

One Health Harmful Algal Bloom System (OHHABS)

Algae, Algal Toxins, and Other Pathogens Lists

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1. Introduction

This document lists algae, algal toxins, and other pathogens in the One Health Harmful Algal Bloom System (OHHABS). It is inclusive of most algae that form harmful algal blooms (HABs) or algal toxins produced by HABs. Understanding and detection of HABs is still evolving; the list of algae and algal toxins may change over time as we learn more about HABs. For reporting simplicity, this document organizes algae, algal toxins, and other pathogens into “Classifications.”

This document is designed to be used as a reference for the Environmental Form, Human Form, and Animal Forms.

- For the Environmental Form, this list is used in the Laboratory Results Tab to report specific testing or detection of algae or algal toxins in environmental samples (including food items).

- For the Human Form and Animal Form, this list is used in the Clinical Testing Results Tab to report any testing or detection of algae, algal toxins, or other pathogens in clinical samples.

Although this list primarily focuses on algae and algal toxins, a brief description of other pathogens in OHHABS is included. For further guidance on how to report environmental sample data and clinical laboratory data in each OHHABS form, please visit the respective form guidance documents at www.cdc.gov/nors/ohhabs.

2. Algae

Algal names are complex and can change based on further scientific discovery or consensus. For some species of algae there is a genus name, species name, and subspecies name. There are various abbreviations and taxonomic rankings for subspecies in botanical nomenclature:

- **var.** – variety
- **f.** – forma
- **subsp.** – subspecies

For more information on algal nomenclature, visit the [International Code of Nomenclature for algae, fungi, and plants](#).

For OHHABS, algae are organized into eight major classifications: Cyanobacteria, Diatoms, Dinoflagellates, Gonyaulacales, Gymnodiniales, Peridinales, Procentrales, and Raphidophyceans. Within each of these classifications are the algae genus names, species names, and subspecies names, if applicable.

The table below shows each classification and the list of genera included for it in OHHABS. If a genus is not displayed or the genus is unknown, select the appropriate “Classification” and select “Other” or unknown in the “Genus”. Please report the missing value in the associated remarks field.

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Classification	Genus
Cyanobacteria	Anabaena
Cyanobacteria	Anabaenopsis
Cyanobacteria	Aphanizomenon
Cyanobacteria	Aureococcus
Cyanobacteria	Cylindrospermopsis
Cyanobacteria	Lyngbya
Cyanobacteria	Microcystis
Cyanobacteria	Nodularia
Cyanobacteria	Nostoc
Cyanobacteria	Oscillatoria
Cyanobacteria	Phormidium
Cyanobacteria	Planktothrix
Cyanobacteria	Schizothrix
Cyanobacteria	Synechococcus
Cyanobacteria	Trichodesmium
Diatoms	Amphora
Diatoms	Pseudo-nitzschia
Dinoflagellates	Dinophysis
Gonyaulacles	Alexandrium
Gonyaulacles	Gambierdiscus
Gonyaulacles	Gonyaulax
Gonyaulacles	Pyrodinium
Gymnodinales	Akashiwo
Gymnodinales	Ceratium
Gymnodinales	Cochlodinium
Gymnodinales	Gyrodinium
Gymnodinales	Gymnodinium
Gymnodinales	Karenia
Gymnodinales	Karlodinium
Peridnales	Heterocapsa
Peridnales	Lingulodinium
Peridnales	Pfiesteria
Peridnales	Protoperidinium
Procentrales	Procentrum
Raphidophyceans	Chattonella
Raphidophyceans	Fibrocapsa
Raphidophyceans	Heterosigma
Raphidophyceans	Olisthodiscus

2.1. Classification: Cyanobacteria

This section provides the genus name, species name, and subspecies name for algae classified as cyanobacteria. If a genus is missing from OHHABS, select “Other” and please report the missing value in the associated remarks field. If a cyanobacteria was identified, but the genus is unknown, select “Unknown”.

Genus	Species	Subspecies
Anabaena	circinalis	var. crassa
Anabaena	circinalis	var. macrospora
Anabaena	circinalis	var. tenuis
Anabaena	Other	
Anabaena	Unknown	
Anabaenopsis	milleri	
Anabaenopsis	Other	
Anabaenopsis	Unknown	
Aphanizomenon	Other	
Aphanizomenon	Unknown	
Aureococcus	anophagefferans	
Aureococcus	Unknown	
Cylindrospermopsis	raciborskii	
Cylindrospermopsis	Other	
Cylindrospermopsis	Unknown	
Lyngbya	majuscula	var. calyptrata
Lyngbya	majuscula	var. chalybea
Lyngbya	majuscula	var. checkiaensis
Lyngbya	majuscula	var. kerguelensis
Lyngbya	majuscula	var. pacifica
Lyngbya	majuscula	var. spongophila
Lyngbya	wollei	
Lyngbya	Other	
Lyngbya	Unknown	
Microcystis	aeruginosa	f. aeruginosa
Microcystis	aeruginosa	f. flosaquae
Microcystis	aeruginosa	f. marginata
Microcystis	aeruginosa	f. scripta
Microcystis	aeruginosa	f. viridis
Microcystis	aeruginosa	var. elongata
Microcystis	aeruginosa	var. major
Microcystis	Other	
Microcystis	Unknown	

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Genus	Species	Subspecies
Nodularia	spumigena	var. crassa
Nodularia	spumigena	var. genuina
Nodularia	spumigena	var. litorea
Nodularia	spumigena	var. major
Nodularia	spumigena	var. minor
Nodularia	spumigena	var. vacuolata
Nodularia	spumigena	var. zujaris
Nodularia	Other	
Nodularia	Unknown	
Nostoc	Other	
Nostoc	Unknown	
Oscillatoria	Other	
Oscillatoria	Unknown	
Phormidium	formosum	
Phormidium	Other	
Phormidium	Unknown	
Planktothrix	Other	
Planktothrix	Unknown	
Schizothrix	calciola	f. symplociformis
Schizothrix	calciola	f. violacea
Schizothrix	calciola	var. symplociformis
Schizothrix	calciola	var. vermiformis
Schizothrix	calciola	var. violacea
Schizothrix	Other	
Schizothrix	Unknown	
Synechococcus	Other	
Synechococcus	Unknown	
Trichodesmium	erythraeum	var. hindsii
Trichodesmium	Other	
Trichodesmium	Unknown	
Other		
Unknown		

2.2. Classification: Diatoms

This section provides the genus name, species name, and subspecies name for algae classified as diatoms. If a genus is missing from OHHABS, select “Other” and please report the missing value in the associated remarks field. If a diatom was identified, but the genus is unknown, select “Unknown”.

Genus	Species	Subspecies
Amphora	coffeaformis	f. minima
Amphora	coffeaformis	var. acutiuscula
Amphora	coffeaformis	var. acutiuscula
Amphora	coffeaformis	var. africana
Amphora	coffeaformis	var. angularis
Amphora	coffeaformis	var. aponina
Amphora	coffeaformis	var. araulensis
Amphora	coffeaformis	var. asiatica
Amphora	coffeaformis	var. borealis
Amphora	coffeaformis	var. dubiosa
Amphora	coffeaformis	var. dusenii
Amphora	coffeaformis	var. exigua
Amphora	coffeaformis	var. lineata
Amphora	coffeaformis	var. perpusilla
Amphora	coffeaformis	var. salina
Amphora	coffeaformis	var. salinarum
Amphora	coffeaformis	var. thumensis
Amphora	coffeaformis	var. transcaspica
Amphora	Other	
Amphora	Unknown	
Pseudo-nitzschia	australis	
Pseudo-nitzschia	delicatissima	
Pseudo-nitzschia	fraudulenta	
Pseudo-nitzschia	pungens	f. multiseriis
Pseudo-nitzschia	pungens	var. aveirensis
Pseudo-nitzschia	pungens	var. cingulata
Pseudo-nitzschia	seriata	f. obtusa
Pseudo-nitzschia	seriata	var. fraudulenta
Pseudo-nitzschia	turgidula	
Pseudo-nitzschia	Other	
Pseudo-nitzschia	Unknown	
Other		
Unknown		

2.3. Classification: Dinoflagellates

This section provides the genus name, species name, and subspecies name for algae classified as dinoflagellates. If a genus is missing from OHHABS, select “Other” and please report the missing value in the associated remarks field. If a dinoflagellate was identified, but the genus is unknown, select “Unknown”.

Genus	Species	Subspecies
Dinophysis	acuminata	
Dinophysis	acuta	
Dinophysis	caudata	f. maris-rubri
Dinophysis	caudata	var. abbreviata
Dinophysis	caudata	var. tripos
Dinophysis	fortii	
Dinophysis	mitra	
Dinophysis	norvegica	var. debilior
Dinophysis	rotundata	
Dinophysis	saccula	
Dinophysis	tripos	
Dinophysis	Other	
Dinophysis	Unknown	
Other		
Unknown		

2.4. Classification: Gonyaulacales

This section provides the genus name, species name, and subspecies name for algae classified as gonyaulacales. If a genus is missing from OHHABS, select “Other” and please report the missing value in the associated remarks field. If a gonyaulacales was identified, but the genus is unknown, select “Unknown”.

Genus	Species	Subspecies
Alexandrium	andersonii	
Alexandrium	catenella	
Alexandrium	fundyense	
Alexandrium	minutum	
Alexandrium	ostenfeldii	
Alexandrium	tamarense	
Alexandrium	tamiyavanichii	
Alexandrium	Other	
Alexandrium	Unknown	
Gambierdiscus	australes	
Gambierdiscus	pacificus	
Gambierdiscus	polynesiensis	
Gambierdiscus	toxicus	
Gambierdiscus	Other	
Gambierdiscus	Unknown	
Gonyaulax	polyedra	
Gonyaulax	Other	
Gonyaulax	Unknown	
Pyrodinium	bahamense	f. compressum
Pyrodinium	bahamense	var. compressum
Pyrodinium	Other	
Pyrodinium	Unknown	
Other		
Unknown		

2.5. Classification: Gymnodiniales

This section provides the genus name, species name, and subspecies name for algae classified as gymnodiniales. If a genus is missing from OHHABS, select “Other” and please report the missing value in the associated remarks field. If a Gymnodiniales was identified, but the genus is unknown, select “Unknown”.

Genus	Species	Subspecies
Akashiwo	sanguinea	
Akashiwo	Unknown	
Ceratium	tripos	f. atlantica
Ceratium	tripos	f. balticum
Ceratium	tripos	f. contortum
Ceratium	tripos	f. contrarium
Ceratium	tripos	f. heimale
Ceratium	tripos	f. longissimum
Ceratium	tripos	f. massilense
Ceratium	tripos	f. ponticum
Ceratium	tripos	f. reflexum
Ceratium	tripos	f. semipulchellum
Ceratium	tripos	f. subsalsum
Ceratium	tripos	subsp. Balticum
Ceratium	tripos	subsp. Divaricatum
Ceratium	tripos	subsp. pulchellum
Ceratium	tripos	subsp. Vultur
Ceratium	tripos	var. atlanticum
Ceratium	tripos	var. arcuatum f. heterocamptum
Ceratium	tripos	var. atlanticum
Ceratium	tripos	var. atlanticum f. neglectum
Ceratium	tripos	var. baltica f. truncatum
Ceratium	tripos	var. breve
Ceratium	tripos	var. bucephalum
Ceratium	tripos	var. carriense
Ceratium	tripos	var. contortum
Ceratium	tripos	var. contrarium
Ceratium	tripos	var. curvicorne
Ceratium	tripos	var. dispar
Ceratium	tripos	var. divaricatum
Ceratium	tripos	var. gibbera
Ceratium	tripos	var. gracile
Ceratium	tripos	var. gracile
Ceratium	tripos	var. horridum
Ceratium	tripos	var. limulus
Ceratium	tripos	var. lineatum
Ceratium	tripos	var. longinum
Ceratium	tripos	var. macroceros
Ceratium	tripos	var. macroceros f. armatum
Ceratium	tripos	var. macroceros f. intermedium

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Genus	Species	Subspecies
Ceratium	tripos	var. massilense
Ceratium	tripos	var. negluctum
Ceratium	tripos	var. platicorne
Ceratium	tripos	var. platicorne
Ceratium	tripos	var. ponticum
Ceratium	tripos	var. porrectum
Ceratium	tripos	var. protuberans
Ceratium	tripos	var. pulchellum
Ceratium	tripos	var. reticulatum
Ceratium	tripos	var. tripos
Ceratium	Other	
Ceratium	Unknown	
Cochlodinium	heterolobatum	
Cochlodinium	polykrikoides	
Cochlodinium	Other	
Cochlodinium	Unknown	
Gyrodinium	aureolum	
Gyrodinium	instriatum	
Gyrodinium	Other	
Gyrodinium	Unknown	
Gymnodinium	catenatum	
Gymnodinium	Other	
Gymnodinium	Unknown	
Karenia	brevis	
Karenia	brevisulcata	
Karenia	Other	
Karenia	Unknown	
Karlodinium	micrum	
Karlodinium	Other	
Karlodinium	Unknown	
Other		
Unknown		

2.6. Classification: Peridinales

This section provides the genus name, species name, and subspecies name for algae classified as peridinales. If a genus is missing from OHHABS, select “Other” and please report the missing value in the associated remarks field. If a peridinales was identified, but the genus is unknown, select “Unknown”.

Genus	Species	Subspecies
Heterocapsa	Other	
Heterocapsa	Unknown	
Lingulodinium	Other	
Lingulodinium	Unknown	
Pfiesteria	piscicida	
Pfiesteria	shumwayae	
Pfiesteria	Other	
Pfiesteria	Unknown	
Protoperidinium	crassipes	
Protoperidinium	Other	
Protoperidinium	Unknown	
Other		
Unknown		

2.7. Classification: Procentrales

This section provides the genus name, species name, and subspecies name for algae classified as procentrales. If a genus is missing from OHHABS, select “Other” and please report the missing value in the associated remarks field. If a proeentrales was identified, but the genus is unknown, select “Unknown”.

Genus	Species	Subspecies
Prorocentrum	arenarium	
Prorocentrum	belizeanum	
Prorocentrum	cassubicum	
Prorocentrum	faustiae	
Prorocentrum	hoffmannianum	
Prorocentrum	lima	
Prorocentrum	maculosum	
Prorocentrum	minimum	
Prorocentrum	Other	
Prorocentrum	Unknown	
Other		
Unknown		

2.8. Classification: Raphidophyceans

This section provides the genus name, species name, and subspecies name for algae classified as raphidophyceans. If a genus is missing from OHHABS, select “Other” and please report the missing value in the associated remarks field. If a raphidophyceans was identified, but the genus is unknown, select “Unknown”.

Genus	Species	Subspecies
Chattonella	antiqua	
Chattonella	globosa	
Chattonella	marina	var. antiqua
Chattonella	marina	var. ovata
Chattonella	subsalsa	
Chattonella	verruculosa	
Chattonella	Other	
Chattonella	Unknown	
Fibrocapsa	japonica	
Fibrocapsa	Unknown	
Heterosigma	akashiwo	
Heterosigma	Other	
Heterosigma	Unknown	
Olisthodiscus	luteus	
Olisthodiscus	Other	
Olisthodiscus	Unknown	
Other		
Unknown		

3. Algal Toxins

This section provides a list of algal toxins, which are under the classification of “Toxin” in OHHABS,

3.1. Classification: Toxin

This section contains the list of algal toxins. If a toxin is missing from OHHABS, select “Other” and please report the missing value in the associated remarks field.

Toxin
Anatoxin-A
Azaspiracid
Brevetoxin
Ciguatoxin
Cylindrospermopsin
Domoic acid
Dinophysistoxin
Haemolytic toxin
Homoanatoxin
Karlotoxin
Lyngbyatoxin
Maitotoxin
Microcystin
Nodularin
Okadaic acid
Pectenotoxin
Prymnesin
Saxitoxin
Other
Unknown

4. Other Chemicals, Pathogens, or Non-algal Toxins

In the Human Form and Animal Form, the “Other” option is available in the “Classification” picklist. The “Other” classification contains a list of other microbial pathogens, chemical, and non-algal toxins. It is based on picklist values present in the National Outbreak Reporting System (NORS) and is subject to change as updates are made to NORS.

This list is included because diagnoses of HAB-related illnesses in humans and animals may involve testing to rule out of other causes of illnesses. Information about these tests and their results will further inform the understanding of HAB-related illnesses and help to improve the detection and identification of HAB-related illnesses.

This list is limited to genus and toxin names. Additional species and serotype/genotype picklist values are available for microbial pathogens in OHHABS.

Classification	Genus
Other	1,1-Dichloroethylene
Other	Acanthamoeba
Other	Acrylamide
Other	Adenovirus
Other	Aeromonas
Other	Alachlor
Other	Angiostrongylus
Other	Anisakis
Other	Arcobacter
Other	Arsenic
Other	Astrovirus
Other	Atrazine
Other	Avian schistosomes
Other	Bacillus
Other	Balamuthia
Other	Benzene
Other	Blastocystis
Other	Brachiola
Other	Bromate
Other	Bromine
Other	Brucella
Other	Cadmium
Other	Campylobacter
Other	Chloramines
Other	Chlordane
Other	Chlorine
Other	Chlorine dioxide
Other	Chlorine gas
Other	Chlorite
Other	Chromium
Other	Cleaning agents
Other	Clostridium
Other	Copper
Other	Cronobacter
Other	Cryptosporidium
Other	Cyclospora
Other	Dientamoeba
Other	Diphyllobothrium
Other	Disinfection byproducts
Other	Encephalitozoon

Classification	Genus
Other	Endolimax
Other	Entamoeba
Other	Enterobacter
Other	Enterococcus
Other	Enterocytozoon
Other	Enterovirus
Other	Escherichia
Other	Ethyl acrylate
Other	Ethyl benzene
Other	Ethylene glycol
Other	Fluoride
Other	Gasoline
Other	Giardia
Other	Haloacetic acids
Other	Heavy metals
Other	Helicobacter
Other	Hepatitis
Other	Heptachlor
Other	herbicide
Other	Histamine
Other	Hydrochloric acid
Other	Iodamoeba
Other	Isozoa
Other	Kerosene
Other	Lead
Other	Legionella
Other	Leptospira
Other	Listeria
Other	Mercury
Other	Microcoleus
Other	Microsporidium
Other	Morpholine
Other	Muriatic acid
Other	Mycobacterium
Other	Mycotoxins
Other	Naegleria
Other	Nitrate
Other	Nitrite
Other	Norovirus
Other	Nosema

Classification	Genus
Other	Oil
Other	Other
Other	Other - Bacterium
Other	Other - Chemical/Toxin
Other	Other - Parasite
Other	Other - Virus
Other	Pantoea
Other	PCBs
Other	Pesticides
Other	Pharmaceuticals
Other	Phenol
Other	Plant/Herbal toxins
Other	Pleistophora
Other	Plesiomonas
Other	Proteus
Other	Pseudomonas
Other	Reovirus
Other	Rotavirus
Other	Salmonella
Other	Sapovirus
Other	Scombroid toxin
Other	Selenium
Other	Shigella
Other	Soap/Detergent
Other	Sodium Hydroxide
Other	Staphylococcus
Other	Streptococcus
Other	Toluene
Other	Toxaphene
Other	Toxoplasma
Other	Trachipleistophora
Other	Trichinella
Other	Trichloroethylene
Other	Trihalomethanes
Other	Unknown
Other	Unknown - Bacterium
Other	Unknown - Chemical/Toxin
Other	Unknown - Parasite
Other	Unknown - Virus
Other	Uranium

Classification	Genus
Other	Vibrio
Other	Vinyl Chloride
Other	Vittaforma
Other	Xylene
Other	Yersinia