

PIANELLA TURGIDA N. SP.
FROM THE CENOMANIAN OF THE OUTER
DINARIDS

With 1 figure and 5 plates

A new species of the genus *Pianella* is described, having an ovoid thallus and funnel-like outgoing branches of a circular section. It is found in the Cenomanian of the island of Mljet and the mountains of Southern Herzegovina and Montenegro.

Besides the standard foraminiferal fauna (*Cuneolina*, *Valvulammina*, *Orbitolinidae*, *Nummoloculina*, other *Miliolidae*, etc.), Cenomanian beds of the Outer Dinarids sometimes also contain numerous algae, particularly *Dasycladaceae*. So, in addition to the species *Triploporella fraasi* Steinmann, representatives of the genera *Neomeris* Lamouroux, *Cylindroporella* Johnson, *Salpingoporella* Pia, have also been determined in these sediments, further on one dasyclad form of unknown genus,¹ as well as a new species of the genus *Pianella* Radoičić,² being described here.

Family *Dasycladaceae*

Tribus *Diploporeae*

Genus *Pianella* Radoičić, 1962

Pianella turgida n. sp.

Plate I-IV

Origin of the name: derived from *turgidus* (lat.) = turgid, its dumpy thallus being rather conspicuous.

Syntypes: specimens represented in figures 1 (A) in plate III, 2 (A) in the plate I, 1-4 in plate II, 2 (A) in plate III, and 1 in plate IV. Slides 1859 to 1862-59, Collection of the Institute for geological and geophysical investigations in Beograd.

¹ This dasyclad form, some sections of which have a likeness to those of *Acicularia*, are designated in internal reports with D-21.

² Designated in internal reports with D-19.

Type locality: Haven Sovra (north of the settlement) in the island of Mljet.

Description: The remains of a bulgy thallus with rather a large axial cavity, its diameter being roughly one third of the thallus diameter. Branches are distributed into dense alternating whorls, and generally of a funnel-like shape: tubular in the proximal part, with the distal end widened in a funnel-like manner; they are gently inclined towards the axis (fig. 1).

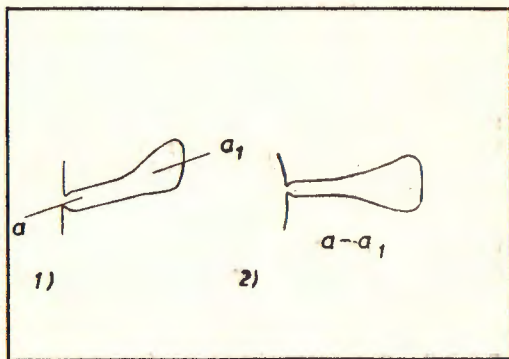


Fig. 1. The form of branch of the species *Pianella turgida* n. sp. (reconstruction). 1) axial section; 2) cross-section of the branch along the plane $a-a_1$ (relating the axis it is an oblique section).

Sl. 1. Oblik grane vrste *Pianella turgida* n. sp. (rekonstrukcija). 1) aksijalni presjek; 2) poprečan presjek grane po ravni $a-a_1$ (u odnosu na osu ovo je kos presjek).

The calcareous wall of this species is mostly rather massive. Judging from the available material, the distal part of branches must have been enclosed by it only partially. For this reason, as well as owing to the subsequent weathering, only the proximal part of branches is sometimes preserved, like those shown in fig. 2 (A), plate I, although partly preserved, funnel-like-widened parts of branches can be observed too.

The form of branches is very well illustrated on one fragment in fig. 1 (A), plate II, as well as in the approximately axial sections in fig. 3, plate II, and fig. 2, plate III. The cross-section of the thallus in most cases comprises two successive whorls: the distal part of branches of the lower, and the proximal part of branches of the upper whorl (fig. 1. and 2, plate II).

Dimensions:

The greatest observed length of thallus 2.2 mm.

Diameter of thallus from 0.57 to 2.1 mm.

Inner diameter of calcareous body from 0.22 to 0.72 mm.
Length of branches from 0.19 to 0.64 mm.
Diameter of the tubular part of branches 0.032 to 0.080 mm.
Diameter of the distal end of branches from 0.09 to 0.19 mm.
Distance between individual whorls from 0.064 to 0.13 mm.
Number of branches in one whorl from 12 to 24.

It should be pointed out that above dimensions relate to the calcareous wall, whereas the plant dimensions themselves were slightly different. For instance, the diameter of the thallus, as well as the length of branches, or the diameter of their distal end, had no doubt been somewhat larger in size than the figures given, measured on the calcareous wall.

Stratigraphical and geographical distribution: *Pianella turgida* n. sp. comes from Cenomanian beds – in fact, it is restricted to a narrow section of the Cenomanian horizon which, according to our present knowledge, does not exceed the thickness of several metres, and most probably corresponds to the Middle or Upper Cenomanian. In some profiles this horizon lies about 150 m. below Turonian beds with Chondrodonts. Limestones with *Pianella turgida* contain numerous Foraminifera (fig. 1, plate V): *Nummoloculina heimi* Bonet and other miliolids, *Cuneolina* sp., *Valvulammina* sp., pseudochrysalinids, orbitolinids, etc., as well frequent microgastropods, among which the species *Nerinea gemifera* Coquand, *Nerinea* cf. *nölingi* Böhm, and *Plesioptixis* cf. *gulistanensis* Pčelincev, have been identified by O. Marković. Other *Dasycladaceae* rarely occur associated with this species – D-21 in some cases. It is interesting to note that shells of gastropods in limestones of the type locality on Mljet had been attacked by a perforating alga (fig. 2, plate V).

Besides on the island of Mljet Cenomanian sediments with *Pianella turgida* n. sp. are also known to be present in the area of the Orjen and Bijela Mountains, as well as in a number of localities in Montenegro (Banjani, south of the Prekornica Mountain, wider surroundings of Nikšić, the ancient Montenegro).

Similarities and differences: Our species is most closely related to the species *Pianella gigantea* (Carozzi). The likeness is especially great when oblique sections of smaller forms of both our species and the species *Pianella gigantea* are compared. Otherwise, *Pianella turgida* n. sp. can be clearly distinguished by the bulgy shape of the thallus from the species *Pianella gigantea* having the thallus of a cylindrical shape; another difference consists in the form of branches: in tangential or oblique sections the *Pianella turgida* always exhibits circular to oval branch sections, whereas the more shallow and deeper tangential sections of *Pianella gigantea* are generally more or

less polygonal in shape. Funnel-like widening only of the distal part of branches is a further characteristic of the species *Pianella turgida*.

Remarks: As can be seen from the given dimensions, this species comprises forms of highly varying sizes (compare the minute forms in fig. 1, plate III, and fig. 2, plate I, with the large ones in fig. 1 (A), plate I). The most frequent, however, are forms whose size is about the average of the listed values; the extremely small forms (first figures) come but very rarely. In fact, no essential difference exists between very small and larger forms, except that the first mentioned, which is quite normal, have a smaller number of branches. Thus, in the material from the type locality we have a number of forms of different dimensions, from extremely minute to rather large ones, those of medium size being predominant. For this reason they may be considered, in my opinion, as only one species. I also believe it would be useful if, in this connection, a discussion should start as to whether the separation of new species of Dasycladaceae, based on their size only, can be justified.

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- Radoičić, R. 1963, O jednoj novoj gornjojurskoj dazikladacci *Pianella grudii* nov. gen., nov. sp. Vesnik Zav. geol. geof. istraž. (A) 20, Beograd.

R. RADOIČIĆ

PIANELLA TURGIDA N. SP. IZ CENOMANA SPOLJAŠNJIH DINARIDA

Cenomanski slojevi spoljašnjih Dinarida uz standardnu foraminifersku faunu (ku-neoline, valvulamine, orbitolinide, numolokuline, druge miliolide itd.) sadrže katkada i brojne alge, osobito dazikladacee. Iako su, pored vrste *Triploporella fraasi* Steinmann, u ovim sedimentima konstatovani i predstavnici rodova *Neomeris* Lamouroux, *Cylindroporella* Johnson, *Salpingoporella* Pia, zatim jedna dazikladacea nepoznate rodovske pripadnosti (u internim izvještajima označavana kao D-21), kao nova vrsta ovdje je opisana *Pianella turgida* (u internim izvještajima ona je nosila oznaku D-19).

Pianella turgida n. sp. pokazuje najveću sličnost sa vrstom *Pianella gigantea* Carozzi od koje se izdvaja oblikom talusa i oblikom grana. Ova sličnost, međutim, dolazi najviše do izražaja kada se radi o kosim presjecima sitnijih individua i jedne i druge vrste.

Nova vrsta obuhvata oblike veoma varijabilne veličine. U vezi sa tim, kao i sa pojavom da se u posljednje vrijeme često izdvajaju nove vrste samo na osnovu izvjesnih razlika u dimenzijama, autor smatra da bi bilo veoma korisno pokrenuti diskusiju o tome da li je opravdano izdvajanje novih vrsta dazikladacea samo na osnovu razlika u veličini.

Pianella turgida opisana je iz cenomanskih krečnjaka ostrva Mljeta, a poznata je također i iz brojnih lokalnosti u južnoj Hercegovini i Crnoj Gori. Ovi krečnjaci, koji u nekim profilima leže oko 150 metara ispod turonskih slojeva sa hondrodon-tama, sadrže pored mnogobrojnih foraminifera i dosta učestale mikrogastropode među kojima je O. Marković determinisala vrste *Nerinea gemifera* Coquand, *Nerinea* cf. *nötlingi* Böhm i *Plesioptixis gulistanensis* Pčelincev.

Primljeno 20. 4. 1964.

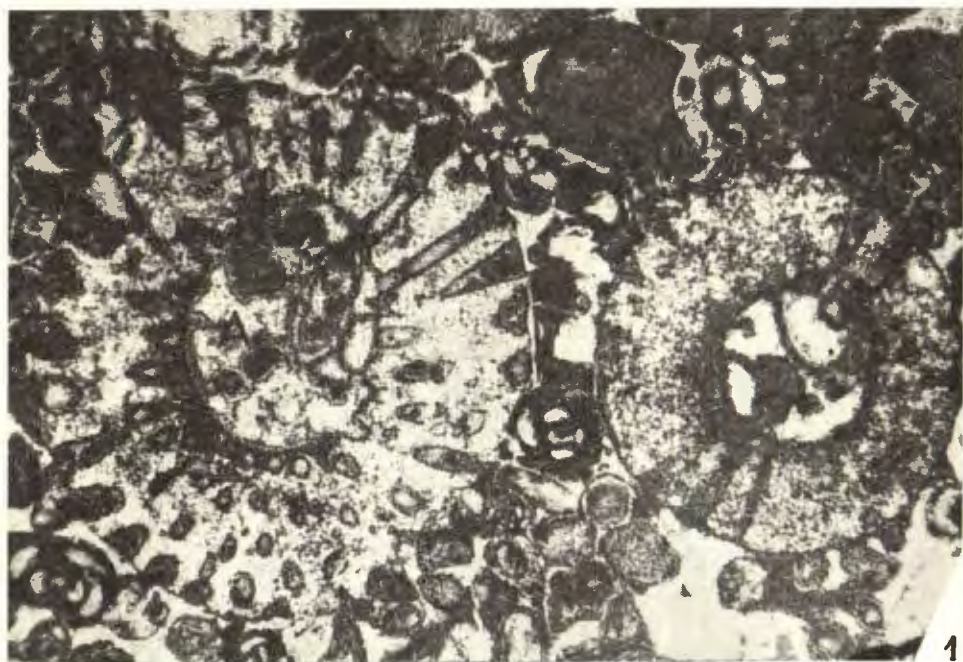
Zavod za geološka i geofizička istraživanja
Beograd, Karadorđeva ul. 48

PLATE - TABLA I

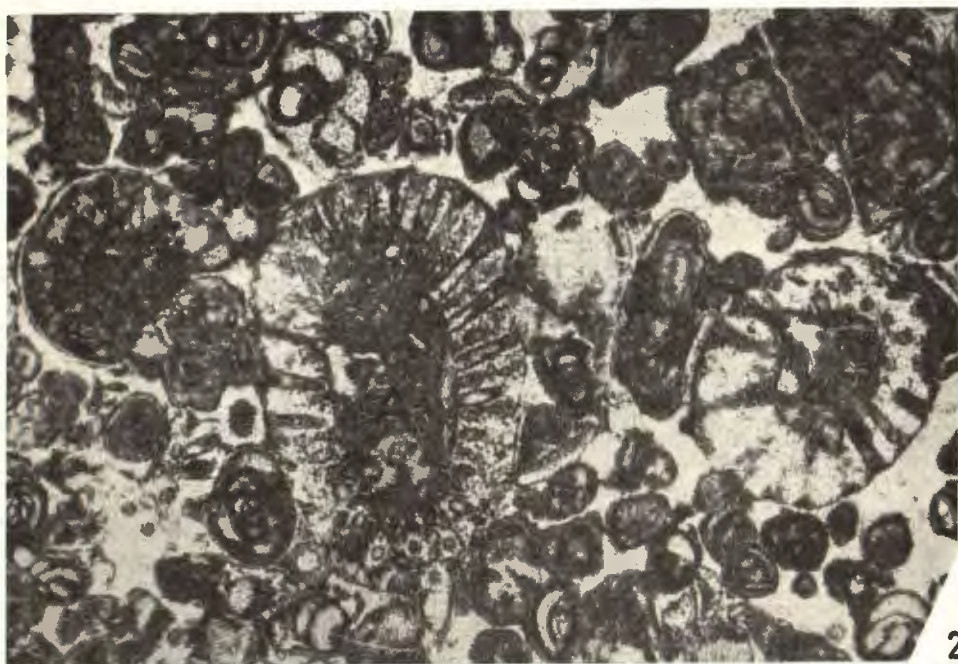
1, 2. *Pianella turgida* n. sp. ($\times 55$)

1. Slightly oblique cross-sections. Malo iskošeni poprečni presjeci. Slide (izbrusak) No. 1859-59.
2. Oblique-axial (A) and oblique section. Iskošeno-aksijalni (A) i kosi presjek. No. 1862-59.
1 A, 2 A - syntypes (sintipovi).

Locality (lokalnost): Mljet, North of Sovra (sjeverno od Sovre).



1



2

PLATE - TABLA II

1-4. *Pianella turgida* n. sp. Syntypes (sintipovi). No. 1861-59. ($\times 55$).

- 1, 2. Slightly oblique cross-sections. Malo iskošeni poprečni presjeci.
3. Oblique-axial section. Iskošeno-aksijalni presjek.
4. Oblique section. Kosi presjek.

Locality (lokalnost): Mijet, North of Sovra (sjeverno od Sovre).

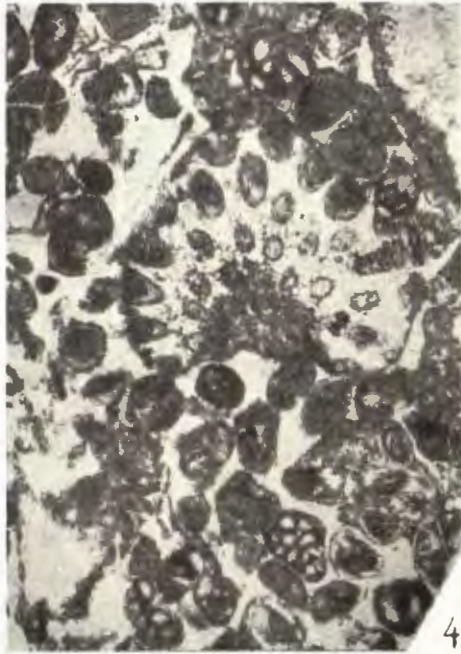
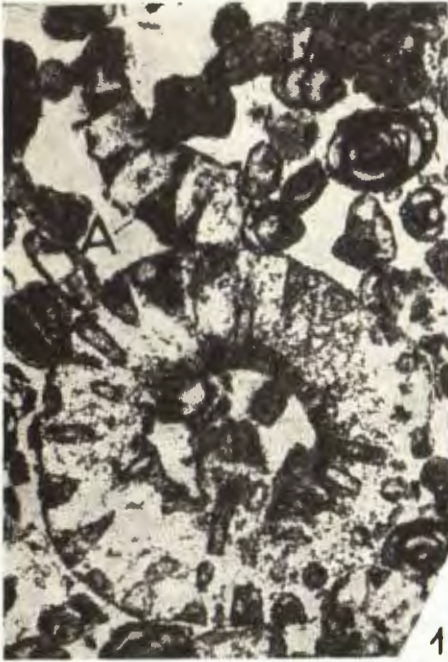


PLATE - TABLA III

1-3. *Pianella turgida* n. sp. (X 55)

1. Axial and oblique section. Aksijalni i kosi presjek. No. 1859-59.
 - 2, 3. Different oblique sections. Različiti kosi presjeci. No. 1860-59.
- 2 A - one of the syntypes (jedan od sintipova).

Locality (lokalnost): Mljet, North of Sovra (sjeverno od Sovre).

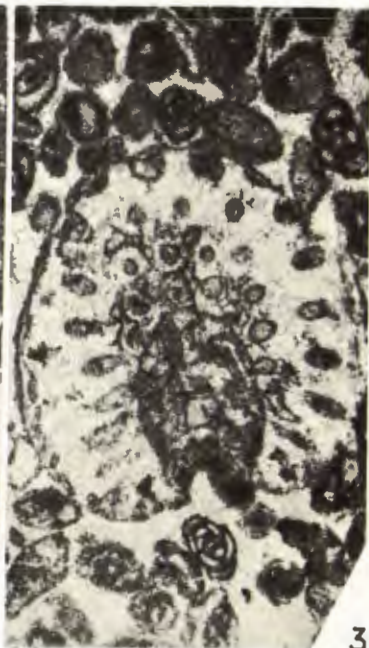
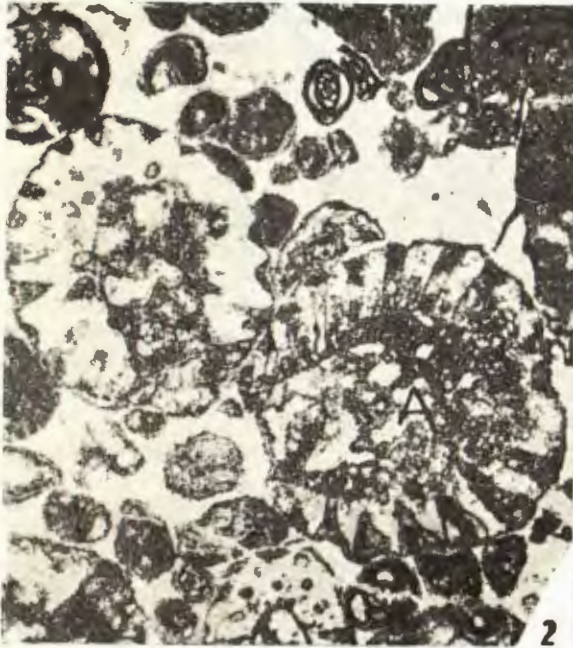
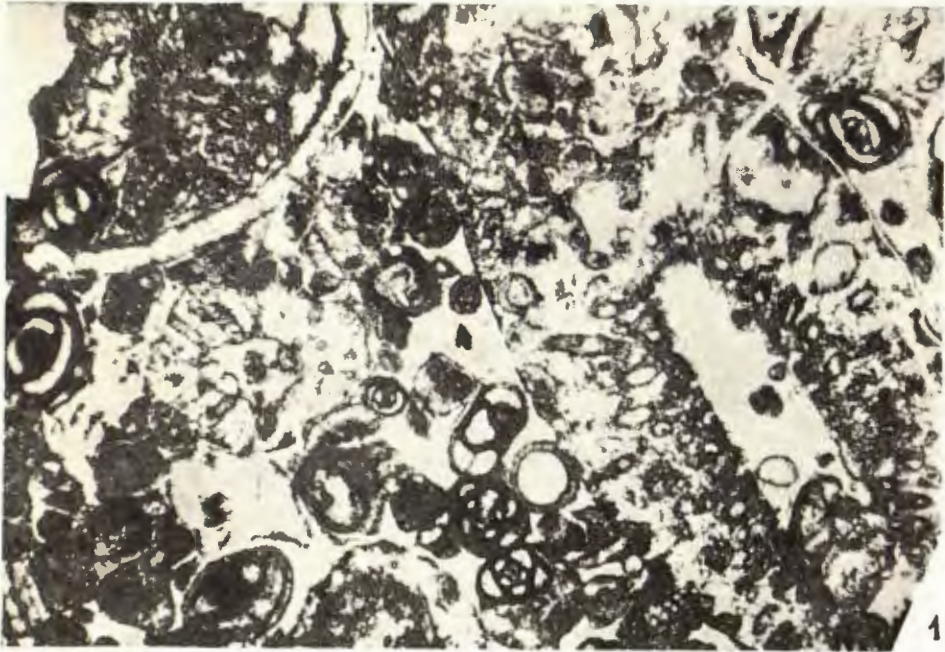


PLATE - TABLA IV

1-4. *Pianella turgida* n. sp. (× 55)

Different tangential sections. Različiti tangencijalni presjeci. 1, 3. No. 1861-59.
2. No 1863-59, 4. No. 1859-59.

Locality (lokalnost): Mljet, North of Sovra (sjeverno od Sovre).

Radoičić: Pianella turgida n. sp.

PLATE - TABLA IV

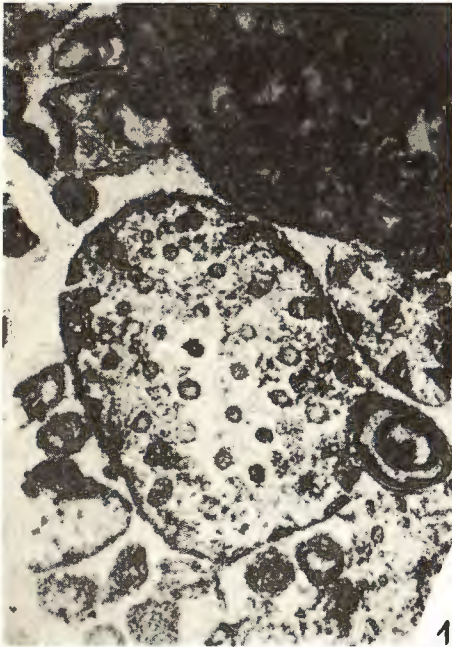


PLATE - TABLA V

1. *Nummoloculina heimi* Bonet, *Valvulammina* sp., orbitolinids and other foraminifers in the limestones with *Pianella turgida* n. sp. (Orbitolinide i drugi foraminiferi u krečnjaku sa *Pianella turgida* n. sp.) (× 55) No. 1863-59.

Locality (lokalnost): Mljet, North of Sovra (sjeverno od Sovre).

2. Shell of one nerineae attacked by the perforating alga.
Ljušturica nerinee napadnuta perforirajućom algom. (× 55) No. 1863-59.

Locality (lokalnost): Mljet, North of Sovra (sjeverno od Sovre).

