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# **FALSOLIKANELLA DANILOVAE RADOIČIĆ EX BARATTOLO 1978, N. COMB., A DIPLOPORACEAN ALGA FROM THE URGONIAN FACIES**

BRUNO GRANIER<sup>1</sup>, IOAN I. BUCUR<sup>2</sup> & GÜNTER TRABOLD<sup>3</sup>

**Abstract.** Originally described as *Likanella danilovae* RADOIČIĆ 1969, *nom. nud.*, the species partly revisited hereafter has been lately ascribed to the genus *Praturlonella* BARATTOLO 1978 and validly published under this new combination. This short paper aims to demonstrate that it should be referred to the genus *Falsolikanella* GRANIER 1987.

**Résumé.** Décrite à l'origine sous le nom de *Likanella danilovae* RADOIČIĆ 1969, *nom. nud.*, l'espèce étudiée ici fut ultérieurement attribuée au genre *Praturlonella* BARATTOLO 1978; elle est alors devenue valide (par accident) sous cette nouvelle combinaison. Cette note s'attache à démontrer qu'il s'agit en fait d'un représentant du genre *Falsolikanella* GRANIER 1987.

**Keywords:** systematics, dasyclad algae, Lower Cretaceous, Urgonian

## **INTRODUCTION**

During the course of geological investigations on the Urgonian limestones in the Haute-Savoie (Trabold, 1995), rich algal assemblages were found. Among the Dasyclads (Fig. 1), the so-called "*Likanella danilovae* RADOIČIĆ" is commonly identified.

First referred to the Permian genus *Likanella* MILANOVIĆ in GRANIER et DELOFFRE 1994, non 1965, this species has been lately ascribed to the genus *Praturlonella* BARATTOLO 1978. The first genus is characterized by an arrangement of the branches in multiple whorls while the second genus is considered to display single whorls.

## **NEW DATA**

Study of new specimens of this form, i.e. some oblique (Pl. I, fig. 4), sub-axial (Pl. I, fig. 1), or axial (Pl. I, fig. 2-3 & 6) sections, reveals that the thallus bears single whorls consisting of "bundles" of branches, and that each bundle consists of a few secondary branches on top of a short vestibular part. Vestibules were first regarded as expansions of the main axis; they are presently considered as equivalents to primary branches. Such observations lead to refer them to the genus *Falsolikanella* GRANIER 1987. The diagnosis of which is "Algues à axe principal cylindrique continu portant des verticilles simples, plus ou moins espacés, saillants, composés de ramifications uniquement de premier ordre, groupées en touffes et insérées en petit nombre sur un vestibule simple (type métaspondyle vestibulaire)" (Granier 1987). This species differs from the type-species, *Falsolikanella campanensis* AZÉMA et JAFFREZO ex GRANIER 1987, non 1972, by its measurements, the shape of its branches, the number of secondaries per primary and its characteristic calcification.

Further investigations are needed in particular in the field of statistical analyses as this species is commonly found in the form of isolated segments (due to post-mortem breaking) with wide measurement variability.

## **SYSTEMATICS**

**Family:** Diploporaceae

**Tribe:** Clavaphysoporelleae

**Genus:** *Falsolikanella* GRANIER 1987

**Species:** *Falsolikanella danilovae* RADOIČIĆ ex BARATTOLO 1978, n. comb.  
(Pl. I, fig. 1-4 & 6)

## **Synonymy list**

1958 *Clypeina* sp.- Dufaure, Pl. 2, fig. 20-21 & 23

1969 (nom. nud.) *Likanella* ? *danilovae* n. sp.- Radoičić, p. 238-256, Pl. I, fig. 1-3 ; Pl. II, fig. 1-6 ; Pl. III, fig. 1-6 ; Pl. IV, fig. 1-4 ; Pl. V, fig. 1-4 ; Pl. VI, fig. 1-5 ; Pl. VII, fig. 1-4 (syntypes: Pl. I, fig. 1-3 ; Pl. II, fig. 1-6 ; Pl. III, fig. 1-6 ; Pl. IV, fig. 1-2 ; Pl. V, fig. 1 & 3-4 ; Pl. VI, fig. 1-2 & 4 ; Pl. VII, fig. 1-4)

1970 (nom. nud.) *Likanella* ? *danilovae*- Radoičić, p. 106, Pl. IX, fig. 4.

1970 (nom. nud.) *Verticilloporella dalmatica*- Conrad, Pl. V, fig. 1

1970 (nom. nud.) *Likanella* ? *danilovae*- Conrad, p. 70, Pl. V, fig. 2 pars & 4

1970 ? *Triploporella* aff. *fraasi*- Conrad, Pl. IX, fig. 4

1971 (nom. nud.) *Likanella* ? *danilovae*- Masse & Poignant, p. 261, Pl. 1, fig. 2 & 5

1972 (nom. nud.) *Likanella* ? *danilovae*- Campobasso et al., Pl. IX, fig. 2

1973 (nom. nud.) *Likanella* ? *danilovae*- Jaffrezo, p. 81, Pl. 2, fig. 12-13

1974 (nom. nud.) *Likanella* ? *danilovae*- Chrishev & Bakalova, Pl. IV, fig. 1 pars

1975 non (nom. nud.) *Likanella* ? *danilovae*- Dragastan, p. 66, Pl. LXXXIV, fig. 3

1975 (nom. nud.) *Likanella* ? *danilovae*- Radoičić, p. 277, not illustrated (choice of a lectotype: Pl. I, fig. 1 in Radoičić, 1969)

1976 (nom. nud.) *Likanella* ? *danilovae*- Peybernès, Pl. XXIV, fig. 1

1976 (nom. nud.) *Likanella* ? *danilovae*- Masse, p. 171, Pl. 2, fig. 8 & 10-11

1976 (nom. nud.) *Likanella* ? sp.- Masse, p. 171, Pl. 3, fig. 1-2

1977 (nom. nud.) *Likanella* ? *danilovae*- Conrad &

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Peybernès, p. 186, Fig. 11.c & 14.b

**1978** (nom. nud.) *Likanella* ? *danilovae*.- Garcia Hernandez, p. 218, Pl. XXVII, fig. 16

**1978** (nom. nud.) *Likanella* ? *danilovae*.- Bassoullet et al., p. 142-143, Pl. 16, fig. 9, from Radoičić (1969: Pl. I, fig. 1); Pl. 16, fig. 10, from Radoičić (1969: Pl. II, fig. 1); Pl. 16, fig. 11, from Radoičić (1969: Pl. IV, fig. 4)

**1978** *Praturlonella danilovae* n. comb.- Barattolo, p. 9 & 31-32, not illustrated (valid publication)

**1978** (nom. nud.) *Likanella* ? *danilovae*.- Chiocchini & Mancinelli p. 33, Pl. XI, fig. 2

**1978a** *Selliporella danilovae* n. comb.- Sokač & Velić, p. 230, not illustrated

**1978b** *Selliporella danilovae*.- Sokač & Velić, Pl. VI, fig. 1-5

**1979** *Pseudoclypeina* ? sp.- Chiocchini et al., Pl. 2, fig. 3

**1980** (nom. nud.) *Likanella* ? *danilovae*.- Arnaud-Vanneau, Pl. 110, fig. 1-2

**1980** (nom. nud.) *Likanella* ? sp.- Arnaud-Vanneau, Pl. 110, fig. 3-5

**1980** (nom. nud.) *Likanella danilovae*.- Jaffrezo, p. 321-322, Pl. XX, fig. 1, from Jaffrezo (1973: Pl. 2, fig. 13); Pl. XX, fig. 2; Pl. XX, fig. 3, from Jaffrezo (1973: Pl. 2, fig. 12)

**1981** (nom. nud.) *Likanella* ? *danilovae*.- Bucur, p. 56, Pl. III, fig. 1-6

**1982** (nom. nud.) *Likanella* cf. *danilovae*.- Jaffrezo et al., p. 770, Pl. 1, fig. 1

**1984** (nom. nud.) *Likanella* ? *danilovae*.- Luperto Sinni & Masse, p. 340, Pl. 35, fig. 1-7 & 9

**1986** (nom. nud.) *Likanella* ? *danilovae*.- Luperto Sinni & Masse, p. 39, Pl. III, figs. 1-3.

**1989** (nom. nud.) *Likanella* ? aff. *danilovae*.- Conrad & Masse, p. 282, Pl. II, fig. 7

**1990** (?) *Acroporella radoicici*.- Simmons, p. 165-166, Pl.-fig. 3.113-117

**1991** *Praturlonella danilovae*.- Bucur, Pl. 51, fig. 1-8

**1993** (nom. nud.) *Likanella* ? *danilovae*.- Luperto Sinni & Masse, p. 296-298, Pl. 1, fig. 14-15

**1993** (nom. nud.) *Likanella* ? *danilovae*.- Masse, Pl. 2, fig. 9, from Masse (1976: Pl. 2, fig. 10)

**1993** (nom. nud.) *Likanella* ? sp.- Masse, Pl. 2, fig. 8, from Masse (1976: Pl. 3, fig. 2)

**1993** *Praturlonella danilovae*.- Bodrogi et al., p. 62, Pl. III, fig. 7

**1993** *Praturlonella danilovae*.- Sotak & Mišík, Pl. 6, fig. 7-8

**1993** (?) *Likanella* ? *pejovicae*.- Luperto Sinni et al., p. 288, Pl. I, figs. 3 & 5

**1993** (?) *Likanella* ? sp.- Luperto Sinni et al., p. 288, Pl. I, figs. 8 & 14

**1994** *Praturlonella (Likanella) danilovae*.- Bodrogi et al., Pl. I7, fig. 3

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**1994** *Praturlonella (Likanella)* sp.- Bodrogi et al., Pl. I, fig. 1

**1994** *Praturlonella* sp. 1.- Schindler & Conrad, p. 75-76, Pl. III, fig. 1 pars & 2 pars

**1994** *Praturlonella danilovae*.- Bucur, p. 153, Pl. VIII, fig. 1-8, from Bucur (1991: Pl. 51, fig. 1-8)

**1995** (comb. nud.) *Falsolikanella danilovae* n. comb.- Granier & Trabold, not illustrated

**1996** *Praturlonella danilovae*.- Sokač, Pl. XVI, fig. 1.A & 2-15

**1997** *Praturlonella danilovae*.- Bucur, Pl. 18, fig. 3

**2000** *Falsolikanella danilovae*.- Bucur, this volume, Pl. V, fig. 1-11 & 13-14

## Types

The holotype quoted by Radoičić (1975) corresponds to Pl. I, fig. 1 in Radoičić (1969), that is from the thin section N° 1143b-65 of the micropaleontological collection of the Institute for Geological and Geophysical Research in Beograd, Yugoslavia. Paratypes are illustrated by Pl. I, fig. 2-3 ; Pl. II, fig. 1-6 ; Pl. III, fig. 1-6 ; Pl. IV, fig. 1-2 ; Pl. V, fig. 1 & 3-4 ; Pl. VI, fig. 1-2 & 4 ; Pl. VII, fig. 1-4 (*ibid.*), that is thin sections N° 1083-65, 1083a-65, 1084a-65, 1142-65, 1142a-65, 1142b-65, ? 1142c-65, ? 1143b-65, 1144-65, 1144a-65, ? 1144b-65, 1145a-65, 1145b-65, 1146a-65, 1147-65, ? 1148-65, 1149-65, 1800-64, 1251-66 & 1255-66 from the same catalogue.

## Conclusion

From these new finds, the stratigraphic range of the genus *Falsolikanella* GRANIER, known during the Late Berriasian-Early Valanginian interval with *Falsolikanella campanensis* AZÉMA et JAFFREZO ex GRANIER 1987, should be extended at least up to the Barremian with *F. danilovae* RADOIČIĆ ex BARATTOLO 1978, n. comb. [and possibly with *Pseudoactinoporella silvaeregis* BUCUR 1981 as well as *Halicoryne nerae* DRAGASTAN, BUCUR et DEMETER 1978] or even up to the Santonian with *Falsolikanella hammudai* RADOIČIĆ ex SCHLAGINTWEIT 1991.

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## PLATES

### Plate I

Figures 1-4 & 6: *Falsolikanella danilovae* RADOIČIĆ ex BARATTOLO 1978, n. comb.

Figure 1: Sub-axial section. Note the vestibular part followed by several secondary branches.- Rocher de Cluses, France, sequence Ha6 "Urgonian", GT (1)16, Coll. G. Trabold, D.G.P., Geneva Univ., x 60. (12-16)

Figure 2: Axial section. Note the vestibular part followed by several secondary branches. An isolated verticil of a small representative of the genus *Actinoporella* is found in the sedimentary infill of the large axial cavity.- Flaine, France, sequence Ha7 "Urgonian", FL 1.10, Coll. G. Trabold, D.G.P., Geneva Univ., x 25. (nb14-18)

Figure 3: Close-up on the former specimen. x 60. (nb14-15)

Figure 4: Oblique section. Note the vestibular part followed by several secondary branches.- Flaine, France, sequence Ha7 "Urgonian", FL 2.04, Coll. G. Trabold, D.G.P., Geneva Univ., x 60. (nb14-21)

Figure 6: Axial section. Note the vestibular part followed by several secondary branches.- Combe de "Bella Cha", Aravis, France, "Urgonian" megablock, Ba 19a.05, Coll. G. Trabold, Department of Geology and Paleontology, Geneva University, x 60. (nb14-11)

Figure 5: *Falsolikanella* sp. Oblique section of a small representative of the genus *Falsolikanella*. Note the vestibular part followed by several secondary branches.- Rocher de Cluses, France, sequence Ha6 "Urgonian", GT (1)23, Coll. G. Trabold, D.G.P., Geneva Univ., x 60. (12-11)



