

MILUTIN B. JELIĆ

A NEW FINDING PLACE OF THE GASTEROMYCETE MYRIOSTOMA COLIFORME (Dicks. ex Pers.) Corda IN YUGOSLAVIA

Myriostoma coliforme (Dicks. ex Pers.) Corda — syn.: *Lycoperdon coliforme* Dicks., *Geastrum coliforme* Pers., *Myriostoma anglicum* Desv. — Cullender Puff-Ball, has been reported in many European countries including the Soviet Union, Poland, Germany, Holland, Czechoslovakia, Hungary, Rumania, Bulgaria, Yugoslavia, Italy, France, Great Britain, Portugal and Spain (Hollós 1904, Zabloccy 1951, Staněk 1958, Michael/Hennig 1960, Jage 1960, Marvanova 1961).

The first Yugoslav specimens of fruit bodies of *Myriostoma coliforme* (Dicks. ex Pers.) Corda, as to my knowledge, have been found by the botanist-phytoecologist Igor Rudski; the specimens have been determined by the mycologist Vojteh Lindtner and are preserved now in the collection of the Natural History Museum in Belgrade: *Herbarium musei historico-naturalis Serbiae* No. 2023 and *Fungi-Herbarium* V. Lindtner No. 2535. The data, corresponding to each label, have been recorded as follows: »Hab.: Kragujevac, ad terram« in the former, and »Habitat: Gruža; Čukojevac, pr. Vitanovac« in the latter; there has been enclosed no evidence concerning neither the exact date of finding, nor the description of plant communities where the fruit bodies of this Gasteromycete have been found. — I. Rudski investigated in the course of 1938—1940 the types of deciduous forests of the south-eastern Šumadija, and some of his studies were performed in the surroundings of Kragujevac and Gruža; so, it is probable that the specimens of the Cullender Puff-Ball mentioned above were collected during this period and in the plant communities described by the same author for the cited area (Rudski 1949).

Jage (1960), according to the written information received from Lindtner, reported the first finding of *Myriostoma coliforme* (Dicks. ex Pers.) Corda in Yugoslavia; in the map of this species' distribution in Europe — in the territory representing our country — he marked a single finding place which *sensu lato* covered the geographical region

of the south-eastern part of Šumadija, the centre of this region being represented by an area surrounding Kragujevac and Gruža.

So, it seems evident that the Cullender Puff-Ball has been found until now in just one place in Yugoslavia.

In the course of the study of the analysis of relations of some macro-mycete-representatives to the structure of phytocoenoses in which they appear (Jelić, unpublished data), I have discovered a new finding place of the Gasteromycete *Myriostoma coliforme* (Dicks. ex Pers.) Corda in Yugoslavia. It is situated in the south-eastern part of the Vojvodina Province, in the area named as the Deliblatski Pesak, between 44° 48' and 45° 02' N. Lat. and between 20° 56' and 21° 19' E. Long.

In this region *Myriostoma coliforme* (Dicks. ex Pers.) Corda has been registered in the wooded area known as the Dolina (section 157), in the contact zone of the cultivated communities of *Pinus nigra* Arn. and *Robinia pseudoacacia* L., with well-grown shrub groups consisting of *Berberis vulgaris* L., *Prunus mahaleb* L., *Rhamnus cathartica* L., *Ligustrum vulgare* L., *Lonicera xylosteum* L., *Evonymus europaea* L., and single non-woody plants: *Ballota nigra* L., *Chenopodium album* L., *Che-lidonium maius* L., *Nepeta cataria* L. and *Torilis anthriscus* (L.) Gmel.; (Fig. 1). The area itself is situated cca 150 m above the sea level, being slightly wavy and characterized by the sandy ground which in this case represents an intermediate belt between the yellow and black loamy sand, in the middle part of the south-western outskirts of Deliblatski Pesak. The soil surface of this place is covered with forest litter, 4—8 cm deep, characterized by the presence of plenty of fallen conifer needles, bark and cones of Austrian Pine, and, in less amount, the remains of other mentioned woody and non-woody plants.

Myriostoma coliforme (Dicks. ex Pers.) Corda has occurred, in the place mentioned above, in the conditions of the dead organic layer, the upper stratum of the latter being almost unchanged, the middle half-decayed and the lower consisting of a dark brown coloured decomposed mass. The Cullender Puff-Ball has been found there for the first time on June 20, 1965; on that occasion, a single fruit body has been taken. In the course of 1966—1968, further nine specimens have been found subsequently in the same area: 14-IX-1966 (3), 24-VIII-1967 (2) and 12-X-1968 (4). In addition, attention must be paid to the fact that in the moment of discovery, all specimens have shown a more or less outstanding star-like stage of development (Fig. 2 & 3); the morphological-anatomical characteristics of our fruit bodies have been in accordance with the diagnoses established by Staněk (1959) for the species *Myriostoma coliforme* (Dicks. ex Pers.) Corda and for the var. *coliforme*.

Several fruit bodies of the *Myriostoma coliforme* (Dicks. ex Pers.) Corda have been prepared and transferred into the mycological collection of the Institute of Botany, Faculty of Sciences, Belgrade.



Fig. 1. — The contact zone of cultivated communities (*Pinus nigra* Arn. and *Robinia pseudoacacia* L. with other plants) where *Myriostoma coliforme* (Dicks. ex Pers.) Corda was found. Deliblatski Pesak, the Dolina. 20-VI-1965.

Photo by M. B. Jelić

Sl. 1. — Kontaktna zona kultivisanih sastojina (*Pinus nigra* Arn. i *Robinia pseudoacacia* L., sa drugim biljkama) u kojoj je nađena *Myriostoma coliforme* (Dicks. ex Pers.) Corda. Deliblatski Pesak, Dolina. 20. 6. 1965.

Foto M. B. Jelić



Fig. 2. — *Myriostoma coliforme* (Dicks. ex Pers.) Corda — fruit body in a less outstanding star-like stage of development. Deliblatski Pesak, the Dolina. 20-VI-1965.

Photo by M. B. Jelić

Sl. 2. — *Myriostoma coliforme* (Dicks. ex Pers.) Corda — plodnosno telo u manje ispoljenom zvezdastom stadijumu razvicia. Deliblatski Pesak, Dolina. 20. 6. 1965.

Foto M. B. Jelić



Fig. 3. — *Myriostoma coliforme* (Dicks. ex Pers.) Corda — fruit bodies in more outstanding star-like stage of development. Deliblatski Pesak, the Dolina. 24. VII. 1967.

Sl. 3. — *Myriostoma coliforme* (Dicks. ex Pers.) Corda — plodonosna tela u više ispoljenom zvezdastom stadijumu razvica. Deliblatski Pesak, Dolina. 24. 7. 1967.

Photo by M. B. Jelić

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ACKNOWLEDGMENTS

The author would like to acknowledge with particular thanks the help of Mr. J. T. Palmer, Woodley, Stockport (Great Britain), who kindly sent some papers on the distribution of this Gasteromycete in Europe.

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Re z i m e

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NOVO NALAZIŠTE GASTEROMICETE MYRIOSTOMA COLIFORME (Dicks. ex Pers.) Corda U JUGOSLAVIJI

Myriostoma coliforme (Dicks. ex Pers.) Corda — syn.: *Lycoperdon coliforme* Dicks., *Geastrum coliforme* Pers., *Myriostoma anglicum* Desv. — rešetkasta zvezda, do sada je u Evropi konstatovana u Sovjetskom Savezu, Mađarskoj, Poljskoj, Rumuniji, Bugarskoj, Nemačkoj, Čehoslovačkoj, Jugoslaviji, Italiji, Francuskoj, Holandiji, Velikoj Britaniji i Španiji (Hollós 1904, Zabloccy 1951, Staněk 1958, Mihael/Hennig 1960, Jage 1960, Marvanová 1961). 1961).

U našoj zemlji, jedina do nedavno poznata plodonosna tela *Myriostoma coliforme* (Dicks. ex Pers.) Corda, našao je botaničar-fitocenolog Igor Rudski. Njihovu determinaciju izvršio je mikolog Vojteh Lindtner, a primerici se čuvaju u zbirci Prirodnjačkog muzeja u Beogradu: *Herbarium musei historico-naturalis Serbiae*, № 2023 i *Fungi-Herbarium* V. Lindtner, № 2535. Na odgovarajućim etiketama zabeleženi su sledeći podaci: u prvom slučaju »Hab.: Kragu-

jevac, *ad terram*«, u drugom slučaju »*Habitat*: Gruža; Čukojevac, *pr.* Vitanovac«; nisu označeni datumi nalaza i nema opisa biljnih zajednica unutar kojih su nađena plodonosna tela ove gasteromicete. — I. Rudski proučavao je tipove lišćarskih šuma jugoistočnog dela Sumadije, i radio — između ostalog — u blizini naselja Kragujevac i Gruža u periodu 1938—1940. godine: verovatno je, pomenute primerke rešetkaste zvezde, prikupio u istom vremenskom razdoblju, a u biljnim zajednicama koje je tom prilikom opisivao za navedene terene (Rudski 1949).

Jage (1960), na osnovu pismene informacije Lindtnera, prvi put u literaturi registruje nalaz *Myriostoma coliforme* (Dicks. ex Pers.) Corda u Jugoslaviji; na priloženoj karti o njenom rasprostranjenju u Evropi, na prostoru koji ilustruje našu zemlju označio je samo jedno nalazište, i ono se u širem smislu poklapa sa geografskim područjem jugoistočnog dela Sumadije, čiji uži centar čine tereni oko naselja Kragujevac i Gruža.

Na osnovu izloženog, jasno je da je rešetkasta zvezda do sada nađena samo na jednom mestu u Jugoslaviji.

Vršeći terenska istraživanja, u cilju analize odnosa nekih predstavnika makromiceta prema strukturi fitocenozu u kojima se razvijaju (Jelić, neobjavljeni podaci), otkrio sam novo nalazište gasteromicete *Myriostoma coliforme* (Dicks. ex Pers.) Corda u Jugoslaviji. Ono se nalazi na jugoistoku pokrajine Vojvodine — u predelu koji nosi naziv Deliblatski Pesak i leži u granicama koordinata: 44° 48' i 45° 02' severne širine, odnosno 20° 56' i 21° 19' istočne geografske dužine.

Myriostoma coliforme (Dicks. ex Pers.) Corda u okviru ovoga nalazišta, registrovana je u šumovitom reonu poznatom pod imenom Dolina (odelenje 157), u kontaktnoj zoni kultivisanih sastojina *Pinus nigra* Arn. i *Robinia pseudo-acacia* L., u kojoj je razvijena grupacija žbunja sastava: *Berberis vulgaris* L., *Prunus mahaleb* L., *Rhamnus cathartica* L., *Ligustrum vulgare* L., *Lonicera xylosteum* L., *Evonymus europaea* L., i usamljeni primerci zeljastih biljaka: *Ballota nigra* L., *Chenopodium album* L., *Chelidonium majus* L., *Nepeta cataria* L. i *Torilis anthriscus* (L.) Gmel.; (Sl. 1). Teren je nadmorske visine cca 150 m, blago je valovit, sa peščanom podlogom koja u ovom slučaju predstavlja prelazni pojas između žutog i crnog ilovastog peska u središnjem delu jugozapadne periferije Deliblatskog Peska. Na samoj površini ovoga mesta leži šumska stelja debljine 4—8 cm: odlikuje se većom zastupljenošću opalih četina, kore i šišarki crnoga bora, i manjim prisustvom odpadaka drugih pomenutih drvenastih i zeljastih biljaka.

Myriostoma coliforme (Dicks. ex Pers.) Corda na opisanom nalazištu, javlja se u uslovima navedenog izumrlog organskog pokrivača, gde je njegov gornji sloj gotovo nepromenjen, srednji poluraspadnut, i donji pretvoren u dekompoziranu masu mrko-crne boje. Na ovom mestu rešetkasta zvezda prvi put je otkrivena. 20. 6. 1965. godine; tada je nađeno njeno jedno plodonosno telo. Tokom 1966—1968. godine, ustanovljeno je još devet plodonosnih tela: 14. 9. 1966. (3); 24. 7. 1967. (2); 12. 10. 1968. (4).

Treba istaći, da su svi primerci navedene gasteromicete u momentu otkrivanja pokazivali manje ili više ispoljen zvezdasti stadijum razvića (Sl. 2 i 3); morfološko-anatomske karakteristike nadenih plodonosnih tela rešetkaste zvezde odgovarale su diaognozama koje navodi Staněk (1958), odnosno onim za *Myriostoma coliforme* (Dicks. ex Pers.) Corda, i to var. *coliforme*.