (Bailey) Boyer, 1901		*4*[174]
Biddulphia subaequa (Kütz.) Ralfs, 1861	ben, bns	*4, 11*
Biddulphia tridens (Ehrenb.) Ehrenb., 1840	plk, bns	8
Biddulphia tripartita (Grunow) Van Heurck		*4*
Biddulphia tuomeyi (Bailey) Roper, 1859	plk, osp	*24*
Isthmia capensis Grunow, 1880		*4*
Isthmia enervis Ehrenb., 1836		*4*
Neohuttonia reichardtii (Grunow) Kuntze, 1898		*4*[175]
Terpsinoë americana (Bailey) Ralfs, 1868		*4*
Terpsinoë intermedia Pantocsek		*4*
Terpsinoë musica Ehrenb., 1841	plk, bns	*4, 8*
Trigonium arcticum (Brightw.) Cleve, 1868		*4*[176]
Trigonium cinnamomeum (Grev.) Mann, 1907		*4*[177]
Trigonium latum (Grev.) A. Mann, 1925		*4*[178]
Trigonium reticulum (Ehrenb.) Simonsen, 1974	ben, plk, bns	*4*[179], *8, 11*[180]
Family: Chaetocerotaceae		
Bacteriastrum biconicum Pavill., 1916	plk, osp	*4, 24*
Bacteriastrum comosum Pavill., 1916		*4*
Bacteriastrum delicatulum Cleve, 1897	plk, bns, osp	*4, 8, 24*
Bacteriastrum elegans Pavill., 1916		*4*
Bacteriastrum elongatum Cleve, 1897	plk, osp	*4, 8, 24*
Bacteriastrum furcatum Shadbolt, 1854	plk, osp	*4*[181], *8*
Bacteriastrum hyalinum Lauder, 1864	plk, bns, osp	*4, 8, 24*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Bacteriastrum mediterraneum Pavill., 1916		*4*
Bacteriastrum minus G. Karst., 1906		*4*
Chaetoceros affine Lauder, 1864	plk, bns, osp	*4, 8, 11, 24*
Chaetoceros anastomosans Grunow, 1882	plk, osp	*4, 8, 24*
Chaetoceros atlanticum Cleve, 1873	plk, bns, osp	*4, 8, 11, 24*
Chaetoceros boreale Bailey, 1854	plk, osp	*4, 24*
Chaetoceros breve F. Schütt, 1895	plk, bns, osp	*4, 8, 11, 24*
Chaetoceros castracanei G. Karst., 1905		*4*
Chaetoceros cinctum Gran, 1897	plk, osp	*4, 8, 24*
Chaetoceros coarctatum Lauder, 1864	plk, osp	*4, 8, 11, 24*
Chaetoceros concavicornis L. Mangin, 1917	plk, osp	*4, 8*
Chaetoceros constrictum Gran, 1897	plk, bns, osp	*4, 8, 11, 24*
Chaetoceros contortum F. Schütt, 1895	plk, bns, osp	*8*[182], *11*[183], *24*[184]
Chaetoceros convolutum Castrac., 1886	plk, osp	*4, 24*
Chaetoceros costatum Pavill., 1911	plk, osp	*4, 24*
Chaetoceros curvisetum Cleve, 1896	plk, bns, osp	*4, 8, 11, 24*
Chaetoceros dadayi Pavill., 1913		*4*
Chaetoceros danicum Cleve, 1889	plk, bns, osp	*4, 11, 24*
Chaetoceros debile Cleve, 1894	plk, bns, osp	*4, 11, 24*
Chaetoceros decipiens Cleve, 1873	plk, bns, osp	*4, 8, 11, 24*
Chaetoceros delicatulum Ostenf., 1901		*4*
Chaetoceros densum (Cleve) Cleve, 1899	plk, osp	*4, 8, 24*
Chaetoceros diadema (Ehrenb.) Gran, 1897		*4*[185]
Chaetoceros dichaeta Ehrenb., 1844	plk, osp	*4, 8*
Chaetoceros didymum Ehrenb., 1845	plk, bns, osp	*4, 8, 11, 24*
Chaetoceros difficilis Cleve, 1900	plk, osp	*4, 8*
Chaetoceros diversum Cleve, 1873	plk, osp	*4, 8*
Chaetoceros eibenii (Grunow) Meunier, 1882	plk, osp	*4, 8, 24*
Chaetoceros fragile Meunier, 1910		*4*
Chaetoceros galvestonensis Collier & A. Murphy, 1962		*4*
Chaetoceros glandazii L. Mangin, 1910	plk, osp	*4, 24*
Chaetoceros laciniosum F. Schütt, 1895	plk, bns, osp	*4, 8, 11, 24*
Chaetoceros laeve Leud.-Fortm., 1892	plk, osp	*4, 24*
Chaetoceros lauderi Ralfs ex Lauder, 1864	plk, bns, osp	*4, 11, 24*
Chaetoceros lorenzianum Grunow, 1863	plk, bns, osp	*4, 8, 24*
Chaetoceros messanense Castrac., 1875	plk, osp	*4, 8*
Chaetoceros neogracile Van Land., 1968	plk, bns, osp	*4*[186], *8*[187], *11*[188]
Chaetoceros pelagicum Cleve, 1873	plk, osp	*4, 8, 24*
Chaetoceros pendulus Karsten, 1905	plk, osp	*4, 8*
Chaetoceros peruvianum Brightw., 1856	plk, bns, osp	*4, 8, 11, 24*
Chaetoceros protuberans Lauder, 1864		*4*
Chaetoceros pseudocurvisetum L. Mangin, 1910	plk, osp	*4, 8, 24*
Chaetoceros radicans F. Schütt, 1895	plk, bns, osp	*4, 11, 24*
Chaetoceros reichelti Hustedt, 1912		*4*
Chaetoceros rostratus Ralfs in Lauder, 1864		*4*
Chaetoceros similis Cleve, 1896		*4*
Chaetoceros sociale Lauder, 1864	plk, bns, osp	*4, 11, 24*
Chaetoceros subtilis Cleve, 1896		*4*
Chaetoceros teres Cleve, 1896	plk, bns, osp	*4, 8*
Chaetoceros tetrastichon Cleve, 1897	plk, osp	*4, 24*
Chaetoceros tortissimus Gran, 1900	plk, osp	*4, 8, 24*
Chaetoceros vanheurckii Gran, 1897		*4*
Chaetoceros vistulae Apstein, 1909		*4*

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Chaetoceros wighamii Brightw., 1856	plk, osp	*4, 8, 24*
Family: Corethraceae		
Corethron criophilum Castrac., 1886	plk, bns, osp	*4, 8, 11, 24*
Family: Coscinodiscaceae		
Cestodiscus denarius (A. Schmidt in Schmidt et al.) Streln. & E. Fourtanier, 2001		*4*[189]
Coscinodiscus argus Ehrenb., 1839	ben, bns	*4, 11*
Coscinodiscus aphrastos Rattray, 1890		*4*
Coscinodiscus asteromphalus Ehrenb., 1844	ben, plk, bns	*4, 11*
Coscinodiscus centralis Ehrenb., 1844	plk, bns, osp	*11, 24*
Coscinodiscus concavus Ehrenb., 1841	ben, bns	*4, 11*[190]
Coscinodiscus concinnus W. Sm., 1856	plk, bns, osp	*8, 11, 24*
Coscinodiscus confusus Rattray, 1890		*4*
Coscinodiscus curvatulus Grunow ex A. Schmidt, 1874	plk, bns	*4, 11*
Coscinodiscus decrescens Grunow, 1878		*4*
Coscinodiscus elegans Grev., 1866	ben, bns	*4, 11*
Coscinodiscus excentricus Ehrenb., 1840	ben, plk, bns, osp	*11, 24*
Coscinodiscus exiguus Rattray, 1890		*4*
Coscinodiscus gemmifer Ehrenb., 1844		*4*
Coscinodiscus gigas Ehrenb., 1841		*4*
Coscinodiscus granii L. F. Gough, 1905	plk, bns, osp	*8, 11, 24*
Coscinodiscus janischii A. Schmidt, 1878		*4*
Coscinodiscus jonesianus (Grev.) Ostenf., 1915		*4*
Coscinodiscus kuetzingii A. Schmidt, 1878	ben, bns	*4, 11*
Coscinodiscus kurzii Grunow, 1888	plk, bns, osp	*8*
Coscinodiscus marginato-lineatus A. Schmidt, 1878		*4*
Coscinodiscus marginatus Ehrenb., 1841	ben, plk, bns	*4, 8, 11*
Coscinodiscus nitidulus Grunow, 1876		*4*
Coscinodiscus obscurus A. Schmidt, 1876		*4*
Coscinodiscus oculus-iridis (Ehrenb.) Ehrenb., 1840	plk, bns, osp	*4, 8*
Coscinodiscus oppositus G. Karst., 1905		*4*
Coscinodiscus perforatus Ehrenb., 1844	plk, bns	*8*
Coscinodiscus perminutus Rattray, 1850		*4*
Coscinodiscus radiatus Ehrenb., 1839	plk, bns, osp	*8, 11, 24*
Coscinodiscus rothii (Ehrenb.) Grunow, 1878	ben, bns	*4, 11*
Coscinodiscus rotula Grunow, 1878		*4*
Coscinodiscus subtilis Ehrenb., 1843	plk, bns, osp	*4, 8*
Coscinodiscus symmetricus Grev., 1861		*4*
Coscinodiscus wailesii Gran & Angst, 1931	plk, osp	*4, 8*
Cylindropyxis profunda Hendey, 1964		*4*
Ehrenbergiulva granulosa (Grunow) Witkowski, Lange-Bert., & Metzeltin, 2004		*4*[191]
Palmerina hardmaniana (Grev.) Hasle, 1995	plk, bns, osp	*11, 24*[192]
Stellarima stellaris (Roper) Hasle & P. A. Sims, 1986		*4*[193]
Family: Cymatosiraceae		
Campylosira alexandrica Salah, 1995	ben, bns, sft	*27, 28*
Campylosira cymbelliformis (A. Schmidt) Grunow ex Van Heurck, 1885	ben, plk, bns	*4, 8, 27, 28*
Cymatosira belgica Grunow, 1881	ben, plk, bns, osp	*4, 24, 27, 28*
Cymatosira lorenziana Grunow, 1862	plk, bns, osp	*4, 8*
Family: Endictyaceae		
Endictya campechiana (Grunow in Schmidt et al.) De Toni, 1894		*4*
Family: Gossleriellaceae		
Gossleriella tropica F. Schütt, 1892		*4*
Family: Heliopeltaceae		
Actinoptychus campanulifer A. Schmidt, 1875	plk, ben, bns	*4, 8, 11*
Actinoptychus senarius (Ehrenb.) Ehrenb., 1838	plk, bns, osp	*4, 8, 11*[194], *24*[195]

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Actinoptychus splendens (Shadbolt) Ralfs ex A. Pritch., 1861	ben, plk, bns, osp	*8, 24*
Actinoptychus taeniatus Hustedt, 1955	ben, bns	*4, 11*
Actinoptychus trigonus A. Schmidt, 1874		*4*
Actinoptychus turgidus (Temp. & Brun) Temp. & Brun, 1892	plk, bns	*8*
Family: Hemiaulaceae		
Bicornis kittonii (Grunow) J. Fenner, 1994		*4*[196]
Cerataulina pelagica (Cleve) Hendey, 1837	plk, osp	*4, 8, 24*
Climacodium biconcavum Cleve, 1897		*4*
Climacodium frauenfeldianum Grunow, 1868	plk, osp	*8, 24*
Eucampia cornuta (Cleve) Grunow, 1882	plk, osp	*8, 24*
Eucampia zodiacus Ehrenb., 1839	plk, osp	*8, 24*
Hemiaulus hauckii Grunow ex Van Heurck, 1882	plk, bns, osp	*4, 8, 11*
Hemiaulus membranaceus Cleve, 1873	plk, bns, osp	*8, 11, 24*
Hemiaulus sinensis Grev., 1894	plk, bns, osp	*8, 11, 24*
Family: Hemidiscaceae		
Actinocyclus complanatus Castrac., 1886		*4*
Actinocyclus divisus (Grunow) Hustedt, 1958		*4*[197]
Actinocyclus octonarius Ehrenb., 1837	plk, osp	*4*[198], *8*
Actinocyclus octodenarius Ehrenb., 1839	ben, bns	*4, 11*
Azpeitia africana (C. Janisch ex A.Schmidt) G. A. Fryxell & Watkins, 1986		*4*[199]
Azpeitia neocrenulata (VanLand.) G. A. Fryxell & Watkins, 1986		*4*[200]
Azpeitia nodulifera (A. Schmidt) G. A. Fryxell & P. A. Sims, 1986	ben, plk, bns	*4*[201], *11*[202]
Hemidiscus cuneiformis G. C. Wall., 1860	plk, bns	*4, 11*
Family: Hyalodiscaceae		
Hyalodiscus subtilis Bailey, 1854		*4*
Podosira hormoides (Mont.) Kütz., 1844	ben, bns	*4, 11*
Podosira stelliger (Bailey) A. Mann, 1907	plk, bns, osp	*8*[203], *24*
Family: Lauderiaceae		
Lauderia annulata Cleve, 1873	plk, osp	*24*[204]
Family: Leptocylindraceae		
Leptocylindrus danicus Cleve, 1889	plk, bns, osp	*4, 8, 11, 24*
Leptocylindrus mediterraneus (H. Perag.) Hasle, 1975	plk, osp	*24*[205]
Leptocylindrus minimus Gran, 1915	plk, bns, osp	*4, 8, 11, 24*
Family: Lithodesmiaceae		
Ditylum brightwellii (T. West) Grunow, 1885	plk, bns, osp	*4, 8, 11*
Ditylum sol (Grunow) De Toni, 1894		*4*
Helicotheca tamesis (Shrubsole) Ricard, 1987	plk, osp	*8*
Lithodesmium undulatum Ehrenb., 1839	ben, plk, bns, osp	*8, 11, 24*
Family: Melosiraceae		
Melosira ambigua (Grunow) O. F. Müller, 1903		*4*
Melosira crenulata (Ehrenb.) Rabenh., 1853	plk, bns	*8*
Melosira distans (Ehrenb.) Kütz., 1844		*4*
Melosira dubia Kütz., 1844		*4, 28*
Melosira islandica O. F. Müller, 1906		*4*
Melosira lineata (Dillwyn) C. Agardh, 1824		*28*
Melosira moniliformis (O. F. Müller) C. Agardh, 1824	plk, bns, osp	*4, 8, 11, 28*
Melosira nummuloides C. Agardh, 1824	epi, ben, plk, bns	*4, 11, 26, 28*
Melosira ornata Grunow in Van Heurck, 1882	ben, bns	*4, 11*
Melosira selecta A. Schmidt, 1892		*4*
Melosira setosa Grev., 1866	ben, bns	*4, 11*
Melosira westii W. Sm., 1856		*28*
Family: Paraliaceae		
Paralia sulcata (Ehrenb.) Cleve, 1873	ben, plk, bns, osp	*8, 11*[206], *24*[207], *27*[208], *28*

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Family: Plagiogrammaceae		
Dimeregramma hyalinum Hustedt, 1955		*28*
Dimeregramma intermedium C. S. Boyer, 1920		*4*
Dimeregramma marinum (W. Greg.) Ralfs, 1861	ben, bns	*4, 11*
Dimeregramma minor (W. Greg.) Ralfs, 1861	ben, bns, sft	*4, 11, 27, 28*
Glyphodesmis campechiana C. S. Boyer, 1920		*4*
Glyphodesmis eximia Grev., 1862		*4*
Glyphodesmis tumida C. S. Boyer, 1920		*4*
Plagiogramma caribaeum Cleve, 1878		*4*
Plagiogramma inaequale Grev., 1859		*4*
Plagiogramma informe A. Schmidt, 1897		*4*
Plagiogramma mutuum A. Schmidt, 1897		*4*
Plagiogramma obesum Grev., 1859	ben, bns	*4, 11*
Plagiogramma tenuistriatum Cleve, 1883		*28*
Plagiogramma tessellatum Grev., 1859		*4*
Plagiogramma validum Grev., 1859		*4*
Plagiogramma vanheurckii Grunow in Van Heurck, 1884	plk, bns	*4*
Plagiogramma wallichianum Grev., 1865	ben, bns	*4, 11*
Family: Pyxidiculaceae		
Pyxidicula cruciata Ehrenb., 1841		*4*
Pyxidicula moelleri (A. Schmidt) Streln. & V. A. Nikolaev, 1986	ben, bns	*4*[209], *11*[210]
Family: Rhizosoleniaceae		
Dactyliosolen antarcticus Castrac., 1886	plk, osp	*4, 8*
Dactyliosolen blavyanus (H. Perag.) Hasle, 1975	plk, osp	*24*[211]
Dactyliosolen fragilissimus (Bergon) Hasle, 1996	plk, bns, osp	*8, 11*[212], *24*[213]
Guinardia cylindrus (Cleve) Hasle, 1996	plk, bns, osp	*8*[214], *24*[215]
Guinardia delicatula (Cleve) Hasle, 1996	plk, bns, osp	*8, 11*[216], *24*[217]
Guinardia flaccida (Castrac.) H. Perag., 1892	plk, bns, osp	*4, 8, 11*
Guinardia striata (Stolterfoth) Hasle, 1996	plk, bns, osp	*8, 11*[218], *24*[219]
Neocalyptrella robusta (G. Norman ex Ralfs) Hernández-Becerril & Meave, 1997	plk, bns, osp	*8, 11*[220], *24*[221]
Proboscia alata (Brightwell) Sündstrom, 1986	plk, bns, osp	*8, 11*[222], *24*[223]
Proboscia eumorpha K. Takah., R. Jordan, & J. Priddle, 1994		*4*[224]
Pseudosolenia calcar-avis (M. Schultze) Sundström, 1986	plk, bns, osp	*8, 11*[225], *24*[226]
Rhizosolenia acuminata (H. Perag.) H. Perag., 1892	plk, bns, osp	*4, 8, 11, 24*
Rhizosolenia bergonii H. Perag., 1892	plk, osp	*4, 8, 24*
Rhizosolenia castracanei Peragallo, 1888	plk, osp	*4, 8*
Rhizosolenia clevei Ostenf., 1903	plk, osp	*4, 8*
Rhizosolenia cochlea Brunel, 1891		*4*
Rhizosolenia crassa Schimper, 1905		*4*
Rhizosolenia debyana H. Perag., 1892		*4*
Rhizosolenia faeroensis Ostenf., 1903		*4*
Rhizosolenia formosa H. Perag., 1890		*4*[227]
Rhizosolenia hebetata Bailey, 1856	plk, bns, osp	*4, 8, 11, 24*
Rhizosolenia imbricata Brightw., 1858	plk, bns, osp	*4, 8, 11, 24*
Rhizosolenia pungens Cleve-Euler, 1937	plk, osp	*8*
Rhizosolenia setigera Brightw., 1858	plk, bns, osp	*4, 8, 11, 24*
Rhizosolenia styliformis Brightw., 1858	plk, bns, osp	*4, 8, 11*
Family: Skeletonemaceae		
Detonula pumila (Castrac.) Gran, 1900		*4*[228]
Skeletonema costatum (Grev.) Cleve, 1866	plk, bns, osp	*8, 11, 24*
Family: Stephanodiscaceae		
Cyclotella antiqua W. Sm., 1853		*4*
Cyclotella atomus Hustedt, 1937		*4*
Cyclotella caspia Grunow, 1878	ben, bns, osp	*4, 8, 27, 28*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Cyclotella choctawhatcheeana A. K. S. Prasad, 1990	plk, bns	*20*
Cyclotella desikacharyi A. K. S. Prasad, 2006	plk, bns	*19*
Cyclotella kuetzingiana Thwaites, 1848	ben, bns	*4, 11*
Cyclotella meneghiniana Kütz., 1844	ben, plk, bns	*4, 11, 27, 28*
Cyclotella operculata (C. Agardh) Kütz., 1838		*4*
Cyclotella stelligera Cleve & Grunow in Van Heurck, 1881	plk, bns	*20*
Cyclotella striata (Kütz.) Grunow, 1880	epi, ben, plk, bns	*4, 8, 11, 26*
Cyclotella stylorum Brightw., 1860	ben, plk, bns	*4, 11, 27, 28*
Cyclostephanos dubius (Hustedt) Round, 1982	ben, bns	*4*[229], *11*[230]
Puncticulata bodanica (Eulenstein ex Grunow) Håk., 2002		*4*[231]
Puncticulata comta (Kütz.) Håk., 2002	ben, bns	*4*[232], *11*[233]
Family: Stephanopyxidaceae		
Stephanopyxis campechiana Grunow, 1881		*4*
Stephanopyxis palmeriana (Grev.) Grunow, 1884	plk, bns, osp	*8, 11, 24*
Stephanopyxis turgida (Grev.) Ralfs, 1861		*4*
Stephanopyxis turris (Arn. in Grev.) Ralfs in A. Pritch., 1861	plk, osp	*4, 8*
Family: Stictodiscaceae		
Stictodiscus californicus Grev., 1861		*4*
Family: Thallassiosiraceae		
Minidiscus trioculatus (F. J. R. Taylor) Hasle, 1973		*4*[234]
Planktoniella blanda (A. Schmidt) Syvertsen & Hasle, 1993	plk, bns	*4*[235], *11*[236]
Planktoniella sol (G. C. Wall.) F. Schütt, 1892		*4*
Thalassiosira aestivalis Gran, 1931	plk, osp	*24*
Thalassiosira anguste-lineata (A. Schmidt) G. A. Fryxell & Hasle, 1977	plk, bns	*4*[237], *11*[238]
Thalassiosira antiqua (Grunow) Cleve-Euler, 1941		*4*
Thalassiosira angulata (W. Greg.) Hasle, 1978	plk, bns, osp	*8*[239], *11*[240], *24*[241]
Thalassiosira cedarkeyensis A. K. S. Prasad, 1993	ben, osp	*16*
Thalassiosira eccentrica (Ehrenb.) Cleve, 1904	plk, osp	*4, 8, 27, 28*
Thalassiosira elsayedii G. A. Fryxell, 1975	plk, osp	8
Thalassiosira leptopus (Grunow ex Van Heurck) Hasle & G. A. Fryxell, 1977	ben, plk, bns	*8, 4*[242], *11*[243]
Thalassiosira lineata Josué, 1968	plk, osp	8
Thalassiosira mala Takano, 1965		*4*
Thalassiosira mediterranea (Schröd.) Hasle, 1972		*4*[244]
Thalassiosira minima Gaarder, 1951		*4*[245]
Thalassiosira oestrupii (Ostenf.) Hasle, 1972		*4*
Thalassiosira oliveriana (O'Meara) I. V. Makarova & V. A. Nikolajev, 1983		*4*[246]
Thalassiosira parva Proshk.-Lavr., 1955		*4*
Thalassiosira pseudonana Hasle & Heimdal, 1970		*4*
Thalassiosira rotula Meunier, 1910	plk, bns	*4, 11*
Thalassiosira subtilis (Ostenf.) Gran, 1900	plk, bns, osp	*4, 8, 11*
Thalassiosira tcherniai Manguin, 1957	plk, bns	*11*[247]
Thalassiosira tubifera G. A. Fryxell, 1975	plk, osp	*8*
Family: Triceratiaceae		
Auliscus clevei Grunow, 1875		*4*
Auliscus confluens Grunow, 1875		*4*
Auliscus pruinosus Bailey, 1854		*4, 24*
Auliscus punctatus Bailey, 1854		*4*
Auliscus reticulatus Grev., 1863		*4*
Auliscus schmidtii Grundler, 1875		*4*
Auliscus sculptus (W. Sm.) Ralfs ex A. Pritch., 1860		*4, 24*
Cerataulus smithii Ralfs ex A. Pritch., 1861		*4*[248], *8*[249]
Eupodiscus ovalis G. Norman, 1861		*4*
Eupodiscus radiatus Bailey, 1851	plk, bns, osp	*4, 8, 24*

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Odontella aurita (Lyngb.) C. Agardh, 1832	ben, plk, bns, osp	*8, 11*[250], *24*[251]
Odontella dubia (Brightw.) Cleve, 1901		8
Odontella longicruris (Greville) Hoban, 1983	ben, bns	*4*[252], *11*[253]
Odontella mobiliensis (Bailey) Grunow, 1884	plk, bns, osp	*8, 11, 24*[254]
Odontella regia (Schultze) Simonsen, 1974	plk, bns, osp	*8, 11, 24*[255]
Odontella rhombus (Ehrenb.) Kütz., 1849	plk, bns, osp	*8, 11, 24*[256]
Odontella sinensis (Grev.) Grunow, 1884	plk, bns, osp	*8, 4*[257], *11*
Pleurosira laevis (Ehrenb.) Compère, 1982		*4*[258]
Pseudauliscus radiatus (Bailey) A. Schmidt in Schmidt et al., 1875		*4*
Triceratium antillarum Cleve, 1878		*4*
Triceratium broeckii Leud.-Fortm., 1879		*4*
Triceratium bullosum O. N. Witt, 1873		*4*
Triceratium campechianum Grunow, 1878		*4*
Triceratium consimile Grunow in Van Heurck, 1883		*4*
Triceratium convexiusculum Grunow, 1890		*4*
Triceratium dictyotum P. A. Sims & R. Ross, 1990		*4*[259]
Triceratium dubium Brightw., 1859		*4, 24*
Triceratium elegans (Grev.) Grunow, 1883		*4*
Triceratium favus Ehrenb., 1839	plk, bns, osp	*8, 24*
Triceratium firmum Grev., 1864		*4*
Triceratium harrisonianum Norman & Grev. in Grev., 1861		*4*
Triceratium heterostictum A. Schmidt, 1890		*4*
Triceratium jucatense Grunow, 1882		*4*
Triceratium ornatum Grev., 1861		*4*
Triceratium parallelum (Ehrenb.) Grev., 1865		*4*
Triceratium pentacrinus G. C. Wall., 1858	plk, bns, osp	*4, 8*
Triceratium pileatum Grunow in Van Heurck, 1883		*4*
Triceratium robertsianum Grev., 1866		*4*
Triceratium scitulum Brightw., 1853		*4*
Triceratium shadboltii Bailey, 1861		*4*
Triceratium subcornutum Grunow, 1886		*4*
Triceratium tabellarium Brightw., 1856		*4*
Triceratium tripartitum Grunow in Van Heurck, 1883		*4*
Triceratium trisulcum Bailey, 1861		*4*
Triceratium venulosum Grev., 1864		*4*
Class: Fragilariophyceae		
Family: Climacospheniaceae		
Climacosphenia elongata Bailey, 1853	plk, bns	8
Climacosphenia moniligera Ehrenb., 1841	plk, bns, osp	*4, 8, 11, 24*
Family: Fragilariaceae		
Asterionella formosa Hassall, 1855	plk, osp	*8*
Asterionella gracillima (Hantzsch in Rabenhorst) Heiberg, 1863	ben, bns	*4*
Asterionella notata Grunow ex Van Heurck, 1881	plk, osp	*4, 24*
Asterionellopsis glacialis (Castrac.) Round, 1990	plk, osp	*4*[260], *8, 11*[261], *24*[262]
Catacombas gaillonii (Bory) D. M.Williams & Round, 1986	plk, bns	*4*[263], *8*[264]
Desikaneis gessneri (Hustedt) A. K. S. Prasad, 1993	ben, plk, bns	*17, 27*[265], *28*[266]
Desikaneis howellii A. K. S. Prasad, 1993	bns	*17*
Desikaneis riesgoviensis (Schauderna) A. K. S. Prasad, 1993		*17*
Desikaneis stauroneiformis (Woodhead & Tweed) A. K. S. Prasad, 1993		*17*
Diatoma hiemale (Lyngb.) Heiberg, 1863	ben, bns	*4, 11*
Diatoma vulgaris Bory, 1824		*4*
Fragilaria capucina Desmaziéres, 1825	ben, bns	*4, 11*
Fragilaria construens (Ehrenb.) Grunow, 1862	ben, bns	*4, 11*
Fragilaria crotonensis Kitton, 1869		*4*

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Fragilaria granulata G. Karst., 1907		*4*
Fragilaria hyalina (Kütz.) Grunow ex Van Heurck, 1862	bns	*4, 28*
Fragilaria obtusa Hustedt, 1956		*28*
Fragilariforma virescens (Ralfs) D. M. Williams & Round, 1988		*4*[267]
Hyalosynedra laevigata Grunow D. M. Williams & Round, 1986	plk, bns	*8*[268]
Martyana atomus (Hustedt) Snoeijs, 1991		*28*[269]
Martyana schulzii (C. Brockmann) Snoeijs, 1991		*28*[270]
Pseudostaurosira brevistriata (Grunow) D. M. Williams & Round, 1987	ben, bns	*4*[271], *11*[272]
Opephora mutabilis (Grunow) Sabbe & Wyverman, 1995	ben, bns, sft	*27*[273], *28*[274]
Opephora pacifica (Grunow) Petit, 1889	ben, plk, bns	*4, 8, 27, 28*
Opephora schwartzii (Grunow) Petit ex Pelletan, 1889	ben, bns, sft	*4, 27, 28*
Reimerothrix floridensis A. K. S. Prasad, 2001	epi, ben, bns	*21*
Staurosirella pinnata (Ehrenb.) D. M. Williams & Round, 1987	ben, bns	*4*[275], *11, 27*[276], *28*[277]
Synedra actinastroides (Lemmerm.) Lemmerm., 1900		*4*
Synedra crystallina (C. Agardh) Kütz., 1844	plk, bns	*4, 8*
Synedra fasciculata (C. Agardh) Kütz., 1844	epi, plk, bns	*8*[278], *26*[279], *28*
Synedra formosa Hantzsch, 1863	ben, bns	*4, 11*
Synedra fulgens (Grev.) W. Sm., 1853	plk, bns	*4, 8*
Synedra superba Kütz., 1844	ben, bns	*4, 11*
Synedra ulna (Nitzsch) Ehrenb., 1832	ben, plk, bns	*4, 8, 11*
Synedropsis karsteteri A. K. S. Prasad & R. J. Livingston, 2005	plk, bns	*18*
Tabularia investiens (W. Smith) D. M. Williams & Round, 1986		*27*[280]
Trachysphenia acuminata M. Perag. in Tempère & Peragallo, 1910	epi, ben, bns	*4, 11, 28*
Ulnaria acus (Kütz.) Aboal, 2003	ben, bns	*4*[281], *11*[282]
Family: Licmophoraceae		
Licmophora flabellata (Grev.) C. Agardh, 1831	ben, bns, osp	*4, 11, 8*
Licmophora lyngbyei (Kütz.) Grunow ex Van Heurck, 1867	epi, plk, bns, osp	*8*[283], *11*[284], *24*[285], *28*[286]
Family: Protoraphidaceae		
Pseudohimantidium pacificum Hustedt & Krasske, 1941	plk, osp	8
Family: Psammodiscaceae		
Psammodiscus nitidus (W. Greg.) Round & D. G. Mann, 1980	plk, bns	*4*[287], *8, 11*[288]
Family: Rhabdonemataceae		
Rhabdonema adriaticum Kütz., 1844	ben, plk, bns, osp	*4, 8, 11, 24*
Rhabdonema mirificum W. Sm., 1856		*4*
Family: Rhaphoneidaceae		
Delphineis livingstonii A. K. S. Prasad, 1986	plk, bns	*15*
Delphineis surirella (Ehrenb.) G. W. Andrews, 1981	plk, osp	*24*[289]
Neodelphineis pelagica Takano, 1982	plk, bns	*15*
Rhaphoneis amphiceros (Ehrenb.) Ehrenb., 1844	ben, bns	*4, 11*
Rhaphoneis cocconeis Ehrenb., 1869		*4*
Rhaphoneis castracanii Grunow, 1881	ben, bns	*4, 11*
Family: Striatellaceae		
Grammatophora angulosa Ehrenb., 1840	plk, bns, osp	*4, 8, 11*
Grammatophora macilenta W. Sm., 1856		*4*
Grammatophora marina (Lyngb.) Kütz., 1844	ben, plk, bns, osp	*4, 8, 11*
Grammatophora maxima Grunow, 1862		*4*
Grammatophora oceanica Ehrenb., 1840	ben, plk, bns, osp	*4, 8, 11, 28*
Striatella delicatula (Kütz.) Grunow, 1881		*4*
Striatella interrupta (Ehrenb.) Grunow., 1862		*4*
Striatella unipunctata (Lyngb.) C. Agardh, 1832	epi, plk, bns, osp	*4, 8, 11, 24, 28*
Family: Thalassionemataceae		
Lioloma delicatulum (Cupp) Hasle, 1996	plk, bns	*4*[290], *11*[291]
Lioloma pacificum (Cupp) Hasle, 1996	plk, osp	*4*[292], *8, 11*[293]

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

Taxon	Habitat-Biology	References/Endnotes
Thalassionema bacillare (Heiden in Heiden & Kolbe) Kolbe, 1955	plk, bns	*4, 8*
Thalassionema frauenfeldii (Grunow) Hallegr., 1986	plk, bns, osp	*8, 11*[294], *24*[295]
Thalassionema nitzschioides (Grunow) Mereschk., 1902	plk, bns, osp	*4, 8, 11, 24*
Thalassiothrix longissima Cleve & Grunow, 1880	plk, bns, osp	*4, 8, 11*
Thalassiothrix mediterranea Pavill., 1916	plk, bns, osp	*4, 11, 24*
Thalassiothrix nitszchioides (Grunow) Grunow, 1881		*4*
Family: Toxariaceae		
Toxarium hennedyanum (W. Greg.) Pelletan, 1889	ben, plk, bns	*4*[296], *8, 11*[297]
Toxarium undulatum Bailey, 1854	plk, bns	*4*[298], *11*[299]

[1] Reported as *Achnanthes subsessilis* Kütz.

[2] Reported as *Achnanthes hauckiana* Grunow.

[3] Reported as *Achnanthes hauckiana* Grunow.

[4] Reported as *Achnanthes biasolettiana* Grunow.

[5] Reported as *Achnanthes biasolettiana* Grunow.

[6] Reported as *Achnanthes biasolettiana* Grunow.

[7] Reported as *Navicula creuzburgensis* Krasske.

[8] Reported as *Navicula creuzburgensis* Krasske.

[9] Reported as *Stauroneis amphioxys* W. Greg.

[10] Reported as *Stauroneis amphioxys* W. Greg.

[11] Reported as *Stauroneis salina* W. Sm.

[12] Reported as *Stauroneis salina* W. Sm.

[13] Reported as *Bacillaria paradoxa* O. F. Müller.

[14] Reported as *Bacillaria paradoxa* O. F. Müller.

[15] Reported as *Nitzschia closterium* (Ehrenb.) W. Sm.

[16] Reported as *Nitzschia closterium* (Ehrenb.) W. Sm.

[17] Reported as *Nitzschia closterium* (Ehrenb.) W. Sm.

[18] Reported as *Pseudoeunotia doliolus* (G. C. Wall.) Grunow.

[19] Reported as *Pseudoeunotia doliolus* (G. C. Wall.) Grunow.

[20] Reported as *Nitzschia amphioxys* Ehrenb.

[21] Reported as *Nitzschia parvula* F. W. Lewis.

[22] Reported as *Nitzschia pseudoamphioxys* Hustedt.

[23] Reported as *Nitzschia pseudoamphioxys* Hustedt.

[24] Reported as *Nitzschia apiculata* (W. Greg.) Grunow.

[25] Reported as *Nitzschia apiculata* (W. Greg.) Grunow.

[26] Reported as *Nitzschia kolaczekii* Grunow.

[27] Reported as *Nitzschia mediterranea* Hustedt.

[28] Reported as *Nitzschia mediterranea* Hustedt.

[29] Reported as *Nitzschia panduriformis* W. Greg.

[30] Reported as *Nitzschia panduriformis* W. Greg.

[31] Reported as *Nitzschia panduriformis* W. Greg.

[32] Reported as *Nitzschia panduriformis* W. Greg.

[33] Reported as *Nitzschia delicatissima* Cleve.

[34] Reported as *Nitzschia delicatula* Grunow.

[35] Reported as *Nitzschia pungens* Grunow var. pungens Grunow.

[36] Reported as *Nitzschia pungens* Grunow var. pungens Grunow.

[37] Reported as *Nitzschia pungens f. multiseries* Hasle.

[38] Reported as *Nitzschia subfraudulenta* Hasle.

[39] Reported as *Nitzschia subpacifica* Hasle.

[40] Reported as *Nitzschia seriata* Cleve.

[41] Reported as *Nitzschia seriata* Cleve.

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

[42] Reported as *Nitzschia acuta* (Cleve) D. G. Mann.
[43] Reported as *Nitzschia brightwellii* Kitton.
[44] Reported as *Nitzschia calida* Grunow in Cleve & Grunow.
[45] Reported as *Nitzschia campechiana* Grunow.
[46] Reported as *Nitzschia constricta* (W. Greg.) Grunow.
[47] Reported as *Nitzschia granulata* Grunow.
[48] Reported as *Nitzschia granulata* Grunow.
[49] Reported as *Nitzschia granulata* Grunow.
[50] Reported as *Nitzschia granulata* Grunow.
[51] Reported as *Nitzschia granulata* Grunow.
[52] Reported as *Nitzschia hungarica* Grunow.
[53] Reported as *Nitzschia hungarica* Grunow.
[54] Reported as *Nitzschia hungarica* Grunow.
[55] Reported as *Nitzschia hungarica* Grunow.
[56] Reported as *Nitzschia marginulata* Grunow.
[57] Reported as *Nitzschia perversa* Grunow.
[58] Reported as *Nitzschia perversa* Grunow.
[59] Reported as *Nitzschia visurgis* Hustedt.
[60] Reported as *Navicula cocconeiformis* W. Greg ex Grunow.
[61] Reported as *Cocconeis diminuta* Pant.
[62] Reported as *Cocconeis scutellum* var. *stauroneiformis* W. Sm.
[63] Reported as *Cocconeis scutellum* var. *stauroneiformis* W. Sm.
[64] Reported as *Navicula delawarensis* Grunow.
[65] Reported as *Navicula delawarensis* Grunow.
[66] Reported as *Navicula pusilla* W. Sm.
[67] Reported as *Navicula mutica* var. *cohnii* (Hilse) Grunow.
[68] Reported as *Navicula mutica* Kütz.
[69] Reported as *Navicula mutica* var. *stigma* Patrick.
[70] Reported as *Navicula bomboides* A. Schmidt.
[71] Reported as *Navicula apis* Ehrenb. and *Navicula chersonensis* Grunow.
[72] Reported as *Navicula donkinii* A. Schmidt.
[73] Reported as *Navicula eugenia* A. Schmidt.
[74] Reported as *Navicula hudsonis* Grunow.
[75] Reported as *Navicula littoralis* Donkin.
[76] Reported as *Navicula nitescens* W. Greg.
[77] Reported as *Navicula notabilis* Grev.
[78] Reported as *Navicula papula* A. Schmidt.
[79] Reported as *Navicula suborbicularis* W. Greg.
[80] Reported as *Amphiprora paludosa* W. Sm.
[81] Reported as *Amphora reichardtiana* Grunow.
[82] Reported as *Navicula approximata* Grev.
[83] Reported as *Navicula californica* Grev.
[84] Reported as *Navicula clavata* W. Greg.
[85] Reported as *Navicula clavata* W. Greg.
[86] Reported as *Navicula diffluens* A. Schmidt.
[87] Reported as *Navicula diffluens* A. Schmidt.
[88] Reported as *Navicula excavata* Grev.
[89] Reported as *Navicula exsul* A. Schmidt.
[90] Reported as *Navicula hennedyi* W. Sm.
[91] Reported as *Navicula irrorata* Grev.

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

[92] Reported as *Navicula lyra* Ehrenb.
[93] Reported as *Navicula praetexta* Ehrenb.
[94] Reported as *Navicula spectabilis* W. Greg. var. *emarginata* Cleve.
[95] Reported as *Navicula granulata* Bailey.
[96] Reported as *Navicula granulata* Bailey.
[97] Reported as *Navicula punctigera* Hustedt.
[98] Reported as *Navicula punctulata* W. Sm. and *Navicula marina* Ralfs ex A. Pritch.
[99] Reported as *Navicula subdiffusa* Hustedt.
[100] Reported as *Navicula subdiffusa* Hustedt.
[101] Reported as *Orthoneis fimbriata* (Brightw.) Grunow.
[102] Reported as *Navicula linearis* Grunow.
[103] Reported as *Caloneis formosa* (W. Greg.) Cleve.
[104] Reported as *Navicula wawrikae* Hustedt.
[105] Reported as *Navicula grevillei* (C. Agardh) Cleve.
[106] Reported as *Navicula grevillei* (C. Agardh) Cleve.
[107] Reported as *Navicula phyllepta* Kütz.
[108] Reported as *Navicula phyllepta* Kütz.
[109] Reported as *Navicula dulcis* R. M. Patrick
[110] Reported as *Navicula gracilis* Ehrenb.
[111] Reported as *Navicula membranacea* Cleve.
[112] Reported as *Stauroneis membranacea* (Cleve) Hustedt.
[113] Reported as *Amphora cymbelloides* Grunow.
[114] Reported as *Alloioneis antillarum* Cleve & Grunow in Cleve.
[115] Reported as *Navicula musca* W. Greg.
[116] Reported as *Navicula powellii* F. W. Lewis.
[117] Reported as *Navicula elegans* W. Sm.
[118] Reported as *Navicula elegans* W. Sm.
[119] Reported as *Navicula regula* Grunow & Cleve.
[120] Reported as *Tropidoneis lepidoptera* (W. Greg.) Cleve.
[121] Reported as *Tropidoneis lepidoptera* (W. Greg.) Cleve.
[122] Reported as *Tropidoneis lepidoptera* (W. Greg.) Cleve.
[123] Reported as *Pleurosigma balticum* (Ehrenb.) W. Sm.
[124] Reported as *Pleurosigma delicatulum* W. Sm.
[125] Reported as *Pleurosigma distortum* W. Sm.
[126] Reported as *Pleurosigma distortum* W. Sm.
[127] Reported as *Pleurosigma elongatum* W. Sm.
[128] Reported as *Pleurosigma elongatum* W. Sm.
[129] Reported as *Pleurosigma elongatum* W. Sm.
[130] Reported as *Pleurosigma fasciola* (Ehrenb.) W. Sm.
[131] Reported as *Pleurosigma fasciola* (Ehrenb.) W. Sm.
[132] Reported as *Pleurosigma formosum* W. Sm.
[133] Reported as *Pleurosigma formosum* W. Sm.
[134] Reported as *Pleurosigma formosum* W. Sm.
[135] Reported as *Pleurosigma nubecula* W. Sm.
[136] Reported as *Pleurosigma peisonis* Grunow.
[137] Reported as *Pleurosigma strigosum* W. Sm.
[138] Reported as *Pleurosigma strigosum* W. Sm.
[139] Reported as *Navicula longirostris* Hustdet.
[140] Reported as *Epithemia gibba* (Ehrenb.) Kütz.
[141] Reported as *Navicula tumida* Bréb. ex Kütz.
[142] Reported as *Pinnularia ambigua* Cleve.

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

[143] Reported as *Navicula aequorea* Hustedt.
[144] Reported as *Navicula aequorea* Hustedt.
[145] Reported as *Navicula amphipleuroides* Hustedt.
[146] Reported as *Navicula auriculata* Hustedt.
[147] Reported as *Navicula bioculata* Grunow ex A. Schmidt.
[148] Reported as *Navicula fenestrella* Hustedt.
[149] Reported as *Navicula florinae* H. Moeller.
[150] Reported as *Navicula forcipata* Grev.
[151] Reported as *Navicula forcipata* Grev.
[152] Reported as *Navicula hudsonis* Grunow.
[153] Reported as *Navicula hummii* Hustedt.
[154] Reported as *Navicula hummii* Hustedt.
[155] Reported as *Navicula nummularia* Grev.
[156] Reported as *Navicula pseudony* Hustedt.
[157] Reported as *Navicula pseudony* Hustedt.
[158] Reported as *Navicula pygmaea* Kütz. var. (Schm. At. 100/6).
[159] Reported as *Navicula subforcipata* Hustedt.
[160] Reported as *Navicula tenera* Hustedt.
[161] Reported as *Navicula teneroides* Hustedt.
[162] Reported as *Navicula accomoda* Hustedt.
[163] Reported as *Navicula accomoda* Hustedt.
[164] Reported as *Navicula ambigua* Ehrenb.
[165] Reported as *Navicula ambigua* Ehrenb.
[166] Reported as *Stauroneis phoenicenteron* Dippel.
[167] Reported as *Melosira granulata* (Ehrenb.) Ralfs.
[168] Reported as *Melosira granulata* (Ehrenb.) Ralfs.
[169] Reported as *Melosira granulata* (Ehrenb.) Ralfs.
[170] Reported as *Amphitetras antediluviana* Ehrenb.
[171] Reported as *Biddulphia pulchella* Gray.
[172] Reported as *Biddulphia pulchella* Gray.
[173] Reported as *Triceratium sculptum* Shadbolt.
[174] Reported as *Triceratium spinosum* Bailey.
[175] Reported as *Huttonia reichardtii* (Grunow) Grunow.
[176] Reported as *Triceratium arcticum* Brightw.
[177] Reported as *Cestodiscus cinnamomeus* (Greville) Grunow and *Triceratium cinnamomeum* Grev.
[178] Reported as *Triceratium dissimile* Grunow ex A. Schmidt.
[179] Reported as *Triceratium reticulum* Ehrenb.
[180] Reported as *Triceratium reticulum* Ehrenb.
[181] Reported as *Bacteriastrum varians* Lauder.
[182] Reported as *Chaetoceros compressum* Lauder.
[183] Reported as *Chaetoceros compressum* Lauder.
[184] Reported as *Chaetoceros compressum* Lauder.
[185] Reported as *Chaetoceros subsecundus* (Grunow) Hustedt.
[186] Reported as *Chaetoceros gracile* F. Schütt.
[187] Reported as *Chaetoceros gracile* F. Schütt.
[188] Reported as *Chaetoceros gracile* F. Schütt.
[189] Reported as *Coscinodiscus denarius* A. Schmidt.
[190] Reported as *Endictya oceanica* Ehrenb.
[191] Reported as *Coscinodiscus granulosus* Grunow.
[192] Reported as *Hemidiscus hardmanianus* (Grev.) Mann.

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

[244] Reported as *Coscinosira mediterranea* Schröd.
[245] Reported as *Thalassiosira floridana* (I. C. G. Cooper) Hasle.
[246] Reported as *Micropodiscus oliveranus* (O'Meara) Grunow and *Actinocyclus bonatus* Castrac.
[247] Reported as *Thalassiosira gravida* Cleve.
[248] Reported as *Biddulphia smithii* (Ralfs) Van Heurck.
[249] Reported as *Biddulphia smithii* (Ralfs) Van Heurck.
[250] Reported as *Biddulphia aurita* (Lyngb.) Bréb. & Godey.
[251] Reported as *Biddulphia aurita* (Lyngb.) Bréb. & Godey.
[252] Reported as *Biddulphia longicruris* Grev.
[253] Reported as *Biddulphia longicruris* Grev.
[254] Reported as *Biddulphia mobiliensis* (Bailey) Grunow.
[255] Reported as *Biddulphia regia* (Schultze) Ostenf.
[256] Reported as *Biddulphia rhombus* (Ehrenb.) W. Sm.
[257] Reported as *Biddulphia sinensis* Grev. and *Biddulphia chinensis* Grev.
[258] Reported as *Biddulphia laevis* Ehrenb.
[259] Reported as *Biddulphia reticulata* Roper.
[260] Reported as *Asterionella glacialis* Castrac. and *Asterionella japonica* Cleve.
[261] Reported as *Asterionella japonica* Cleve.
[262] Reported as *Asterionella japonica* Cleve.
[263] Reported as *Synedra gailloni* (Bory) Ehrenb.
[264] Reported as *Synedra gailloni* (Bory) Ehrenb.
[265] Reported as *Fragilaria* gessneri Hustedt.
[266] Reported as *Fragilaria gessneri* Hustedt.
[267] Reported as *Fragilaria virescens* Ralfs.
[268] Reported as *Synedra laevigata* Grunow.
[269] Reported as *Fragilaria atomus* Hustedt.
[270] Reported as *Fragilaria schulzii* C. Brockmann.
[271] Reported as *Fragilaria brevistriata* Grunow.
[272] Reported as *Fragilaria brevistriata* Grunow.
[273] Reported as *Opephora parva* (Grunow) Krasske.
[274] Reported as *Opephora parva* (Grunow) Krasske.
[275] Reported as *Fragilaria pinnata* Ehrenb.
[276] Reported as *Fragilaria pinnata* Ehrenb.
[277] Reported as *Fragilaria pinnata* Ehrenb.
[278] Reported as *Synedra affinis* Kütz.
[279] Reported as *Synedra affinis* Kütz.
[280] Reported as *Synedra investiens* W. Sm.
[281] Reported as *Synedra acus* Kütz.
[282] Reported as *Synedra acus* Kütz.
[283] Reported as *Licmophora abbreviata* C. Agardh.
[284] Reported as *Licmophora abbreviata* C. Agardh.
[285] Reported as *Licmophora abbreviata* C. Agardh.
[286] Reported as *Licmophora abbreviata* C. Agardh.
[287] Reported as *Coscinodiscus nitidus* W. Greg.
[288] Reported as *Coscinodiscus nitidus* W. Greg.
[289] Reported as *Rhaphoneis surirella* (Ehrenb.) Grunow.
[290] Reported as *Thalassiothrix delicatula* Cupp.
[291] Reported as *Thalassiothrix delicatula* Cupp.
[292] Reported as *Thalassiothrix mediterranea* var. *pacifica* Cupp.
[293] Reported as *Thalassiothrix mediterranea* var. *pacifica* Cupp.

(*continued*)

Checklist of diatoms (Bacillariophyta) from the Gulf of Mexico. (*continued*)

[294] Reported as *Thalassiothrix frauenfeldii* (Grunow) Grunow in Cleve & Grunow.

[295] Reported as *Thalassiothrix frauenfeldii* (Grunow) Grunow in Cleve & Grunow.

[296] Reported as *Synedra hennedyana* W. Greg.

[297] Reported as *Synedra hennedyana* W. Greg.

[298] Reported as *Synedra undulata* (Bailey) W. Greg.

[299] Reported as *Synedra undulata* (Bailey) W. Greg.