



Research article

## Lichen flora of Jammu and Kashmir State, India: An updated checklist

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**Abstract:** Jammu and Kashmir is one of the lichen rich regions of Himalayas and often called as Hot Spot of lichen diversity in India. However, very little information is available regarding lichen flora of this region. In present study an attempt has been made to provide an updated checklist of lichen flora of the region. The study is based on previous literature available from the region.

**Keywords:** Diversity - Lichen - Flora - Jammu and Kashmir.

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### INTRODUCTION

Jammu and Kashmir lying between the coordinates 32°17' and 36°58' North Latitudes and 73°26' and 80°30' East Longitudes covers an area of 2,22,236 Km<sup>2</sup> with an altitude varying from 300–6500 m above mean sea level. The state falls in the lichenogeographic zone constituting of mountainous to semi mountainous plains, Shiwalik ranges, mountains of Kashmir valley, Pir Panjal range of Ladakh and Kargil. Including Jammu and Kashmir the Himalaya is often called the “Hot Spot” of lichen diversity in India. The climate in the state varies from tropical, subtropical to alpine, the annual precipitation ranges from 107–650 mm, with an average of 600 mm of snow during winter. The temperature fluctuation during summer is 15°C to 43°C and in winter -3°C to 26°C. This varied climate together with varied altitudinal range provides different kinds of substrates and niches for colonization and growth of lichens. The lichen collection in the state started during early thirties of last century where Smith (1931) identified and published some lichen species collected by Kashyap. A comprehensive account of lichen diversity was made by Sheikh *et al.* (2006a). In addition, an enumeration of 48 species from Pulwama, Budgam and Jammu districts (Sheikh *et al.* 2006b), 30 species from Mansar-Surinsar Wildlife Sanctuary (Sheikh *et al.* 2009), 18 species from Ramnagar Wildlife Sanctuary (Solan *et al.* 2010), 38 species from cold deserts of Ladakh (Kumar *et al.* 2012, Kumar *et al.* 2014), 77 species from Kishtwar, Rajouri and Jammu districts (Sheikh *et al.* 2013), 18 species from Nandini Wildlife Sanctuary (Goni *et al.* 2013) and 25 species from Kargil district (Rahim *et al.* 2014) have been made for the area. This communication is an effort to reveal the complete and updated checklist of lichens from Jammu and Kashmir.

### MATERIALS AND METHODS

The following checklist of lichens is based on the literature available from various sources.

### RESULTS AND DISCUSSIONS

The present checklist of lichen flora of Jammu and Kashmir revealed the occurrence of 356 species of lichens belonging to 35 families and 91 genera (Table 1). In terms of taxa, the most diversified family is *Parmeliaceae* with 24 genera and 65 species. This is followed by *Physciaceae* (11 genera and 57 species), *Lecanoraceae* (4 genera and 46 species), *Teloschistaceae* (2 genera and 34 species). Families *Cladoniaceae*, *Megasporaceae*, *Collembataceae*, *Verrucariaceae*, *Peltigeraceae*, *Ramalinaceae*, *Caliciaceae*, *Acarosporaceae*, and *Umbilicariaceae* are represented by 17, 13, 12, 11, 10, 9, 8, 7 and 6 species respectively. Least represented families are *Bacidiaceae* (5 species), *Candelariaceae* (5 species), *Lecidiaceae* (5 species), *Usneaceae* (5 species), *Catillariaceae* (4 species), *Pertusariaceae* (4 species), *Rhizocarpaceae* (4 species), *Stereocaulaceae* (4 species), *Thelotremaaceae* (4 species), *Lichinaceae* (3 species), *Agyriaceae* (2 species), *Chrysothricaceae* (2 species), *Nephromataceae*, (2 species), *Ochrolechiaceae* (2 species), *Peltulaceae* (2 species), *Porpidiaceae* (2



	<i>Enchylium limosum</i> (Ach.) Otálora	Sheikh <i>et al.</i> 2006a
	<i>Enchylium polycarpon</i> (Hoffm.) Otálora,	Sheikh <i>et al.</i> 2006a
	<i>Collema pulchellum</i> Ach. var. <i>subnigrescens</i> (Müll. Arg.) Degel.	Singh & Sinha 2010
	<i>Collema rugosum</i> Kremp.	Sheikh <i>et al.</i> 2006a
	<i>Collema subflaccidum</i> Degel.	Sheikh <i>et al.</i> 2006a
	<i>Collema subnigrescens</i> Degel.	Singh & Sinha 2010
	<i>Leptogium burnetiae</i> C.W. Dodge	Sheikh <i>et al.</i> 2006a
	<i>Leptogium cyanescens</i> (Pers.) Körb.	Sheikh <i>et al.</i> 2006a
	<i>Leptogium pedicellatum</i> P.M. Jørg.	Singh & Sinha 2010
	<i>Leptogium saturninum</i> (Dicks.) Nyl.	Sheikh <i>et al.</i> 2006a
10.	Graphidaceae	<i>Graphis granulata</i> Fée
11.	Lecanoraceae	<i>Carbonea vitellinaria</i> (Nyl.) Hertel
	<i>Lecanora achroa</i> Nyl.	Sheikh <i>et al.</i> 2013
	<i>Lecanora albescens</i> (Hoffm.) Flörke in Flot.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora argentata</i> (Ach.) Degel.	Singh & Sinha 2010
	<i>Lecanora bolcana</i> (Pollini) Poelt	Singh & Sinha 2010
	<i>Lecanora campestris</i> (Schaer.) Hue	Sheikh <i>et al.</i> 2006a
	<i>Lecanora carpinea</i> (L.) Vain.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora chlarotera</i> Nyl.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora cinereofusca</i> H. Magn.	Sheikh <i>et al.</i> 2006a
	<i>Lepraria ecorticata</i> (Laundon) Kukwa	Sheikh <i>et al.</i> 2013
	<i>Lecanora dispersa</i> (Pers.) Sommerf.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora flavidofusca</i> Müll.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora flavidomarginata</i> de Lesd.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora frustulosa</i> (Dicks.) Ach.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora garovaglii</i> (Körb.) Zahlbr.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora hellmichiana</i> Poelt	Sheikh <i>et al.</i> 2006a
	<i>Lecanora himalayae</i> Poelt	Sheikh <i>et al.</i> 2006a
	<i>Lecanora indica</i> Zahlbr.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora insignis</i> Degel.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora intricata</i> (Ach.) Ach.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora intumescens</i> (Rebent.) Rabenh.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora iseana</i> Räsänen	Singh & Sinha 2010
	<i>Lecanora japonica</i> Müll.	Singh & Sinha 2010
	<i>Lecanora kirra</i> Poelt & Grube	Sheikh <i>et al.</i> 2006a
	<i>Lecanora meridionalis</i> H. Magn.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora muralis</i> (Schreb.) Rabenh.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora muralis</i> var. <i>dubyu</i> (Mull. Arg.) Poelt.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora perplexa</i> Brodo	Sheikh <i>et al.</i> 2006a
	<i>Lecanora phaeodrophthalma</i> Poelt	Sheikh <i>et al.</i> 2006a
	<i>Lecanora polytropa</i> (Ehrh.) Rabenh.	Singh & Sinha 2010
	<i>Lecanora praesistens</i> Nyl.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora rugosella</i> Zahlbr.	Singh & Sinha 2010
	<i>Lecanora secernens</i> Magnusson	Sheikh <i>et al.</i> 2006a
	<i>Lecanora subpraesistens</i> Nayaka & al.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora subrugosa</i> Nyl.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora tropica</i> Zahlbr.	Rahim <i>et al.</i> 2014
	<i>Lecanora warmingii</i> Müll.	Sheikh <i>et al.</i> 2006a
	<i>Lecanora xylophila</i> Hue	Sheikh <i>et al.</i> 2006a
	<i>Lecidella alaiensis</i> (Vain.) Hertel	Sheikh <i>et al.</i> 2006a
	<i>Lecidella carpathica</i> Körb.	Singh & Sinha 2010
	<i>Lecidella caesioatra</i> (Schaerer) Kalb.	Sheikh <i>et al.</i> 2006a
	<i>Lecidella euphorea</i> (Flörke) Hertel in D. Hawksw. & al.	Sheikh <i>et al.</i> 2006a
	<i>Lecidella flavosorediata</i> (Vizda) Hertel & Leuckert	Sheikh <i>et al.</i> 2006a
	<i>Lecidella stigmatea</i> (Ach.) Hertel & Leuckert	Singh & Sinha 2010
	<i>Rhizoplaca chrysoleuca</i> (Sm.) Zopf	Sheikh <i>et al.</i> 2006a
	<i>Rhizoplaca melanophthalma</i> (DC.) Leuckert & Poelt	Sheikh <i>et al.</i> 2006a
12.	Lecideaceae	<i>Lecidea auriculata</i> Th. Fr.
	<i>Lecidea confluens</i> (Weber) Ach.	Sheikh <i>et al.</i> 2006a

		<i>Lecidea granifera</i> (Ach.) Vain. in Hiern & al.	Sheikh et al. 2006a
		<i>Lecidea plana</i> (J. Lahm) Nyl.	Sheikh et al. 2006a
		<i>Lecidea secernens</i> H. Magn.	Singh & Sinha 2010
13.	Lichinaceae	<i>Peccania coralloides</i> (Massal.) Massal.	Kumar et al. 2012
		<i>Phylliscum abuense</i> Awasthi & Singh	Sheikh et al. 2006a
		<i>Phylliscum indicum</i> Upreti	Sheikh et al. 2006a
14.	Megasporaceae	<i>Aspicilia almorensis</i> Räsänen	Singh & Sinha 2010
		<i>Aspicilia alphoplaca</i> (Wahlenb. in Ach.) Poelt & Leuck.	Sheikh et al. 2006a
		<i>Aspicilia caesiocinerea</i> (Nyl. ex. Malbr.) Arnold	Sheikh et al. 2006a
		<i>Aspicilia calcarea</i> (L.) Sommerf.	Sheikh et al. 2006a
		<i>Aspicillia cinereorufescens</i> (Ach.) Massal.	Sheikh et al. 2006a
		<i>Aspicillia contorta</i> (Hoffm.) Krempelsh.	Sheikh et al. 2006a
		<i>Aspicilia griseocinerea</i> Räsänen	Sheikh et al. 2006a
		<i>Aspicillia hartilana</i> Hue	Sheikh et al. 2006a
		<i>Aspicilia maculata</i> (H. Magn.) Oksner in Kopach. & al.	Kumar et al. 2012
		<i>Aspicilia praeradiosa</i> (Nyl.) Poelt and Leuck.	Sheikh et al. 2006a
		<i>Aspicillia radiosa</i> (Hoffm.) Poelt and Leuck.	Sheikh et al. 2006a
		<i>Lobothallia alphoplaca</i> (Wahlenb. ex Ach.) Hafellner	Kumar et al. 2012
		<i>Lobothallia praeradiosa</i> (Nyl.) Hafellner	Singh & Sinha 2010
15.	Melaspileaceae	<i>Melaspilea gemella</i> (Eschw.) Nyl.	Sheikh et al. 2006a
16.	Nephromataceae	<i>Nephroma expallidum</i> (Nyl.) Nyl.	Sheikh et al. 2006a
		<i>Nephroma parile</i> (Ach.) Ach.	Sheikh et al. 2006a
17.	Ochrolechiaceae	<i>Ochrolechia pallescens</i> (L.) A. Massal.	Sheikh et al. 2006a
		<i>Ochrolechia rosella</i> (Müll. Arg.) Verseghy	Sheikh et al. 2006a
18.	Opegraphaceae	<i>Opegrapha dimidiata</i> Müll. Arg.	Sheikh et al. 2006a
19.	Parmeliaceae	<i>Allocetraria stracheyi</i> (C. Bab.) Kurok. & Lai	Singh & Sinha 2010
		<i>Bryoria fuscescens</i> (Gyeln.) Brodo & D. Hawksw.	Singh & Sinha 2010
		<i>Canoparmelia texana</i> (Tuck.) Elix & Hale	Sheikh et al. 2006a
		<i>Cetraria potaninii</i> Oxner	Sheikh et al. 2006a
		<i>Cetrelia braunsiana</i> (Müll. Arg.) Culb. & Culb.	Sheikh et al. 2006a
		<i>Cetrelia cetrarioides</i> (Delise ex Duby) Culb. & Culb.	Sheikh et al. 2006a
		<i>Evernia divaricata</i> (L.) Ach	Sheikh et al. 2006a
		<i>Evernia prunastri</i> (L.) Ach.	Sheikh et al. 2006a
		<i>Everniastrum cirrhatum</i> (Fr.) Hale ex Sipman	Sheikh et al. 2006a
		<i>Flavoparmelia caperata</i> (L.) Hale	Sheikh et al. 2006a
		<i>Flavopunctelia flaventior</i> (Stirt.) Hale	Sheikh et al. 2006a
		<i>Flavopunctelia soledica</i> (Nyl.) Hale	Sheikh et al. 2006a
		<i>Hypogymnia physodes</i> (L.) Nyl.	Sheikh et al. 2006a
		<i>Hypogymnia vittata</i> (Ach.) Gasilien	Sheikh et al. 2006a
		<i>Lethariella cashmeriana</i> Krog	Sheikh et al. 2006a
		<i>Melanelia acetabulum</i> (Neck.) Essl.	Sheikh et al. 2006a
		<i>Melanelia disjuncta</i> (Erichsen) Essl.	Sheikh et al. 2006a
		<i>Melanelia elegantula</i> (Zahlbr.) Essl	Sheikh et al. 2006a
		<i>Melanelia infumata</i> (Nyl.) Essl.	Sheikh et al. 2006a
		<i>Melanelia panniformis</i> (Nyl.) Essl.	Singh & Sinha 2010
		<i>Melanelia sorediata</i> (Ach.) Goward & Ahti in Ahti & al.	Singh & Sinha 2010
		<i>Melanelixia fuliginosa</i> (Fr. ex Duby) Blanco & al.	Singh & Sinha 2010
		<i>Melanelixia glabra</i> (Schaer.) Blanco & al.	Sheikh et al. 2006a
		<i>Melanelixia subargentifera</i> (Nyl.) Blanco & al.	Sheikh et al. 2006a
		<i>Melanelixia subaurifera</i> (Nyl.) Blanco & al.	Sheikh et al. 2006a
		<i>Melanelixia villosella</i> (Essl.) Blanco & al.	Sheikh et al. 2006a
		<i>Melanohalea elongatula</i> (Zahlbr.) Blanco & al.	Sheikh et al. 2006a
		<i>Melanohalea exasperatula</i> (Nyl.) Blanco & al.	Singh & Sinha 2010
		<i>Melanohalea infumata</i> (Nyl.) Blanco & al.	Singh & Sinha 2010
		<i>Menegazzia pertusa</i> (Schrank.) Stein	Sheikh et al. 2006a
		<i>Nepromopsis nephromoides</i> (Nyl.) Ahti & Randl.	Kumar et al. 2012
		<i>Parmelia saxatilis</i> (L.) Ach.	Singh & Sinha 2010
		<i>Parmelia hypoclysta</i> (Nyl.) em. Klem.	Sheikh et al. 2006a
		<i>Parmelia scortea</i> (Ach.) Ach.	Sheikh et al. 2006a

	<i>Parmelia sulcata</i> Taylor in Mackay	Sheikh et al. 2006a
	<i>Parmelina pastilifera</i> (Harmand) Hale	Sheikh et al. 2013
	<i>Parmelina tiliacea</i> (Hoffm.) Hale	Sheikh et al. 2006a
	<i>Parmelinopsis minarum</i> (Vain.) Elix & Hale	Singh & Sinha 2010
	<i>Parmotrema austrosinense</i> (Zahlbr.) Hale	Sheikh et al. 20006a
	<i>Parmotrema crinitum</i> (Ach.) Choisy	Singh & Sinha 2010
	<i>Parmotrema cristiferum</i> (Taylor) Hale	Sheikh et al. 2006a
	<i>Parmotrema direagens</i> (Hale) Hale	Sheikh et al. 2006a
	<i>Parmotrema hababianum</i> (Gyeln.) Hale	Sheikh et al. 2006a
	<i>Parmotrema nilgherrense</i> (Nyl.) Hale	Sheikh et al. 2006a
	<i>Parmotrema praesorediosum</i> (Nyl.) Hale	Sheikh et al. 2009
	<i>Parmotrema pseudoreticulatum</i> (Tav.) Hale	Singh & Sinha 2010
	<i>Parmotrema reticulatum</i> (Taylor) Choisy	Singh & Sinha 2010
	<i>Parmotrema sancti-angelii</i> (Lyng.) Hale	Singh & Sinha 2010
	<i>Parmotrema subtinctorium</i> (Zahlbr.) Hale	Singh & Sinha 2010
	<i>Parmotrema tinctorum</i> (Despr. ex Nyl.) Hale	Sheikh et al. 2006a
	<i>Pleurosticta acetabulum</i> (Neck.) Elix & Lumbsch	Singh & Sinha 2010
	<i>Punctelia borreri</i> (Sm.) Krog	Sheikh et al. 2006a
	<i>Punctelia neutralis</i> (Hale) Krog	Sheikh et al. 2013
	<i>Punctelia rudecta</i> (Ach.) Krog	Sheikh et al. 2006a
	<i>Punctelia subrudecta</i> (Nyl.) Krog	Sheikh et al. 2006a
	<i>Sulcaria sulcata</i> (Lév.) Bystrek ex Brodo & Hawksw.	Singh & Sinha 2010
	<i>Xanthoparmelia australasica</i> Galloway	Sheikh et al. 2006a
	<i>Xanthoparmelia conspersa</i> (Ach.) Hale	Sheikh et al. 2006a
	<i>Xanthoparmelia coreana</i> (Gyeln.) Hale	Sheikh et al. 2006a
	<i>Xanthoparmelia mexicana</i> (Gyeln.) Hale	Kumar et al. 2012
	<i>Xanthoparmelia somloënsis</i> (Gylen.) Hale	Sheikh et al. 2006a
	<i>Xanthoparmelia stenophylla</i> (Ach.) Ahti & Hawksw.	Kumar et al. 2012
	<i>Xanthoparmelia taractica</i> (Kremph.) Hale	Sheikh et al. 2006a
	<i>Xanthoparmelia tinctina</i> (Maheu & Gillet) Hale	Sheikh et al. 2006a
	<i>Xanthoparmelia verruculifera</i> (Nyl.) Blanco & al.	Singh & Sinha 2010
20.	Peltigeraceae	
	<i>Peltigera canina</i> (L.) Willd.	Sheikh et al. 2006a
	<i>Peltigera dolichorrhiza</i> (Nyl.) Nyl.	Sheikh et al. 2006a
	<i>Peltigera elisabethae</i> Gyeln.	Singh & Sinha 2010
	<i>Peltigera horizontalis</i> (Huds.) Baumg.	Sheikh et al. 2006a
	<i>Peltigera malacea</i> (Ach.) Funck	Singh & Sinha 2010
	<i>Peltigera microphylla</i> (Anders) Gylen.	Sheikh et al. 2006a
	<i>Peltigera polydactylon</i> (Neck.) Hoffm.	Sheikh et al. 2006a
	<i>Peltigera praetextata</i> (Flörke) Zopf.	Sheikh et al. 2006a
	<i>Peltigera rufescens</i> (Weiss) Humb.	Sheikh et al. 2006a
	<i>Solorina bispora</i> Nyl.	Sheikh et al. 2006a
21.	Peltulaceae	
	<i>Peltula euploca</i> (Ach.) Poelt in Pisut	Sheikh et al. 2006a
	<i>Peltula patellata</i> (Bagl.) Swinscow & Krog	Sheikh et al. 2006a
22.	Pertusariaceae	
	<i>Pertusaria albescens</i> var. <i>albescens</i> (Huds.) M. Choisy & Werner in Werner	Sheikh et al. 2006a
	<i>Pertusaria melastomella</i> Nyl.	Sheikh et al. 20013
	<i>Pertusaria tropica</i> Vain. in Hiern & al.	Singh & Sinha 2010
	<i>Pertusaria quassiae</i> (Fée) Nyl.	Sheikh et al. 2006a
23.	Physciaceae	
	<i>Anaptychia ciliaris</i> (L.) Körb. in Massal.	Sheikh et al. 2006a
	<i>Anaptychia kaspica</i> Gyeln.	Sheikh et al. 2006a
	<i>Anaptychia pseudoroemeri</i> Awasthi & Singh	Sheikh et al. 2006a
	<i>Buellia alboatra</i> (Hoffm.) Th. Fr.	Singh & Sinha 2010
	<i>Buellia alboatrior</i> (Nyl.) Zahlbr.	Singh & Sinha 2010
	<i>Buellia betulinoidea</i> R. Schub. & Klem.	Sheikh et al. 2006a
	<i>Phaeocalicium curtisii</i> (Tuck.) Tibell	Sheikh et al. 2006a
	<i>Buellia montana</i> H. Magn.	Sheikh et al. 2006a
	<i>Diplotomma pharcidium</i> (Ach.) M. Choisy	Singh & Sinha 2010
	<i>Buellia polyspora</i> (Willey in Tuck.) Vainio	Sheikh et al. 2006a
	<i>Buellia punctata</i> (Hoffm.) Mass	Sheikh et al. 2006a
	<i>Buellia sorediata</i> (Tuck.) H. Magn.	Singh & Sinha 2010

		<i>Diplotomma alboatrior</i> (Nyl) Szat. ex Awasthi & Singh	Sheikh et al. 2006a
		<i>Diplotomma solediatum</i> (Tuck.) Singh & Awasthi	Sheikh et al. 2006a
		<i>Heterodermia boryi</i> (Fée) Singh & Singh	Singh & Sinha 2010
		<i>Heterodermia dendritica</i> (Pers.) Poelt,	Singh & Sinha 2010
		<i>Heterodermia diademata</i> (Taylor) Awasthi	Sheikh et al. 2006a
		<i>Heterodermia hypoleuca</i> (Ach.) Trevis.	Singh & Sinha 2010
		<i>Heterodermia incana</i> (Stirt.) Awasthi	Sheikh et al. 2006a
		<i>Heterodermia indica</i> (H. Magn.) Awasthi	Sheikh et al. 2006a
		<i>Heterodermia isidiophora</i> (Nyl.) Awasthi	Singh & Sinha 2010
		<i>Heterodermia obscurata</i> (Nyl.) Trevis.	Singh & Sinha 2010
		<i>Heterodermia speciosa</i> (Wulfen) Trevisan	Sheikh et al. 2006a
		<i>Hyperphyscia adglutinata</i> (Flörke) Mayrhofer & Poelt	Sheikh et al. 2006a
		<i>Hyperphyscia syncolla</i> (Tuck. ex Nyl.)	Sheikh et al. 2013
		<i>Phaeophyscia constipata</i> (Norrl. & Nyl.) Moberg	Sheikh et al. 2006a
		<i>Phaeophyscia endococcina</i> (Körb.) Moberg	Sheikh et al. 2006a
		<i>Phaeophyscia hirsuta</i> (Mereschk.) Essl.	Sheikh et al. 2006a
		<i>Phaeophyscia hispidula</i> (Ach.) Moberg	Sheikh et al. 2006a
		<i>Phaeophyscia kairamoi</i> (Vain.) Moberg	Sheikh et al. 2006a
		<i>Phaeophyscia nepalensis</i> (Poelt) Awasthi	Sheikh et al. 2006a
		<i>Phaeophyscia nigricans</i> (Florke) Moberg.	Sheikh et al. 2006a
		<i>Phaeophyscia orbicularis</i> (Neck.) Moberg	Sheikh et al. 2006a
		<i>Phaeophyscia pyrrhophora</i> (Poelt) Awasthi & Joshi	Singh & Sinha 2010
		<i>Physcia adscendens</i> (Fr.) Olivier	Singh & Sinha 2010
		<i>Physcia aipolia</i> (Ehrh. ex Humb.) Fűrnr.	Sheikh et al. 2006a
		<i>Physcia caesia</i> (Hoffm.) Fűrnr.	Sheikh et al. 2006a
		<i>Physcia dilatata</i> Nyl.	Sheikh et al. 2013
		<i>Physcia dubia</i> (Hoffm.) Lettau	Sheikh et al. 2006a
		<i>Physcia integrata</i> Nyl.	Singh & Sinha 2010
		<i>Physcia leptalea</i> (Ach.) Dc.	Sheikh et al. 2006a
		<i>Physcia semipinnata</i> (Gmel.) Moberg	Singh & Sinha 2010
		<i>Physcia stellaris</i> (L.) Nyl.	Sheikh et al. 2006a
		<i>Physcia tribacia</i> (Ach.) Nyl.	Sheikh et al. 2013
		<i>Physconia detersa</i> (Nyl.) Poelt	Sheikh et al. 2006a
		<i>Physconia distorta</i> (With.) Laundon	Singh & Sinha 2010
		<i>Physconia enteroxantha</i> (Nyl.) Poelt	Sheikh et al. 2006a
		<i>Physconia grisea</i> (Lam.) Poelt	Sheikh et al. 2006a
		<i>Physconia muscigena</i> (Ach.) Poelt	Sheikh et al. 2006a
		<i>Physconia perisidiosa</i> (Erichsen) Moberg	Sheikh et al. 2006a
		<i>Physconia pulverulenta</i> (Schreb.) Poelt	Sheikh et al. 2006a
		<i>Physciopsis adglutinata</i> (Florke) Choisy	Sheikh et al. 2006a
		<i>Pyxine petricola</i> Nyl.	Sheikh et al. 2006a
		<i>Pyxine subcinerea</i> Stirt.	Sheikh et al. 2006a
		<i>Pyxine cocoes</i> (Sw.) Nyl.	Sheikh et al. 2009
		<i>Rinodina badiella</i> (Nyl.) Th. Fr.	Sheikh et al. 2006a
		<i>Rinodina turfacea</i> (Wahlenb.) Körb.	Sheikh et al. 2006a
24.	Porinaceae	<i>Porina glabra</i> Zahlbr.	Sheikh et al. 2006a
25.	Porpidiaceae	<i>Porpidia crustulata</i> (Ach.) Hertel & Schwab	Sheikh et al. 2006a
		<i>Porpidia macrocarpa</i> (DC.) Hertel & Knoph in Hertel	Sheikh et al. 2006a
26.	Psoraceae	<i>Psora decipiens</i> (Hedwing) Hoffm.	Sheikh et al. 2013
27.	Ramalinaceae	<i>Catinaria atropurpurea</i> (Schaer.) Vî zda & Poelt in Poelt & Vizda	Singh & Sinha 2010
		<i>Frutidella caesiaatra</i> (Schaer.) Kalb	Singh & Sinha 2010
		<i>Ramalina baltica</i> Lettau	Sheikh et al. 2006a
		<i>Ramalina conduplicans</i> Vain.	Sheikh et al. 2006a
		<i>Ramalina confusa</i> Awasthi	Sheikh et al. 2006a
		<i>Ramalina obtusata</i> (Arnold) Bitter	Sheikh et al. 2006a
		<i>Ramalina pollinaria</i> (Westr.) Ach.	Sheikh et al. 2006a
		<i>Ramalina sinensis</i> Jatta	Sheikh et al. 2006a
		<i>Ramalina subampliata</i> (Nyl.) Fink	Singh & Sinha 2010
28.	Rhizocarpaceae	<i>Rhizocarpon disporum</i> (Naeg ex Hepp) Müll. Arg.	Kumar et al. 2012

		<i>Rhizocarpon geographicum</i> (L.) DC.	Kumar <i>et al.</i> 2012
		<i>Rhizocarpon macrosporum</i> Räsänen	Singh & Sinha 2010
		<i>Rhizocarpon sublucidum</i> Räsänen	Sheikh <i>et al.</i> 2006a
29.	Stereocaulaceae	<i>Lepraria lobificans</i> Nyl.	Sheikh <i>et al.</i> 2009
		<i>Lepraria membranacea</i> (Dicks.) Vain.	Singh & Sinha 2010
		<i>Squamarina cartilaginea</i> (With.) James	Sheikh <i>et al.</i> 2006a
		<i>Stereocaulon glareosum</i> (Savicz) Magn.	Sheikh <i>et al.</i> 2006a
30.	Teloschistaceae	<i>Caloplaca bassiae</i> (Willd. ex Ach.) Zahlbr.	Goni <i>et al.</i> 2013
		<i>Caloplaca biatorina</i> (A. Massal.) Steiner	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca brebissonii</i> (Fée) J. Sant. ex Hafellner & Poelt	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca cerina</i> var. <i>stillicidiorum</i> (Vahl) Th. Fr.	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca cerina</i> var. <i>muscorum</i> (A. Massal.) Jatta	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca cerinelloides</i> (Erichsen) Poelt	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca cirrochora</i> (Ach.) Th. Fr.	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca citrina</i> (Hoffm.) Th. Fr.	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca decipiens</i> (Arnold) Blomb. & Forssell	Singh & Sinha 2010
		<i>Caloplaca diphyodes</i> (Nyl.) Jatta	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca elegans</i> (Link.) Th. Fr.	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca flavocitrina</i> (Nyl.) H. Olivier	Singh & Sinha 2010
		<i>Caloplaca flavovirescens</i> (Wulfen) Dalla Torre & Sarnth.	Sheikh <i>et al.</i> 2013
		<i>Caloplaca haematites</i> (Chaub.) Zwackh	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca himalayana</i> Joshi & Upreti	Joshi <i>et al.</i> 2009
		<i>Caloplaca holocarpa</i> (Hoffm.) Wade	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca insularis</i> Poelt	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca juniperi</i> Poelt & Hinter	Sheikh <i>et al.</i> 2013
		<i>Caloplaca kashmirensis</i> Joshi & Upreti	Sheikh <i>et al.</i> 2009
		<i>Caloplaca malaensis</i> (Rasanen) Awasthi	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca muscorum</i> (Massal.) Choisy & Werner	Singh & Sinha 2010
		<i>Caloplaca obliterans</i> (Nyl.) Blomb. & Forssell in Points-forteckning	Singh & Sinha 2010
		<i>Caloplaca oasis</i> (Massal.) Szatala	Sheikh <i>et al.</i> 2006a
		<i>Caloplaca saxicola</i> (Hoffm.) Norden	Kumar <i>et al.</i> 2012
		<i>Caloplaca subsoluta</i> (Nyl.) Zahlbr	Sheikh <i>et al.</i> 2009
		<i>Caloplaca variabilis</i> (Pers.) Müll.	Kumar <i>et al.</i> 2012
		<i>Xanthoria candelaria</i> (L.) Th. Fr.	Sheikh <i>et al.</i> 2006a
		<i>Xanthoria elegans</i> (Link) Th. Fr.	Sheikh <i>et al.</i> 2006a
		<i>Xanthoria fulva</i> (Hoffm.) Poelt & Petutschnig	Sheikh <i>et al.</i> 2006a
		<i>Xanthoria parietina</i> (L.) Th. Fr.	Sheikh <i>et al.</i> 2006a
		<i>Xanthoria polycarpa</i> (Hoffm.) Th. Fr. ex Rieber	Sheikh <i>et al.</i> 2006a
		<i>Xanthoria substellaris</i> var. <i>subsorediosa</i> Räsänen	Sheikh <i>et al.</i> 2006a
		<i>Xanthoria sorediata</i> (Vain.) Poelt	Sheikh <i>et al.</i> 2006a
		<i>Xanthoria ulophyllodes</i> Räsänen	Sheikh <i>et al.</i> 2006a
31.	Tephromelataceae	<i>Tephromela atra</i> (Huds.) Hafellner in Kalb	Sheikh <i>et al.</i> 2006a
32.	Thelotremataceae	<i>Diploschistes actinostomus</i> (Pers. ex Ach.) Zahlbr.	Sheikh <i>et al.</i> 2006a
		<i>Diploschistes candidissimus</i> (Kremp.) Zahlbr.	Sheikh <i>et al.</i> 2006a
		<i>Diploschistes muscorum</i> (Scop.) Sant.	Singh & Sinha 2010
		<i>Diploschistes scruposus</i> (Schreb.) Norman	Sheikh <i>et al.</i> 2006a
33.	Umbilicariaceae	<i>Lasallia pertusa</i> (Rassad.) Llano	Singh & Sinha 2010
		<i>Umbilicaria jingralensis</i> Nagarkar & Patw.	Sheikh <i>et al.</i> 2006a
		<i>Umbilicaria krascheninnikovii</i> (Savicz) Zahlbr.	Singh & Sinha 2010
		<i>Umbilicaria nepalensis</i> Poelt	Singh & Sinha 2010
		<i>Umbilicaria vellea</i> (L.) Ach.	Kumar <i>et al.</i> 2012
		<i>Umbilicaria virginis</i> Schaer.	Sheikh <i>et al.</i> 2006a
34.	Usneacea	<i>Usnea esperantiana</i> P. Clerc	Singh & Sinha 2010
		<i>Usnea subfloridana</i> Stirt.,	Sheikh <i>et al.</i> 2006a
		<i>Dolichousnea longissima</i> (Ach.) Articus	Sheikh <i>et al.</i> 2006a
		<i>Usnea perplexans</i> Stirt.	Sheikh <i>et al.</i> 2006a
		<i>Usnea subfloridana</i> Stirt.	Sheikh <i>et al.</i> 2006a
35.	Verrucariaceae	<i>Dermatocarpon meiophyllizum</i> Vain	Sheikh <i>et al.</i> 2006a
		<i>Dermatocarpon miniatum</i> (L.) W. Mann.	Sheikh <i>et al.</i> 2006a

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<i>Dermatocarpon moulinsii</i> (Mount.) Zahlbr.	Sheikh <i>et al.</i> 2006a
<i>Dermatocarpella squamulosum</i> (Ach.) H. Harada	Sheikh <i>et al.</i> 2009
<i>Dermatocarpon vellereum</i> Zschacke	Sheikh <i>et al.</i> 2006a
<i>Endocarpon rosettum</i> Ajay Singh & Upreti	Sheikh <i>et al.</i> 2009
<i>Endocarpon subrosettum</i> Ajay Singh & Upreti	Sheikh <i>et al.</i> 2006a
<i>Staurothele fissa</i> (Taylor) Zwack.	Sheikh <i>et al.</i> 2013
<i>Verrucaria acrotella</i> Ach.	Sheikh <i>et al.</i> 2009
<i>Verrucaria aethiobola</i> Wahlb. in Ach.	Sheikh <i>et al.</i> 2006a
<i>Verrucaria coerulea</i> (Ram.) DC.	Sheikh <i>et al.</i> 2013

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