Survey of some morphological features described for *Coelastrella* species according to literature.

Nr	spp.	Size	Place	Ribs	Body Form	Ultrastructure	Form	Daughter cells	Other: strains, sequences
01	*Coelastrella aeroterrestrica* Tschaikner, Gärtner & Kofler 2008	(3,5)- 5-10 -(12)d	Tyrol, Austria, alpine	6-16 meridional, very fine, almost invisible LM, smooth apical PT	globose to broadly ellipsoidal	1Py, 2-3 StP, no V	solitary	2-16	Str. ASIB SWK 1:2, JX513879 (18S), JX513879 (ITS)
02	*Coelastrella coelastroides* Kalina 1964	-	-	-	-	1Py	-	-	-
03	*Coelastrella ellipsoidea* (Novis & Visnovksy) Gopalakrishnan, Novis & Visnovsky 2014	8-10L x 6-9w	NZ, alpine soil	smooth, 15 per cell	ellipsoidal, slight irregular	1Py		2-8	Str. LCR-CG7, KC861672 (18S)
04	*Coelastrella levicostata* Korshikov 1953	12-17d	Ukraine? *Sphagnum* bogs	smooth, 6-8, up to 20 longitudinal	broadly ellipsoidal to globose		solitary		-
05	*Coelastrella oocystiformis* (Lund) Hegewald & Hanagata 2002	(7,5)-16-20L x(5)-12-15w	moist rocks, mountain, lake, England	8-12(16), smooth PT, less prominent	broadly fusiform to citriform, later elliptical, SEM, TEM	1Py, many V	solitary		Str. SAG 277-1, Fogg, AB012848 (18S), JX513887 (ITS)
06	*Coelastrella rubescens* (Vinatzer) Kaufnerová & Eliás 2013	12-15 – (18)d	Tyrol, Austria, soil, calcareum	2-6 (19) ribs, to poles, smooth PT, 2 layers CW	citriform, fusiform, bradly oval to globose, SEM, TEM	1Py, 2 StP	solitary	2-4-8 -(16)	Str. CCALA 475, JX513884 (18S), JX513884 (ITS)
07	*Coelastrella saipanensis* Hanagata 2001	4-14d	North Mariana Islands, bark	meridional, network, visible by LM	spheroidal, no polar thickening	1Py,	solitary	2-16	Str. D9-1, AB055800 (18S)
08	*Coelastrella striolata* Chodat 1922	(6).12-20-(22)L x (4,5)-9,5-18-(20,5)w	Lake area, *Sphagnum* bogs, Switzerland	16-40 meridional, defined and other smooth, some transversal, with PT	broadly ellipsoidal to spherical, globose, SEM	1-2Py, 2 StP, many V	solitary, rarely colonies	2 -4-16	Str. Kalina 1969/1, Str. E65, JX513881 (18S), JX513881 (ITS)
09	*Coelastrella terrestris* (Reisigl) Hegewald & Hanagata 2002	(5)-14-22L x (3,5)-6-15w	Tyrol, Austria, alpine soil	8-10-(12) meridional and defined, often fine transversal ribs, with PT, 2 layers CW	broadly ellipsoidal to citriformis, SEM, TEM	1Py, 2 StP many V	solitary	2-4-8-(16)	Str. CCALA 476, T87, N29, E89, SWK3, AB012847, JX513882 (18S), JX513882 (ITS)

10	*Coelastrella vacuolata* (Shihara & Krauss) Hegewald & Hanagata 2002	5,5-12L x 3,5-11w		many, CW smooth on LM	broadly ellipsoidal to globose	many V			Str. SAG 211-8b, X56104 (18S)
11	*Coelastrella multistriata var. corcontica* ? / *C. corcontica* (Kalina & Punčochárová) Hegewald & Hanagata 2002	10-22L x 7-17w	Peat pools, subalpine region	many meridional ribs	globose to ellipsoidal	many small V	tetraedric colonies, rare solitary		Str. Kalina 1967/9, CCALA 308, AB037082 (18S), JX513886 (ITS)
12	*Coelastrella striolata var. multistriata ?* (Trenkwalder) Kalina & Punčochárová 1987	(4)-9-12-(13)L x (3)-7-11-(12)w	Soil pine wood, Tyrol, Italy	16-40 meridional, visible at LM	oval, ellipsoidal to globose, SEM, TEM	1Py, 2 StP, usually no V	solitary, rarely tetraedric colonies	2-16	Str. CCALA 309, Trenkwalder1975, T88, AB012846, JX513880 (18S), JX513880 (ITS)
13	*Coelastrella multistriata var. grandicosta ?* Gopalakrishnan, Novis & Visnovsky 2014	7-12L x 6-9w	NZ, Upper Canyon Creek	9-12 distinct, longitudinal, multiple layers CW	ellipsoidal, SEM, TEM	1Py	-	4-8-16	Str. LCR-CC-12-1d, KC861673 (18S)
14	*Coelastrella compacta* Skuja 1959	10-22L x 7-17w	Germany	smooth	ellipsoidal to oval	1Py	rare solitary	2-4	-
15	*Coelastrella multistriata* var. *multistriata*	6-10L x 3-7w	Japan, bark	10-25 meridional and smooth, no PT	oval to citriform	1Py, 2StP, no V	solitary	2-16	Str. C6-2, AB012846 (18S)
16	*Coelastrella thermophila* Wang et al. 2019	(6)8-16(20)×(4)6-8(12)	China, wet concrete wall surface	(10)-15-22	rice-shape to ellipsoidal	1-2Py	-	2-4-8-16	Str. SHY191/FACHB-2300, MH176090 (18S) MH176114 (ITS) MH176139 (tufA)
17	*C. thermophila* var. *globulina* Wang et al. 2019	(5)8-14(18)	China, wet concrete floor	(10)-13-20	spherical	1Py, many V	-	(2)-4-8-16	Str. SSS17/FACHB-2308, MH176102 (18S) MH176128 (IST) MH176146 (tufA)
18	*Coelastrella yingshanensis* Wang et al. 2019	(6)9-18×(5)7-12	China	10-14	spindle to ellipsoidal	1Py	solitary	2-4-8	Str. SSS18/FACHB-2311, MH176103 (18S) MH176129 (IST) MH176154 (tufA)
19	*Coelastrella tenuitheca* Wang et al. 2019	4-13-(18)	China, wet mud	none	spherical	uninucleate, many V	solitary	(2)-4-8-16-32	Str. SHY45/FACHB-2314, MH176108 (18S) MH176122 (ITS) MH176149 (tufa)

20	*Coelastrella astaxanthina* Kawasaki et al. 2019	5-10L x 3-8w	Japan, asphalt	>27, meridional	oval, broadly ellipsoidal to spherical, obtuse polar ends, SEM	1Py, uninucleated	solitary	-	Str. Ki-4, AB734096 (18S), AB762691 (ITS)
21	*Coelastrella* sp. FGS-001	8,4L x 7,1w	Norway, cyanobacteria, soil	horizontal and distinct, 10-16(20), 2 layers CW	spherical, ellipsoidal, poles, SEM, TEM	1Py, 2 StP, V	solitary, biofilm	2-6	MK064224 (18S) MK040329 (ITS)
22	*Coelastrella* sp. F50	-	China	8-13, with PT	globose, SEM, TEM	1Py	-	-	JQ867369 (18S), JQ867368 (ITS)
23	*Coelastrella* sp. CORE 3	10L x 6,7w	Yucatan peninsula	smooth meridional, with PT	globose	1Py, 2-3 StP	-	2-8	KX940915 (ITS)
24	*Coelastrella* sp. P63	-	India	none, smooth CW	spherical, SEM	-	-	-	Minhas et al. 2016
25	*Coelastrella* sp. YC001	5-11d, 5-7L, 9-15L	China, pond	longitudinal, with PT, 2 layers CW	ellipsoidal to broadly globose, spheroidal, SEM, TEM	1Py	solitary	4-32	Lee et al. 2016, Luo et al. 2016, KT259054 (18S)

Size expressed in large (L), wide (w) or diameter (d). If there are registers of TEM or SEM microphotography is stated. Type of molecular sequences are also expressed. Cell wall = CW; pyrenoid = P; starch plates = StP; polar thickening = PT; strain = Str.

References: Chodat (1922), Korshikov (1953), Skuja (1959), Archibald (1973), Vinatzer (1975), Punčochářová & Kalina (1981), Kalina & Punčochárová (1987), Gärtner & Ingolić (1993), Hanagata et al. (1996), Hanagata (2001), Hegewald & Hanagata (2002), Tschaikner et al. (2007a,b), Hu (2012), Hu et al. (2013), Kaufnerová & Eliáš (2013), Kawasaki et al. (2013), Gopalakrishnan et al. (2014), Lee et al. (2016), Luo et al. (2016), Minhas et al. (2016), Ancona-Canché et al. (2017), Kawasaki et al. (2019), Wang et al. (2019a).