

The authors propose a synthesis of data contained in databases over nearly 30 years. The interest is obvious, but the globalisation of the parameters leads to a loss of sight, and ends up pushing open doors. **The authors need to go into much more detail with correlations** (more original, finer and more precise... to be found) for this kind of article to be useful and also to correspond to the title (which I find particularly well selling but misleading).

In detail, not wanting to repeat what the two first referees have already pointed out:

- Line 30: not all toxicity phenomena for humans are through shellfish consumption,

Text has been modified. L. 40-44.

- Line 34/35: "...major effects on the biodiversity of higher trophic levels". Need a solid reference to back this up

A reference from Nature Communication has been added in this sentence L.49. to illustrate this higher trophic level effect. We would also like to add a reference about water quality assessment, specifically eutrophication assessment within the EU Marine Water Framework Directive: this reference highlights direct and indirect effects of river nutrient inputs on phytoplankton biomass and at the ecosystem level (Lefebvre & Devreker, 2020)

- Line 60: "...abnormal increase...", "...naturally occurring...". I think these considerations are no longer in the way of thinking... and without getting into philosophical debates!

"Abnormal" and "naturally" have been removed and the sentence was modified. L.74-75.

- Line 71/72: *Pseudo-N* needles stick into *Phaeocystis* colonies irritate filter feeders. Is this proven? Do they irritate more or less than in the isolated planktonic state?

As far as we know, there is no specific reference paper about this potential effect. We have modified the sentence accordingly.

L.86-88. "We believe that such a structure may irritate filter feeders. The lesions caused by these structures may promote viral and bacterial infections in fish (AL, pers. comm.). »

- Line 89: Phaeopigment. They are not used afterwards.

This variable is now available from the DOI. The statistical summary was added to Table 4.

- Line 193/196: These seem to me to be generalities that deserve to be detailed or referenced otherwise they do not belong here.

We are not sure we understand this comment. This part of the manuscript is just a summary of the phytoplankton dynamics in our temperate ecosystems. We built our manuscript to allow the readers to find (i) a general description of the data and the main patterns in the present manuscript and (ii)

more details from the review of scientific works using SRN data.

- Line 208: What is "Phytoplantonic taxonomic productivity"?

This was an error. "taxonomic" has been removed.

- Line 213: *P. globosa* is not a *prymnesiophyceae* but a *coccolithophyceae* in the current systematics. (idem in the legend of fig. 2)

According to the Worms, *P. globosa* is a *Prymnesiophyceae* (Class)
(<https://www.marinespecies.org/aphia.php?p=taxdetails&id=160538>)

WoRMS taxon details

★ ***Phaeocystis globosa* Scherffel, 1899**

AphiaID 160538 (urn:lsid:marinespecies.org:taxname:160538)

Classification Biota > ★ Chromista (Kingdom) > ★ Hacrobia (Subkingdom) > ★ Haptophyta (Phylum) > ★ Prymnesiophyceae (Class) > ★ Phaeocystales (Order) > ★ Phaeocystaceae (Family) > ★ *Phaeocystis* (Genus) > ★ *Phaeocystis globosa* (Species)

Status accepted

Rank Species

Parent ★ *Phaeocystis* Lagerheim, 1893

Orig. name ★ *Phaeocystis globosa* Scherffel, 1899

But according to Algaebase, *P. globosa* is associated with the *Coccolithophyceae* class
(https://www.algaebase.org/search/species/detail/?species_id=52922)

As a result, because Worms is our reference (Quadriga2 database), we chose *Prymnesiophyceae*.

***Phaeocystis globosa* Scherffel 1899**

Publication Details
Phaeocystis globosa Scherffel 1899: 317
Published in: Scherffel, A. (1899). *Phaeocystis globosa* n. sp. (Vorläufige Mittheilung). *Berichte der Deutschen Botanische Gesellschaft* 17: 317-318. [↗](#)

Type Species
The type species (holotype) of the genus *Phaeocystis* is *Phaeocystis pouchetii* (Hariot) Lagerheim.

Status of Name
This name is of an entity that is currently accepted taxonomically.

Type Information
Type locality: Helgoland; (Index Nominum Algarum)plankton;

Origin of Species Name
Adjective (Latin), round like a ball, globose, spherical (Stearn 1973).

General Environment
This is a marine species.

Created: 17 May 2002 by M.D. Guiry.

Last updated: 24 April 2018

Verification of Data
Users are responsible for verifying the accuracy of information before use, as noted on the website [Content page](#).



Phaeocystis globosa Scherffel Partial colony taken in phase contrast. Robin Raine (Robin.Raine@nuigalway.ie)

Submit Feedback

Classification:

Empire: Eukaryota

Kingdom: Chromista

Subkingdom: Hacrobia

Phylum: Haptophyta

Class: Coccolithophyceae

Subclass: Prymnesiophycidae

Order: Phaeocystales

Family: Phaeocystaceae

Genus: *Phaeocystis*

Cultures



About Bacillariophyceae, indeed, this is a class according to Worms, but some taxa (belonging to Diatoms*) are not included in this Bacillariophyceae class (*Central and et Pennal diatoms, phylum Ochrophyta).

According to Algaebase, the Bacillariophyta phylum contains only diatoms.

Consequently, we decide to use Bacillariophyta.

- Lines 218-220: Potentially toxic but no toxin detected. OK but isn't that a bit short on explanation. Expliquer prélevt eau + coquillages + seules

The sentence has been modified to further explain this issue.

L. 293-298. "The genera Alexandrium, Dinophysis and Pseudo-nitzschia, which are potentially responsible for the production of PSP (Paralytic Shellfish Poison), DSP (Diarrhetic Shellfish Poison) and ASP (Amnesic Shellfish Poison) toxins, respectively, are regularly observed from the water samples at the monitoring sites. It is worth noting that, even when the cell densities of these toxic genera exceed the alert thresholds, toxin analysis of shellfish collected from the same area concerned by this bloom can be surprisingly negative. In the investigated regions, toxicity seems to be only a potential that is not expressed, maybe because of unfavorable environmental conditions."

- Fig 2: Only bacillariophyceae are taken into account? Why are not all diatoms considered?

Figures 2 and 3 have been updated to include Bacillariophyta, Cryptophyceae, Dinophyceae and Prymnesiophyceae.

- Line 259: Why use the term dinoflagellates when other algal groupings use taxonomic ranks?

We used the same term as in the cited manuscripts.

Line 266: The 3 diatoms mentioned are not bacillariophyceae. Idem for the following lines, there is a mishmash of terms.

Guardinia, Stellarima and Coscinodiscus are bacillariophyceae (class) according to WORMS. However we change this to Bacillariophyta. L.346, 353.

Line 386: Carpentier, Martin & Vaz: This is grey literature.

We have deleted this reference. No such synthesis is available from other kinds of references.