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Records of new phytoplankton species in the Adriatic

Nalazi novih fitoplanktonskih vrsta u Jadranu

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1. *Pseliodinium vaubanii* Sournia, new genus and new species in the Adriatic

Pseliodinium vaubanii is a rare planktonic flagellate first described by Sournia (1972) for the Nosy-Be bay in the northern Madagascar. The first Mediterranean record was reported by Jacques and Soyer (1977) for the Gulf of Lion. Pojed (1978) noted a new dinoflagellate species, unknown in the Adriatic, from the samples collected in the vicinity of the River Po delta (R_9), which Pucher-Petković determined as *Pseliodinium vaubanii* Sournia (personal communication). Marasović reported two more findings of this species in the port of Šibenik (middle Adriatic) and in the vicinity of the port of Kardeljevo (middle Adriatic). These new records indicate that *P. vaubanii* has dispersed widely in the Adriatic even though only its single records are reported.

In comparing the localities from which this species has been recorded it was observed that they all were in the vicinity of river mouths. Our first assumption was that freshed sea water areas were favourable for these organisms. However, on this basis of the salinity and temperature data we have had available for the Gulf of Lion, and the areas of Kardeljevo and Šibenik, where salinity ranged from 37,65‰ to 38,52‰ and temperature from 15°C to 21,62°C it is apparent that *P. vaubanii* is not necessarily dependent on freshed sea water, as we assumed earlier. The occurrence of *P. vaubanii* may probably be dependent on the quantity of nutrient matter or may be increased quantity of microconstituents what should be established by further experiments. In, general from an ecological point of view this species is little known since all the papers deal with its systematics which has not yet been agreed upon. Sournia (1972) helds that this species is

similar to the *Pirocystis hamulus* species, while Jacques and Soyer (1977) believe that it belongs to the Noctilucacae family. The most recent unpublished investigations of Sournia will probably throw some light on this problems.

We recorded this species from the Šibenik area ($Š_1$ station) at 10 m depth, 21,62°C and 38,18‰ salinity on October 21, 1981 and from the Kardeljevo area (P_1 station) at 20 m depth, 17,53°C and 38,52‰ salinity on July 13, 1982 (Fig. 1).*

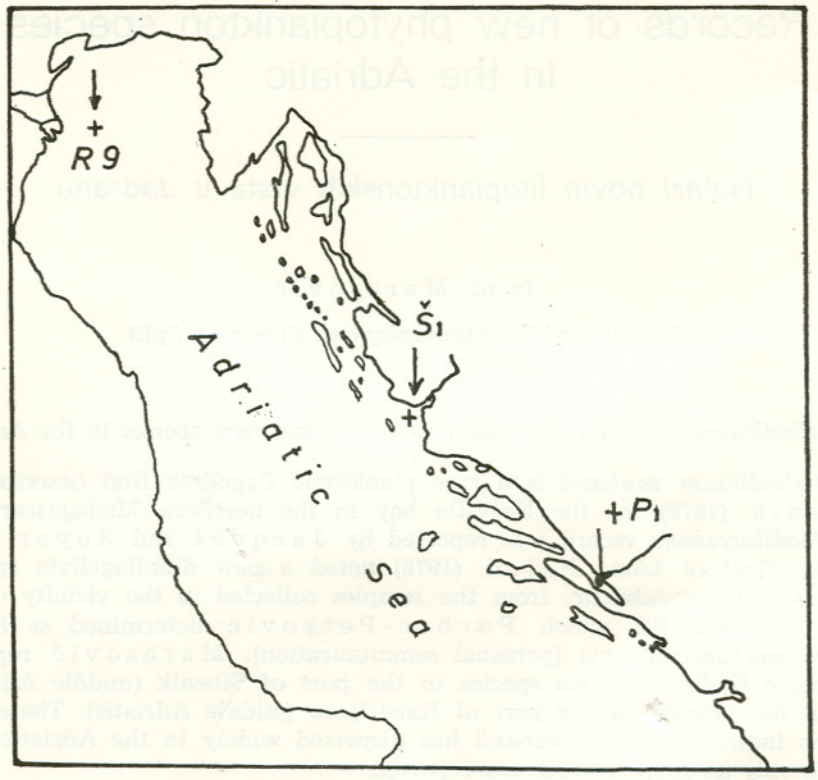

Fig. 1. — Chart of records of *Pseliodinium vaubanii* Sournia and *Corethron pelagicum* Brun in the Adriatic Sea.

Description of *Pseliodinium vaubanii*, Sournia species (Dinoflagellate, Dinophyceae, ? ? ?):

Cell of sphaerical body with two long, more or less curved arms of open bracelet form. Girdle separates the cell into two almost identical parts. Arm tips are markedly thickened and rounded. Surface of cell with no tabulation, membrane thin thus that nucleus is clearly visible. Granulated cell structure. Since granules are yelouwish-brown, Sournia holds that they are probably chromatophores. Flagellum not visible.

* Several specimens of *Pseliodinium vaubanii* species were recorder from the Gulf of Trieste while the paper was in press.

Body lenght 57 μm, width 45 μm, arms lenght about 52 μm (owing the arms distortion their lenght could not be accuratly measured) (Fig. 2).

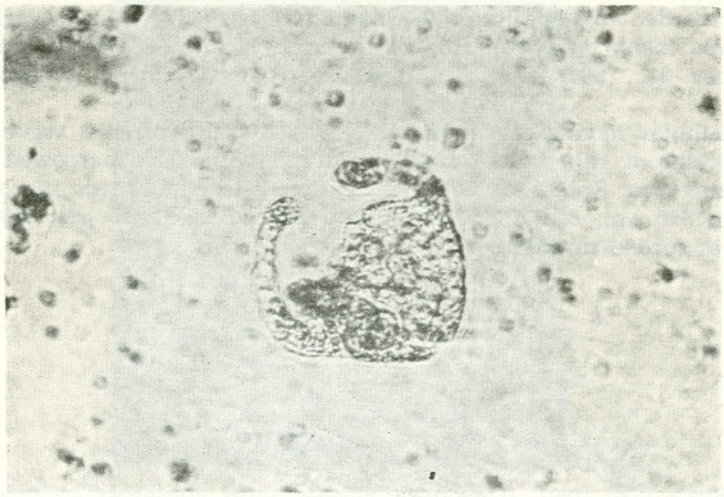

Fig. 2. — *Pseliodinium vaubanii* Sournia, Kardeljevo, July 13, 1982, 20 m depth.

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/I. — Espèces rares ou nouvelles du phytoplancton/. Cah. O.R.S.T.O.M., sér. Océanogr., 10, (2): 151—159.

2. *Corethron pelagicum* Brun, new genus and new species in the Adriatic

A phytoplankton species, not known in the Adriatic up to now, has been determined from the material collected from the area of coastal middle Adriatic in autumn 1981. After Hustedt (1930) this is the *Corethron pelagicum* Brun species (Bacillariophyceae, Bacillariales, Melosiraceae, Corethron).

Corethron genus received specific status by many plantologists since it is a perfect example of a genus which undergoes a great amount of morfological variations according to the environmental conditions under which it lives. Hendey (1937) decided that all the species of *Corethron* genus described so far were only ecological forms and synonyms of the species *Corethron cryophilum* Castracane. This author believes that this is the case of a polyphasic species-system, and can only be understood correctly if the species is conceived as an orbital system in a space time continuum.

Corethron genus is far better represented in the southern hemisphere than in the northern hemisphere. It is predominantly a colder water species.

Small number of specimens has been very rarely recorded from the Mediterranean (P a v i l l a r d, 1916). This recorded from the Gulf of Lion, Pavillard reported as *Corethron cryophilum* Castracane, believing that it is the synonim of *Corethron pelagicum* Brun species.

We recorded this species from Šibenik station ($Š_1$) in the central Adriatic. Sample was taken by a sampling bottle from 10 m at 38,5‰ Sal. and 21°C T on October 21, 1981. (Fig. 1.) Description of *Corethron pelagicum* Brun species:

Cell tubular having dome-shaped valves. Margins of each valve furnished with a circlet of thin spines slightly curved which are narrowed from the basis to the tops. Spines of both valves are directed towards the same pole. Cell lenght 40 μm, cell diameter 39 μm. Spine lenght 45 μm. Round chromatophores spread throughout the cell (Fig. 3, 4, 5).

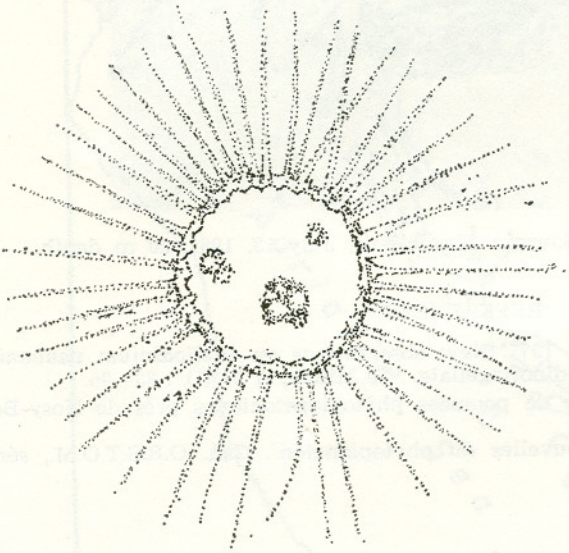

Fig. 3. — *Corethron pelagicum* run, valve view.

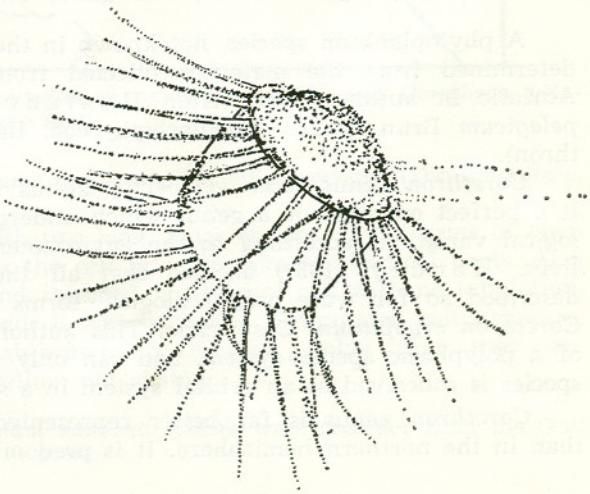

Fig. 4. — *Corethron pelagicum* run, girdle view.

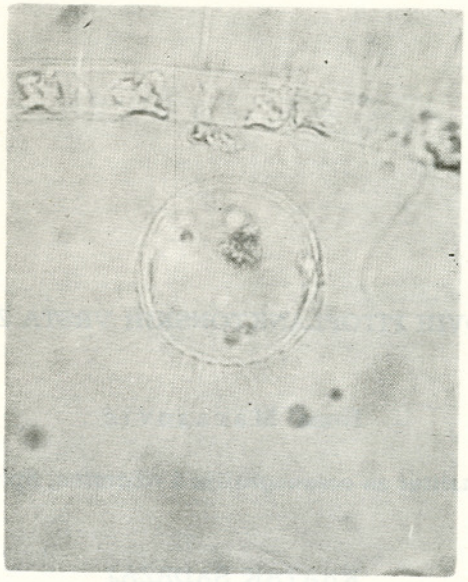

Fig. 5. — *Corethron pelagicum* Brun, Šibenik, October 21, 1981, 10 m depth.

This description is almoust in full agreement with the Hustedt (1930) description of *Corethron pelagicum* Brun species. The only difference is that Hustedt mentioned two spine types (long ones and short ones) as distinct from one spine type we found. Hendey (1937) showed that the absence of short spines in the *Corethron* genus was of little significance for its determination since the spine types, their number, lenght and thickness as well as cell lenght and the deegre of valve convexity were fully dependent on the season and area this species inhabited.

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NALAZI NOVIH FITOPLANKTONSKIH VRSTA ZA JADRAN

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KRATAK SADRŽAJ

U radu se donose podaci o nalazima novih fitoplanktonskih vrsta u Jadranskom moru i to *Pseliodinium vaubanii* Sournia (dinoflagelat) i *Corethron pelagicum* Brun (dijatomeja).

Ujedno se pojava novih vrsta pokušava sagledati i s ekološkog aspekta, ali se na temelju malog broja nalaza nisu mogli donijeti neki čvršći zaključci.

BILJEŠKE-NOTES izdaje Institut za oceanografiju i ribarstvo, Split; izlaze povremeno. Odgovorni urednik: Mira Zore-Armanda. Naklada 450 primjeraka.
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