KNJIGA XVII TOME XVII

ВЕСНИК

ЗАВОДА ЗА ГЕОЛОШКА И ГЕОФИЗИЧКА ИСТРАЖИВАЊА НР СРБИЈЕ

BULLETIN

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Nekoliko problematičnih mikrofosila iz dinarske krede

(sa 3 table)

RAJKA RADOIČIĆ

Nije rijedak slučaj da se u preparatima uz poznate mikrofosile nalaze i izvjesni oblici čiji nam sistematski položaj nije poznat. Vremenom se uoči da mnogi od takvih problematičnih mikrofosila imaju i stratigrafsku vrijednost što iziskuje da budu prikazani i opisani. Takav je slučaj sa oblicima koji su zapaženi u krednim sedimentima jugoslovenskih Dinarida.

SISTEMATSKI OPIS

MIKROFOSILI INCERTAE SEDIS

Rod **Sutivania** nov. gen.

Člankoviti mikrofosili vjerovatno biljnog porijekla čiji krečnjački skelet gradi elemente slične septama kod korala radijalno raspoređene oko centralne šupljine.

Genotip: *Sutivania likvae* nov. sp., mastriht ostrva Brača.

Sutivania likvae nov. sp.

(Tabla I, sl. 1—3)

Elementi krečnjačkog skeleta smješteni radijalno oko centralne šupljine grade segmentirane mikrofosile maksimalne dužine oko 2,00 mm., pri čemu se visina pojedinih segmenata kreće između 0,240 — 0,400 mm. U poprečnom presjeku segmenti pokazuju nepravilno kružan do eliptičan presjek dijametra u granicama između 0,600 × 0,320 i 0,800 × 0,600 mm., sa 20 do 25 radijalnih elemenata koji su katkad prema unutrašnjosti spojeni na manjoj ili većoj dužini. Zapaženi su oblici sa najviše 6 segmenata.

Holotip: Primjerak na tabli I, sl. 3 iz mastrihtskih krečnjaka okoline Sutivana na Braču. Preparat br. 422—57.

Paratipovi: Primjerci ove vrste u istom preparatu (tabla I, sl. 1 i 2).

Rod **Aeolisaccus** Elliott, 1958

Aeolisaccus kotori nov. sp.

(Tabla II, sl. 2)

Uzane krečnjačke cjevčice debelog zida sa uzanom centralnom šupljinom otvorene su na jednom kraju (ukoliko se ne radi o oštećenim primjercima). Osa obično malo izvijena. Maksimalna dužina koja je posmatrana iznosi oko 0,780 mm; najčešći su, međutim, primjerci dužine do 0,500 mm. Dijametar 0,032—0,080 mm., prosječno oko 0,064 mm., dijametar centralne šupljine 0,010—0,024 mm.

Holotip: Primjerak prikazan na tabli II, sl. 1 (vertikalan prjesjek) iz senonskih krečnjaka Dugog Otoka. Prep. br. 518—58.

Paratipovi: Mnogobrojni presjeci ove vrste u istom preparatu.

Stratigrafski nivo i rasprostranjenje: *Aeolisaccus kotori* javlja se u izvanrednom obilju kroz čitav senon. Nije pouzdano utvrđeno da li se javlja i u najmlađim horizontima turona. Spada svakako u najučestalije senonske mikrofosile primorskih oblasti, a rijedak je slučaj da se u preparatima pored njih ne nalazi i *Thaumatoporella parvovesiculifera* (Rain). Do sada je konstatovan u mnogobrojnim lokalnostima spoljašnjih Dinarida gdje god su senonski sedimenti mikropaleontološki proučavani, izuzimajući krečnjake tipa kalkarenita, orbitoidske krečnjake i krečnjake sa globotrunkanama u kojima se ovi fosili ne nalaze.

Primjedba: *A. kotori* upadljivo se razlikuje debljinom zida i uzanom centralnom šupljinom od jedino poznate vrste roda *Aeolisaccus* — *A. dunningtion* Elliott. Rijetki pravi aksialni presjeci pokazuju da su cjevčice vrste *A. kotori* otvorene samo na jednom kraju a postepeno sužene i zatvorene na drugom što nije utvrđeno kod vrste *A. dunningtoni* premda to neki subvertikalni presjeci sugeriraju (Elliott). U krajnjoj liniji ovo nije toliko značajno kada se radi o formalno imenovanim mikrofosilima neodređene sistematske pripadnosti čiji je oblik u osnovi sličan.

Aeolisaccus sp.

(Tabla II, sl. 2)

Male relativno široke cjevčice tankog zida — debljina zida 0,016—0,030 mm., maksimalnog dijametra 0,240 mm., i dužine 1,00 mm. Zid je izgrađen od kristalastog kalcita i često polomljen.

Tabla I

Sl. 1—3 — *Sutivania likvae* nov. sp., sl. 1 iskošen poprečni presjek; sl. 2 poprečan presjek, × 66; sl. 3 tangencijalan vertikalan presjek i poprečni presjeci, × mastrihtski krečnjaci Brača, prep. 422—57.

Snimci: Đ. Cekić

Plate I

Fig. 1—3 — *Sutivania likvae* nov. sp., fig. 1 section oblique and transverse; fig. 2 transverse, × 66; fig. 3 sections vertical-tangential and transverse, ×, Maestrichtian, Brač, thin slide no. 422—57.

Photo: Đ. Cekič

sl. 1

sl. 2

sl. 3

Tabla II

Sl. 1 — *Aeolisaccus kotori* nov. sp., različiti presjeci, × 102 senon Dugog Otoka, preparat 518—58.

Sl. 2 — *Aeolisaccus* s p., vertikalni presjeci, × 27,5, cenoman okoline Titograda, preparat 984—57.

Snimci: Đ. Cekić

Plate II

Fig. 1 — *Aeolisaccus kotori* nov. sp., various sections, × 102, Senonian, Dugi Otok, thin slide 518—58.

Fig. 2 — *Aeolisaecus* s p., vertical sections, × 27,5; Cenomanian, surroundings of Titograd, thin slide 984—57.

Photo: Đ. Cekić

Sl. 1

Sl. 2

Tabla III

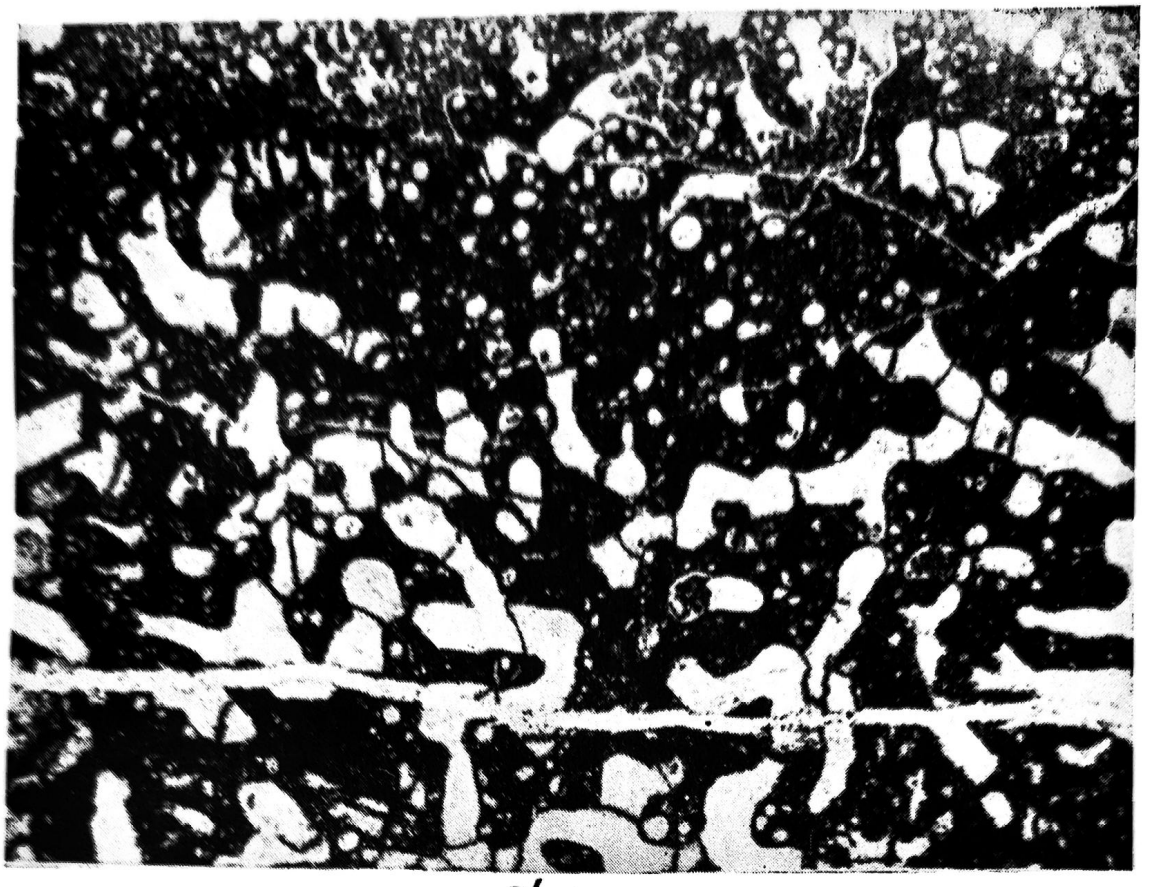
Sl. 1 2 — *Bačinella irregularis* nov. sp.; sl. 1 (× 27), barem apt Vrbasa, Bosna, prep. br. 859 — 59, sl. 2 (× 30) barem-apt okoline Bačisnkog Jezera, prep. 552—58.

Snimci: Đ. Cekić

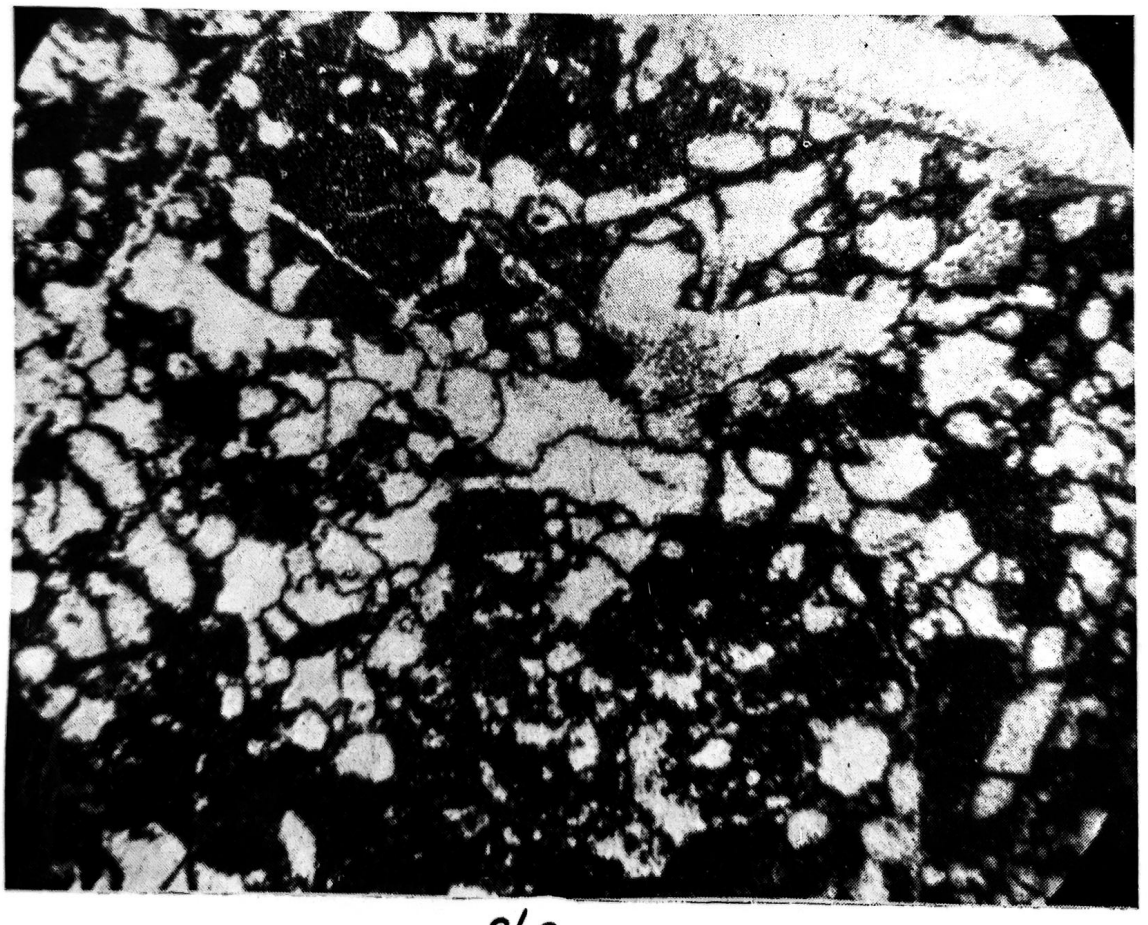
Plate III

Fig. 1—2 — *Bačinella irregularis* nov. sp.; fig. 1 (× 27) Barremian-Aptian, Vrbas, Bosna, thin slide no. 859—59; fig. 2 (× 30). Barremian-Aptian, surroundings of Bačinsko Jezero, thin slide 552—58.

Photo: Đ. Cekić



Sl. 1



Sl. 2

Ova vrsta roda *Aeolisaccus* Elliott sreće se u okolini Titograda u sedimentima od apta do cenomana. Znatno se razlikuje od *A. kotori* a pokazuje mnogo veću sličnost sa *A. dunningtoni* Elliott.

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Uz navedene problematične mikrofosile prikazaćemo ovom prilikom i jednu interesantnu i stratigrafski vrijednu algu koju zasad svrstavamo u *Algae incertae sedis*.

ALGAE INCERTAE SEDIS

Rod **Bačinella** nov. gen.

Nodularne ili koraste alge čija je unutrašnjost izrađena od nepravilnih ćelija različite veličine i oblika ispunjene su kristalastim kalcitom dok je međućeliska masa kriptokristalasta. Subdermalna struktura izdiferencirana.

Genotip: *Bačinella irregularis* nov. sp., barem-apt doline Vrbasa, Bosna. Preparat br. 895—59.

Bačinella irregularis nov. sp.

(Tabla III, sl. 1—2)

Ćelije različite veličine i nepravilnog oblika ispunjene kristalastim kalcitom i poređane u skupine ili u neku vrstu nepravilnih nizova koji se prepliću, sačinavaju sa međućeliskom kriptokristalastom masom unutrašnju građu nodularnih ili korastih algi čije spoljašnje konture u preparatima obično nedostaju ili su nejasne. Izuzetno je sačuvan subdermalni sloj koji je manje ili više postupno izdiferenciran od unutrašnje strukture pri čemu kriptokristalasta masa sve više preovlađuje i nosi najčešće sitnije kružne ćelijice ili pokazuje subdermalnu strukturu sličnu onoj kod vrste *Lithocodium aggregatum* Elliott (Elliott, 1956, pl. I, fig. 4).

Holotip: Primjerak na tabli III, slika 1, iz barem aptskih krečnjaka doline Vrbasa, Bosna. Preparat br. 895—59.

Ostali materijal: Mnogobrojni primjerci ove vrste u preparatima koji potiču iz barem-apta okoline Titograda, Nikšića, Bačinskog jezera, Drniša, Knina, sa ostrva Mljeta i poluostrva Pelješca. Van dinarskih terena *B. irregularis* konstatovana je i u nekim lokalnostima istočne i južne Srbije.

U donjekrednim slojevima citiranih lokalnosti *B. irregularis* javlja se u asocijaciji bilo sa različitim sitnim foraminiferama u slojevima sa *Salpingoporella dinarica* Radoičić, bilo sa orbitolinama (*O. discoidea* Gras, *O. lenticularis* Blumenb., *O. kurdica* Hen.), dazikladaceama (*Acicularia* sp. i dr.), kodiaceama (*Boueina hockstetteri* Toula) i drugim algolikim strukturama[1]).

(Preparati mikrofosila koji su razmatrani deponovani su u Fondu mikropaleontoloških preparata Zavoda za geol. i geof. istraživanja „Jovan Žujović" u Beogradu).

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[1]) Treba napomenuti da su i u gornjoj juri i u gornjoj kredi zapažene strukture koje veoma mnogo podsjećaju na bačinale.

SUMMARY

SOME PROBLEMATIC MICROFOSSILS FROM THE DINARIAN CRETACEOUS

R. RADOIČIĆ

In Cretaceous sediments of the Yugoslav Dinarides there were remarked some problematical microfossils being stratigraphically intersting, that they are now be presented. Besides, a new species of algae from the group Algae incertae sedis is to be named and described.

SYSTEMATICAL DESCRIPTION

Microfossils incertae sedis

Genus **Sutivania,** nov. gen.

Segment-shaped microfossils, probably of plant origin, whose calcareous skeleton constructs elements similar to septums in corals, radially distributed round the central cavity.

G e n o t y p e: *Sutivania likvae* nov. sp. Maestricht of the island of Brač.

Sutivana likvae nov. sp.

(Table I, fig. 1—3)

The elements of the calcareous skelton placed radially round the central cavity constructed segmented microfossils of a maximal lengt about 2,00 mm, at which the height of some of the segments ranges between 0,240 and 0,400 mm. cross section of the segments show unregular rounded to elyptic sections of the diameter within the limits 0,600 × 0,320 and 0,800 × 0,600 mm, with 20 to 25 radial elements that sometimes are towards interior parts connected on a smaller or greater length. There were also marked forms of 6 segments at most.

H o l o t y p e: The specimen on the table I, fig. 3 from the Maestrichtian limestones of the surroundings of Sutivan on the island of Brač. Thin slide No. 422—57.

P a r a t y p e s: Specimens of that species in the same thin slide (table I, fig. 1 and 2).

Genus **Aeolisaccus Eliott,** 1958

Aeolisaccus kotori nov. sp.

(Table II, fig. 1)

Narrow calcareous thick-walled tubes with a narrow central cavity opened at one end (if it has not to do with broken specimens), the axis gently curved. The maximal length is about 0,780 mm; The most frequent, howe-

ver, are specimens of 0,500 mm length. The diameter 0,032—0,80 mm, on the average about 0,064 mm, diameter of the central cavity 0,010 mm—0,024 mm.

Holotype: The specimen presented on table II fig. 1 (longitudinal section) is from Senonian limestones of the island of Dugi Otok. Prep. No. 518—58.

Paratypes: Numerous sections of that species in the same thin slide.

The stratigraphical level and distribution: *Aeolisaccus kotori* occurs in an extraordinary abundance throughout the whole Senonian. It has not been established definitely whether it occurs in the latest horizons of Turonian. It belongs indeed to the most frequent Senonian microfossils of the maritime areas and it is a rare case beside them not to find also *Thaumatoporella parvovesiculifera* (Rain) in the thin slides. Up to now it has been establiched in many of the localities of external Dinarides, wherever the Senonian sediments were examined micropaleontologically, excluding the limestones calcarenite type, orbitoid limestones and limestones with globotruncanas in which those fossils are not found.

Remarks: *A. kotori* is obviously differed clearly from the only known species of genus *Aeolisaccus* — *A. dunningtoni* Elliott by the thickness of its wall and by the narrow central cavity. The rare true axial sections show that the small tubes of the species. *A. kotori* are opened at one end only, and gradually narrowed and closed at the other one — this being not established with the species *A. dunningtoni*, although it has been suggested by some off-vertical sections (Elliott). Nevertheless, that is not so important when dealing with formally named microfossils od undetermined systematical originality, whose forms are fundamentally similar.

Aeolisaccus sp.

(Table II, fig. 2)

Small, comparatively wide and thin-walled tubes — the thickness of wall is 0,016—0,030 mm, maximal diameter 0,240 mm—1,00 mm length. The wall is constructed by crystalline calcite and often is broken.

This species of genus *Aeolisaccus* Elliott, can be seen in the surroundings of Titograd, in the sediments from Aptian to Cenomanian. It differs considerably from *A. kotori* and show much greater similarity to *A. dunnungtoni* Elliott.

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Beside those mentioned problematical microfossils, we will also present in this occassion a very interesting and stratigraphisally worthy alga which is nov being classified into *Algae incertae sedis*.

ALGAE INCERTAE SEDIS

Genus **Bačinella,** nov. gen.

Nodular and incrusted algae whose interior is constructed by unregular cells of different size and form, which are filled with crystalline calcite, whereas the intercellula mass is criptocrystalline. The subdermal structure is differenciated.

Genotype: *Bačinella irregularis* nov. sp. Barremian-Aptian of the Vrbas valley, Bosnia, thin-slide No. 895—59.

Bačinella irregularis nov. sp.

(Tabla III, fig. 1—2)

The cells of different size and unregular form, filled with crystalline calcite and arranged into association or into some sort of unregular series which are intermingled, they form, together with the intercellular criptocrystalline mass, the interior structure of the nodular or incrusted algae whos exterior contours in thin slides are usually missing or are unclear. There has been exceptionally preserved the subdermal bed which is more or less differenciated from the interior structure in which case the criptocrystalline mass is more dominant and most often carries rather small circular cells or shows subdermal structure similar to that one of the species *Lithocodium aggregatum* Elliott (Elliott, 1956).

Holotype: The specimen on table III, figure 1, from Barremian-Aptian limestones of the Vrbas Valles, Bosnia, thin slide No. 895—59.

Other material: Numerous specimens of that species in thine slides which originate from Barremian-Aptian surroundings of Titograd, Nikšić, the lake of Bačinsko Jezero, Drniš, Knin, from the island of Mljet and peninsula of Pelješac. Outside the Dinaric region, there was established *B. irregularis* also in certain localities of Eastern and Southern Serbia.

In Lower Cretaceous beds of the mentioned localities, *B. irregularis* occurs in associations either together with different small foraminiferas in the beds together with *Salpingoporella dinarica* Radoičić, or with orbitolines (*O. discoidea* Gras., *O. lenticularis* Blumenb. *O. kurdica* Hen.), with dacyclads (*Acicularia sp.* etc.), with kodiaceas (*Boueina hockstetteri* Toula) and other alga-like structures[1]).

(The thin slides of the observed microfossils were deposited in the Collection of micropaleontological thin slides of the Institute for Geological and Geophysical Research, „Jovan Žujović " in Beograd).

LITERATURA

Elliott F. E., 1956: *Further records of the fossil calcareous algae from the Middle East.* — Micropaleontology, vol. 2, no. 4.

Elliott F. E., 1958: *Fossil microproblematica from the Middle East.* — Ibid. vol. 4, no. 4.

[1]) Some structures reminding Bačinella very runch were noticed also in the Upper Jurassic and Upper cretaceons lately.

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