

## BRIEF COMMUNICATIONS

### A NEW LAGYNIUM SPECIES (CHRYSOPHYCEAE)

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#### SUMMARY

*Lagnium spiniferum* n. sp., characterised by delicate spines on its lorica, is described. It was found growing in the mucilage investment of *Draparnaldia plumosa* collected from a peat pond in the Western part of The Netherlands.

#### OBSERVATIONS

In periphyton samples, taken in June 1976 from reed stems in the Botshol, a peat pond nine km South of Amsterdam, several large (one to three cm) thalli of *Draparnaldia plumosa* (Vauch.) C. A. Agardh were present. The copious fluid mucilage surrounding these algae turned out to contain three Chrysophyceae: *Chrysosphaera* sp., *Stylococcus aureus* Chod., and a *Lagnium* species. Loricae of the latter were distributed freely throughout the mucilage.

When observed with the aid of phase- and interference contrast optics, the *Lagnium* loricae were found to possess extremely delicate, irregularly placed and sometimes bifurcated spines of varying length.

In *fig. 1*, a view is presented of the complete alga; in *fig. 2* an empty lorica is depicted to show the distribution, shape and length of spines. *Fig. 4* is an interference contrast photograph of a live cell showing spines; *figs. 5* and *6* are phase contrast views of resp. an empty lorica showing spines and a live cell showing branched rhizopodium.

This alga could not be identified with any described species; from drawings and a description, prof. Bourrelly kindly confirmed it to be new to science.

#### DIAGNOSIS:

***Lagnium spiniferum* species nova.**

Lorica globosa, 7  $\mu\text{m}$  lata, pariete claro, collo cylindrico, 1.5  $\mu\text{m}$  lato et 1  $\mu\text{m}$  alto. Paries loricae ornata spinis paulis, delicatissimis, ad 5  $\mu\text{m}$  longis, nunquam bifurcatis. Cellula loricam fere replens, chloroplasto uno parietali bilobato, luteo-brunneo. Duae vacuolae contractibiles in parte basali; guttae olei atque vacuola leucosinis etiam observatae. Rhizopodium ad 25  $\mu\text{m}$  longum, in finem ramosum. Zoosporae nec cystae observatae sunt.

Provenit e stagno "Botshol" prope oppido Abcoude, in strato mucoso *Draparnaldiae plumosae* libere distributum.

Iconotypus est figura nostra 1.

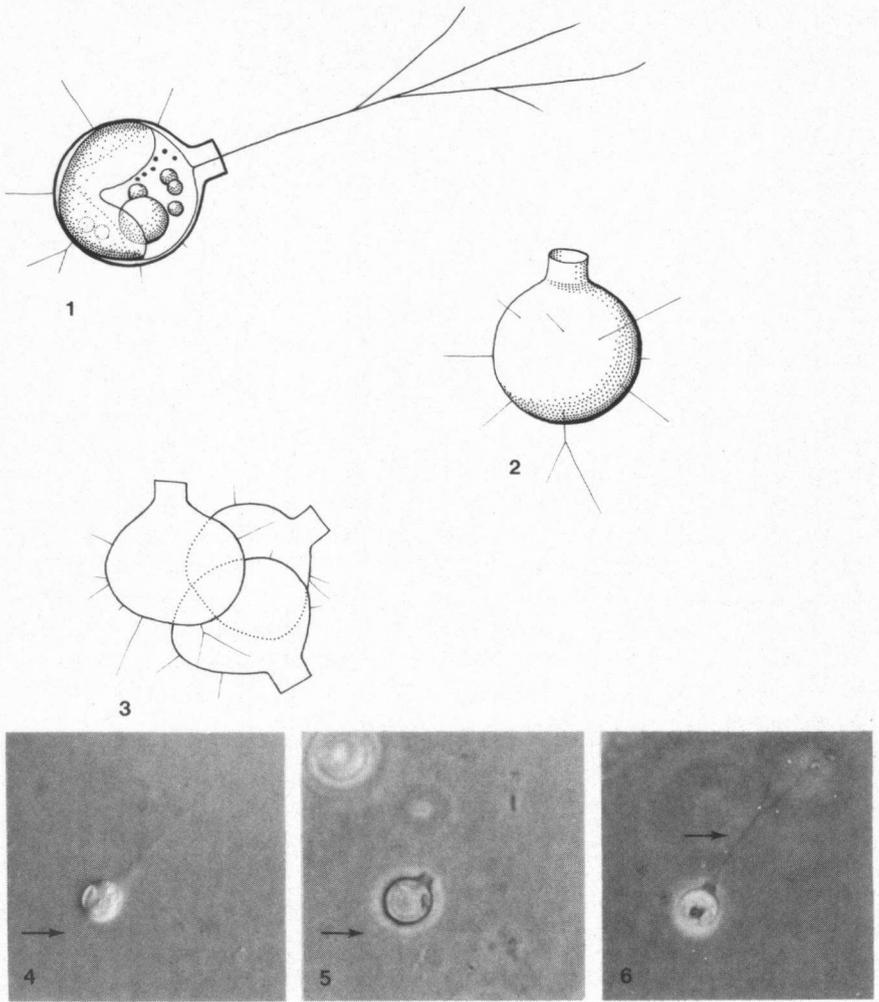


Fig. 1. Iconotype. Lorica with cell, showing bilobed chloroplast, contractile vacuoles located in lower part, leucosin vacuole, oil droplets and long rhizopodium branched at end.

Fig. 2. Empty lorica showing irregularly distributed spines and variation in spine length.

Fig. 3. Three irregularly shaped, clustered loricae in mucilage of cultivated *Draparnaldia* thallus.

Fig. 4. Interference contrast photograph of live cell showing leucosin vacuole, oil droplets, chloroplast, and spines on lorica (arrow).

Fig. 5. Phase contrast photograph of empty lorica showing spines, one of which is bifurcated (arrow).

Fig. 6. Phase contrast photograph of live cell showing long, branched rhizopodium (arrow).

Lorica globose, 7  $\mu\text{m}$  wide, with clear walls and cylindrical neck 1.5  $\mu\text{m}$  wide and 1  $\mu\text{m}$  high. Lorica wall decorated with a few very slender spines, up to 5  $\mu\text{m}$  long, sometimes bifurcated.

Cell nearly filling the lorica completely, with one parietal bilobed yellow-brown chloroplast. Two contractile vacuoles in the basal part; oil droplets and a leucosin vacuole are observed as well. Rhizopodium up to 25  $\mu\text{m}$  long, branched at the end.

Zoospores nor cysts have been observed.

From the pond "Botshol" near the town of Abcoude, distributed freely in the mucilage layer of *Draparnaldia plumosa*.

Iconotype is our *fig. 1*.

Material has been deposited in the herbarium of the Free University.

The *Draparnaldia* thallus containing *Lagynion spiniferum* was cultivated for some time; this resulted in the formation of small clusters of cells showing a somewhat irregular lorica shape compared to the original state in the field (*fig. 3*). Whether the groups were the result of clustering of zoïds or of cell division preceding zoid formation and subsequent settling of zoïds near the parent cell could not be verified.

*Lagynion spiniferum* belongs in the *Eleutheropyxis* section (Bourrelly 1957) of the genus *Lagynion*. Closest relative is *Lagynion fulvum* (Scherff.) Bourr., also a globose species; its walls are decorated with minute knobs. The spines are an outstanding character for identification; they are delicate, however, and difficult to observe. Their function probably is to provide the alga with something of an anchoring in the rather fluid mucilage of its host.

#### ACKNOWLEDGEMENT

The author is indebted to prof. dr. P. Bourrelly, Paris, for confirmation of the identification.

#### REFERENCE

BOURRELLY, P. (1957): Recherches sur les Chrysophycées: Morphologie, Phylogénie, Systématique. *Rev. Algol.*, Mém. hors sér. 1, 1-412.