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Supplementary material

Leucocoprinus idae-fragum in a cypress alley nearby Lake Bracciano in Latium

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Supplementary Table S1 – Description of the sequences used in the phylogenetic analyses.

Declared taxon	Type species	This study	Herbarium ID	Accession ID (INSD/UNITE)¹	NCBI Reference
<i>Cystolepiota pseudoseminuda</i>	+		KUN-HKAS 92275	MN810149	Hou and Ge 2020
<i>Cystolepiota seminuda</i>			4-X-1989, H.A. Huijser s.n. (herb. Huijser)	AY176350	Vellinga 2004
<i>Lepiota decorata</i>			26-XII-2001, E.C. Vellinga 2810 (UC)	AY243645	Unpublished
<i>Lepiota decorata</i>			L.L. Norvell 2051224 (Pacific Northwest Mycology Service Herbarium)	GU136197	Unpublished
<i>Lepiota flammeotincta</i>			E.C. Vellinga 3967 (UC)	GU136167	Unpublished
<i>Lepiota flammeotincta</i>			E.C. Vellinga 3725 (UC)	GU136170	Unpublished
<i>Lepiota fuliginescens</i>			E.C. Vellinga 3938 (UC)	GU136183	Unpublished
<i>Lepiota fuliginescens</i>			E.C. Vellinga 3223 (UC)	GU136185	Unpublished
<i>Lepiota fuliginescens</i>			E.C. Vellinga 3053 (UC)	GU136187	Unpublished
<i>Lepiota fuliginescens</i>			E.C. Vellinga 2828 (UC)	GU136188	Unpublished
<i>Lepiota fuliginescens</i>			E.C. Vellinga 2887 (UC)	GU136189	Unpublished
<i>Lepiota roseifolia</i>			E.C. Vellinga 3254 (UC)	GQ203805	Vellinga et al. 2010
<i>Leucoagaricus badhamii</i>			MCVE:3047	GQ329056	Unpublished
<i>Leucoagaricus croceovelutinus</i>			E.C. Vellinga 3131 (UC)	EU166351	Unpublished
<i>Leucoagaricus croceovelutinus</i>			TUF111923	UDB07672110	This article
<i>Leucoagaricus pyrrophaeus</i>			E.C. Vellinga 3268 (UC)	GU136199	Unpublished
<i>Leucoagaricus</i> sp.			7-X-1998, H.A. Huijser (Herb Huijser)	AY243643	Unpublished
<i>Leucoagaricus</i> sp.			E.C. Vellinga 2484 (UC)	GU136182	Unpublished
<i>Leucoagaricus</i> sp.			28-XI-2001, E.C. Vellinga 2746 (UCB)	AY176440	Vellinga 2004
<i>Leucoagaricus</i> sp.			29-X-1985, N.S. Weber 6019 (MICH)	AY243633	Unpublished
<i>Leucoagaricus</i> sp.			M. Contu (UC)	GQ203803	Vellinga et al. 2010
<i>Leucoagaricus</i> sp.			TUF111903	UDB07672097	This article
<i>Leucoagaricus sublittoralis</i>			19-IX-1998, E.C. Vellinga 2235 (L)	AY176442	Vellinga 2004
<i>Leucoagaricus volvatus</i>			AC1785	KT992150	Unpublished
<i>Leucoagaricus volvatus</i>			AH51104	MZ493173	Unpublished
<i>Leucocoprinus adelphicus</i>			15-XI-2001, E.C. Vellinga 2669 (UC)	AY243622	Unpublished
<i>Leucocoprinus adelphicus</i>			4-XII-2001, E.C. Vellinga 2772 (UC)	AY243624	Unpublished

<i>Leucocoprinus adelphicus</i>			E.C. Vellinga 3153 (UC)	GQ258478	Vellinga et al. 2010
<i>Leucocoprinus ariminensis</i>			MCVE 29053	KU953371	Unpublished
<i>Leucocoprinus aurantiovergens</i>			1-XI-1999, J. & A. Guinberteau 99110103 (herb. Guinberteau)	AY243627	Unpublished
<i>Leucocoprinus aurantiovergens</i>			MVBB34	OK235665	Forin et al.2022
<i>Leucocoprinus aurantiovergens</i>	+		PAD:H0061557	OK235666	Forin et al.2022
<i>Leucocoprinus barssii</i>			E.C. Vellinga 2342 (L)	AF295931	Vellinga 2000
<i>Leucocoprinus barssii</i>			TUF126973	UDB07672193	This article
<i>Leucocoprinus brunnescens</i>			R. Balsley (UC)	GQ203804	Vellinga et al. 2010
<i>Leucocoprinus croceobasis</i>			GM2465	KF853412	Muñoz et al. 2014
<i>Leucocoprinus croceobasis</i>			GM2732	KF853413	Muñoz et al. 2014
<i>Leucocoprinus croceobasis</i>			AH-40434	KF853414	Muñoz et al. 2014
<i>Leucocoprinus croceobasis</i>			GM2609	KF853415	Muñoz et al. 2014
<i>Leucocoprinus cupresseoides</i>	+		TR:gmb01484	OK235667	Forin et al.2022
<i>Leucocoprinus cupresseus</i>			D.E. Desjardin 5642 (SFSU)	AY243629	Unpublished
<i>Leucocoprinus cupresseus</i>			E.C. Vellinga 3204 (UC)	GQ258477	Vellinga et al. 2010
<i>Leucocoprinus cupresseus</i>			E.C. Vellinga 2833 (UC)	GU136194	Unpublished
<i>Leucocoprinus dyscritus</i>			E.C. Vellinga 3956 (UC)	GU136180	Unpublished
<i>Leucocoprinus dyscritus</i>			E.C. Vellinga 3532B (UC)	GU136181	Unpublished
<i>Leucocoprinus erythrophaeus</i>			N. Nguyen nn02 (UC)	GQ258468	Vellinga et al. 2010
<i>Leucocoprinus erythrophaeus</i>			E.C. Vellinga 3248 (UC)	GQ258470	Vellinga et al. 2010
<i>Leucocoprinus flammeotinctoides</i>			28-XI-2001, E.C. Vellinga 2759 (UC)	AY243620	Unpublished
<i>Leucocoprinus flammeotinctoides</i>			E.C. Vellinga 3308 (UC)	GQ258476	Vellinga et al. 2010
<i>Leucocoprinus flammeotinctoides</i>			E.C. Vellinga 3729 (UC)	GU136173	Unpublished
<i>Leucocoprinus gaillardii</i>			MCVE:736	GQ329042	Unpublished
<i>Leucocoprinus gaillardii</i>			MCVE:16517	GQ329064	Unpublished
<i>Leucocoprinus gaillardii</i>		+	TUF137356	UDB07674349	This article
<i>Leucocoprinus gaillardii</i>		+	TUF137945	UDB07675666	This article
<i>Leucocoprinus georginae</i>			19-IX-1998, E.C. Vellinga 2238 (L)	AY176413	Vellinga 2004
<i>Leucocoprinus georginae</i>			J.M. Birkebak, jmb10-31-2007-04 (WTU)	GU136198	Unpublished
<i>Leucocoprinus hesperius</i>			E.C. Vellinga 3515 (UC)	GU139788	Unpublished

<i>Leucocoprinus hesperius</i>			E.C. Vellinga 2939 (UC)	GU139789	Unpublished
<i>Leucocoprinus idae fragum</i>			MCVE29362	MF768439	Vizzini et al. 2017
<i>Leucocoprinus idae fragum</i>			CAG_P12_9/8.38	MF768440	Vizzini et al. 2017
<i>Leucocoprinus idae fragum</i>	+		LIP97113001	MF768441	Vizzini et al. 2017
<i>Leucocoprinus idae fragum</i>			MCVE29342	MF768442	Vizzini et al. 2017
<i>Leucoagaricus idae-fragum</i>		+	TUF137362	UDB07674355	This article
<i>Leucoagaricus idae-fragum</i>		+	TUF137946	UDB07675667	This article
<i>Leucocoprinus ionidicolor</i>			10-X-1998, E.C. Vellinga 2280 (L)	AY176415	Vellinga 2004
<i>Leucocoprinus jubilaei</i>			9-X-1999, J. & A. Guinberteau 99101101 (herb. Guinberteau)	AY243635	Unpublished
<i>Leucocoprinus Leucothites</i>			15-X-1996, E.C. Vellinga 2050 (L)	AF482865	Vellinga et al. 2003
<i>Leucocoprinus Leucothites</i>			TaAn-1	MZ149999	Unpublished
<i>Leucocoprinus Leucothites</i>			TUF111931	UDB07672116	This article
<i>Leucocoprinus Leucothites</i>			TUF111932	UDB07672117	This article
<i>Leucocoprinus littoralis</i>			MCVE:702	GQ329041	Unpublished
<i>Leucocoprinus littoralis</i>			TUF137105	UDB07672692	This article
<i>Leucocoprinus marginatus</i>			MV231214-LeuPil011	MT416131	Unpublished
<i>Leucocoprinus marginatus</i>		+	TUF137944	UDB07675665	This article
<i>Leucocoprinus marriagei</i>			MCVE:767	GQ329049	Unpublished
<i>Leucocoprinus menieri</i>			H.A. Huijser (herb. Huijser)	KP300879	Unpublished
<i>Leucocoprinus pardalotus</i>			E.C. Vellinga 3313 (UC)	GQ258479	Vellinga et al. 2010
<i>Leucocoprinus pardalotus</i>			E.C. Vellinga 3727 (UC)	GU136202	Unpublished
<i>Leucocoprinus pilatianus</i>			MCVE:665	GQ329040	Unpublished
<i>Leucocoprinus pilatianus</i>			MCVE:9558	GQ329057	Unpublished
<i>Leucocoprinus pseudopilatianus</i>			13-XII-1999, J. & A. Guinberteau 99121300 (herb Guinberteau)	AY243632	Unpublished
<i>Leucocoprinus pseudopilatianus</i>	+		SCM -3904B	MZ230525	Salom et al. 2021
<i>Leucocoprinus pseudopilatianus</i>			CAG:P.12-9/8.40	OM327668	Forin et al.2022
<i>Leucocoprinus pseudopilatianus</i>		+	TUF137358	UDB07674351	This article
<i>Leucocoprinus pseudopilatianus</i>		+	TUF137359	UDB07674352	This article
<i>Leucocoprinus pyrrhulus</i>			E.C. Vellinga 3306 (UC)	GQ258474	Vellinga et al. 2010

<i>Leucocoprinus pyrrohulus</i>			E.C. Vellinga 3719 (UC)	GU136201	Unpublished
<i>Leucocoprinus rubrotinctus</i>			xsd08140	FJ481050	Unpublished
<i>Leucocoprinus rubrotinctus</i>			KUN:HKAS 54240	JN944081	Unpublished
<i>Leucocoprinus rubrotinctus</i>			KUN:HKAS 54317	JN944082	Unpublished
<i>Leucocoprinus subvolvatus</i>			A.M. Brand s.n., Hungary (L)	KP300878	Unpublished
<i>Leucocoprinus subvolvatus</i>			L1	MN134030	Unpublished
<i>Leucocoprinus variicolor</i>			AH:40328	JX880030	Muñoz et al. 2012
<i>Leucocoprinus variicolor</i>			GM2454	JX880031	Muñoz et al. 2012
<i>Leucocoprinus variicolor</i>			GM2485	JX880032	Muñoz et al. 2012
<i>Leucocoprinus variicolor</i>			GM2486	JX880033	Muñoz et al. 2012
<i>Leucocoprinus wychanskyi</i>			IX/X-1987, H.A. Huijser (L)	AF482874	Vellinga et al. 2003

¹Accession IDs from sequences originating from the UNITE database start with the letters UDB, the remaining sequences originate from the INSD database.

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