

New Observations of Papulifères, putative ciliate cysts, from the plankton of the Chukchi Sea (Western Arctic Ocean) in August of 2023

## Supplementary File Description

**Plate 1** contains images of *Fusopsis* forms found to date in the Chukchi Sea Region:

**Images A -> L** are from Dolan, J.R., Yang, E.J., Moon, J.-K. 2023. On Papulifères, putative ciliate cysts of diverse morphologies, with new observations from the plankton of the Chukchi Sea (Arctic Ocean). *Acta Protozool.* 62:1-14. They appear in Figure 6 and are described in Table 3.

**Images a -> d** are described in 'New Observations of Papulifères, putative ciliate cysts, from the plankton of the Chukchi Sea (Western Arctic Ocean) in August of 2023'. They appear in Figure 2 and are described in Table 2.

**Plate 2** contains images of *Sphaeropsis* forms found to date in the Chukchi Sea Region:

**Images A -> N** are from 'Dolan, J.R., Yang, E.J., Moon, J.-K. 2023. On Papulifères, putative ciliate cysts of diverse morphologies, with new observations from the plankton of the Chukchi Sea (Arctic Ocean). *Acta Protozool.* 62:1-14. They appear in Figure 7 and are described in Table 4.

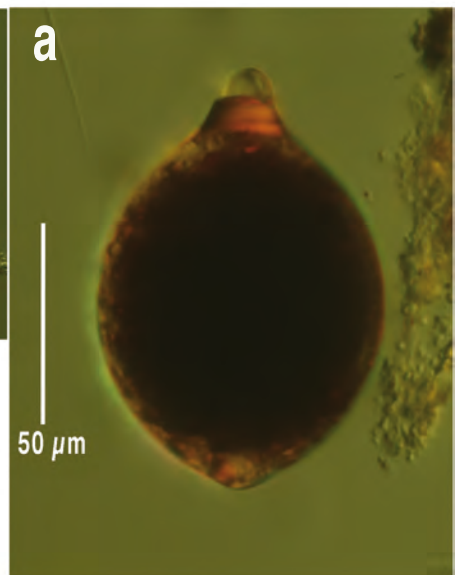
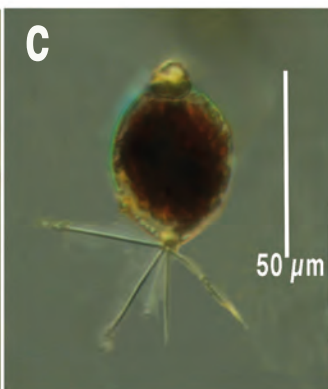
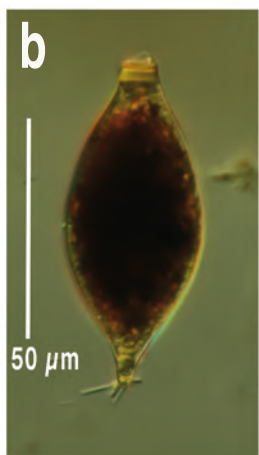
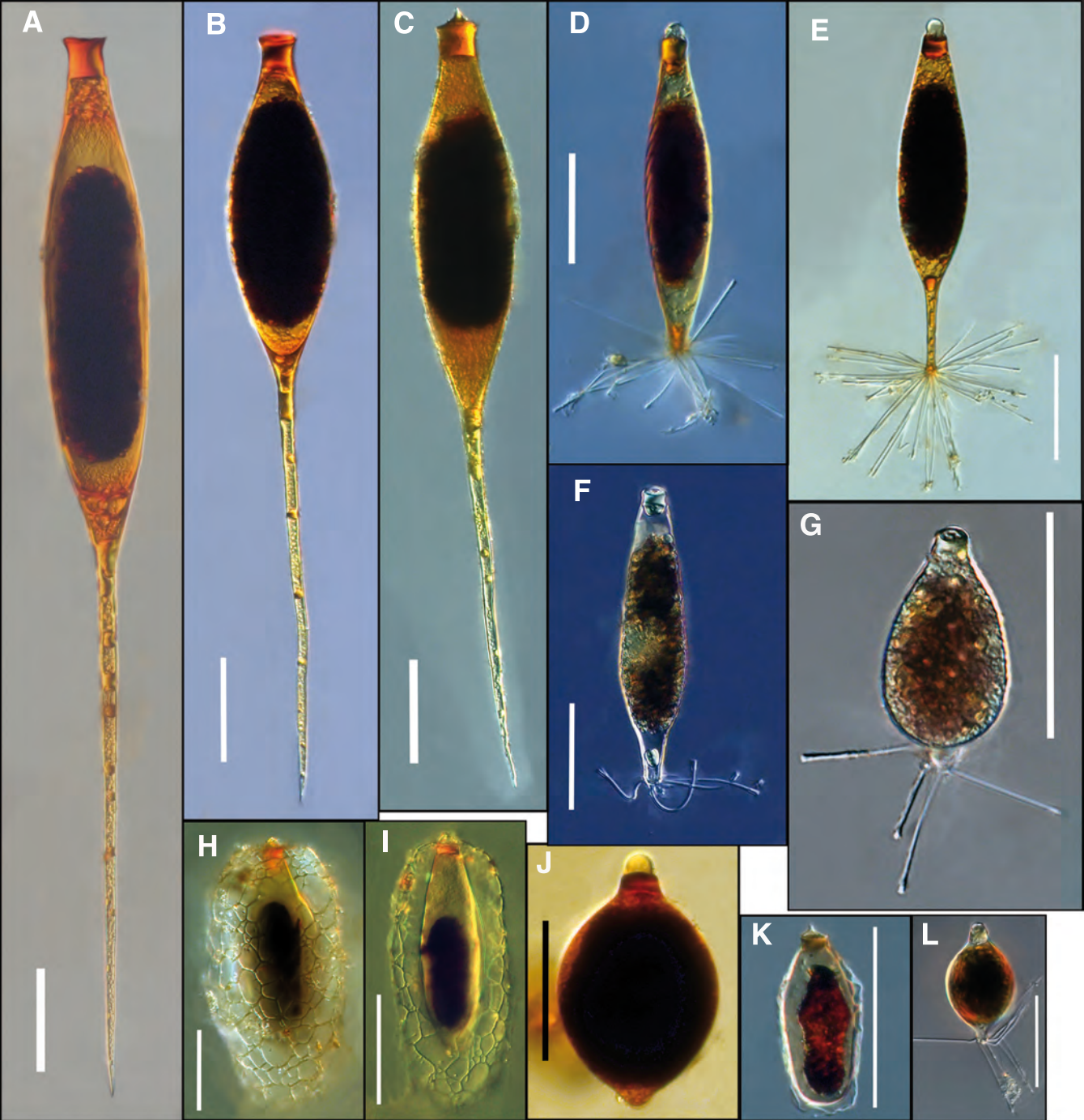
**Images e -> h** are described in 'New Observations of Papulifères, putative ciliate cysts, from the plankton of the Chukchi Sea (Western Arctic Ocean) in August of 2023'. They appear in Figure 2 and are described in Table 2.

**Plate 3** contains all drawings of Papulifère forms from Meunier 1909, 1910 and 1915 with longest dimension (exclusive of spines and filaments were present) based on the size of the illustrations in the publication, all of which are stated to be shown at 500x.

**With exception of those noted below**, all are from Meunier A., 1910. *Microplankton des Mers de Barents et de Kara. Duc d'Orléans. Campagne arctique de 1907.* Imprimerie scientifique Charles Bulens, Bruxelles. They appear in Plates 6, 7, and 23 and are described in pages 98-106.

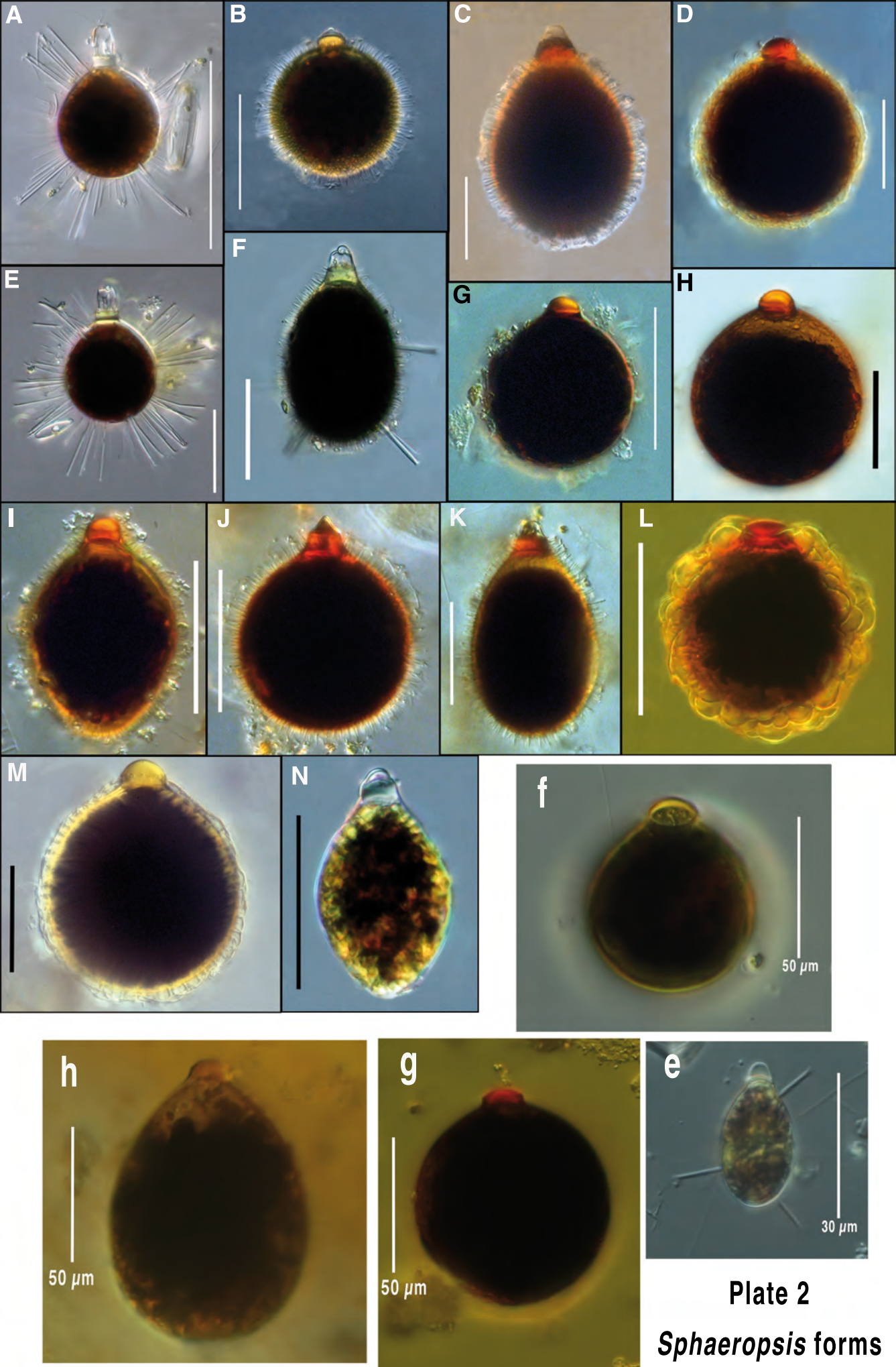
**Exceptions:** The figures "*F. sp.* 300  $\mu\text{m}$ ", "*F. sp.* 238  $\mu\text{m}$ ", "*F. sp.* 244  $\mu\text{m}$ "; "*S. sp.* 62.5", "*S. sp.* 58.1", "*S. sp.* 55.2", "*S. sp.* 49.5", "*S. sp.* 48.8" are from Meunier A., 1919. *Microplankton de la Mer flamande. 4me partie. Les Tintinnides et cetera. Mém. Mus. Roy. Hist. Nat. Belg.* 8: 59 p. They appear in Plate 23 and are discussed on page 43.

**Exceptions:** The figures in the *Fusopsis* section "oeuf 78  $\mu\text{m}$ ", "oeuf 44.7  $\mu\text{m}$ " and the figure in the *Sphaeropsis* section "oeuf 44.2  $\mu\text{m}$ " are from Meunier, A. 1909. Appendice V. Notice sur la florule des neiges et des glaces de la Mer de Kara. in Orléans, Philippe. 1909. *La Revanche de la Banquise: un été de dérive dans la Mer de Kara juin-septembre 1907.* Plon, Paris, pp. 272- 285. They are shown in the plate (left panel) and mentioned on page 281.



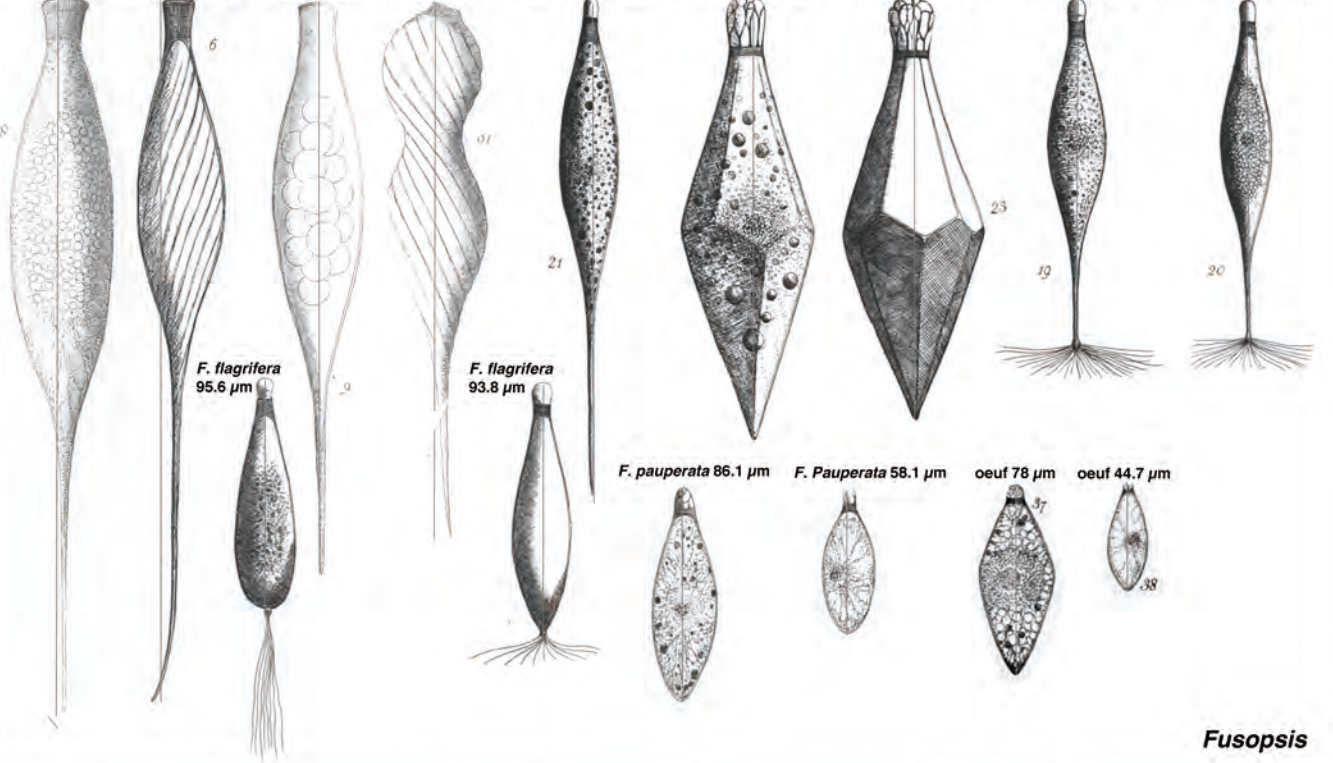
**Plate 1**  
***Fusopsis* forms**





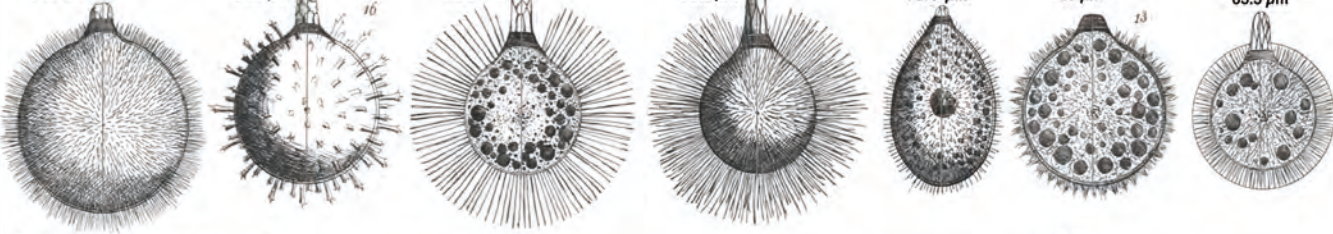


*F. sp.* 300  $\mu\text{m}$  *F. spiralis* 280  $\mu\text{m}$  *F. sp.* 238  $\mu\text{m}$  *F. sp.* 224  $\mu\text{m}$  *F. elongata* 201  $\mu\text{m}$  *F. polyedra* 179  $\mu\text{m}$  *F. polyedra* 172.7  $\mu\text{m}$  *F. umbricata* 141  $\mu\text{m}$  *F. umbricata* 138  $\mu\text{m}$

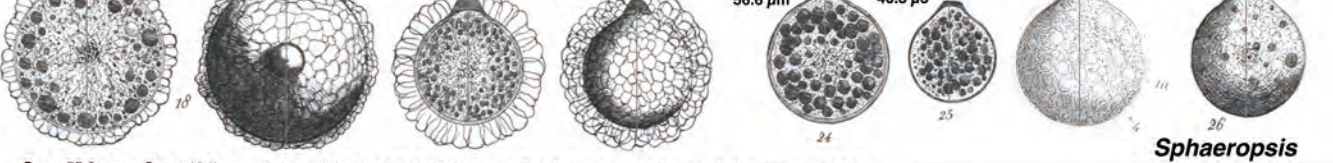


**Fusopsis**

*S. brevisetosa* 84.5  $\mu\text{m}$  *S. echinata* 80.8  $\mu\text{m}$  *S. longisetosa* 76.3  $\mu\text{m}$  *S. longisetosa* 75.8  $\mu\text{m}$  *S. elliptica* 73.4  $\mu\text{m}$  *S. nivalis* 69  $\mu\text{m}$  *S. nimbata* 63.3  $\mu\text{m}$

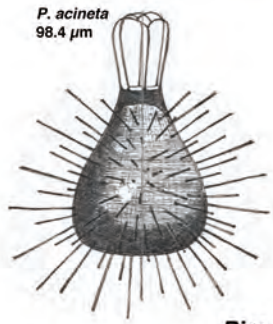


*S. spumosa* 69.2  $\mu\text{m}$  *S. Spumosa* 66.4  $\mu\text{m}$  *S. spumosa* 53.3  $\mu\text{m}$  *S. spumosa* 52.3  $\mu\text{m}$  *S. levigata* 56.6  $\mu\text{m}$  *S. levigata* 40.8  $\mu\text{m}$  *S. sp.* 62.5  $\mu\text{m}$  *S. sp.* 58.1  $\mu\text{m}$



**Sphaeropsis**

*S. sp.* 55.2  $\mu\text{m}$  *S. sp.* 49.5  $\mu\text{m}$  *S. sp.* 48.8  $\mu\text{m}$  oeuf 44.2  $\mu\text{m}$  *S. heterosetosa* 38.7  $\mu\text{m}$  *S. heterosetosa* 38.5  $\mu\text{m}$



*P. polita* 58.9  $\mu\text{m}$  *P. polita* 61.8  $\mu\text{m}$  *P. reticulata* 68.1  $\mu\text{m}$  *P. reticulata* 68.3  $\mu\text{m}$

*P. minta* 27.9  $\mu\text{m}$

**Piroopsis**