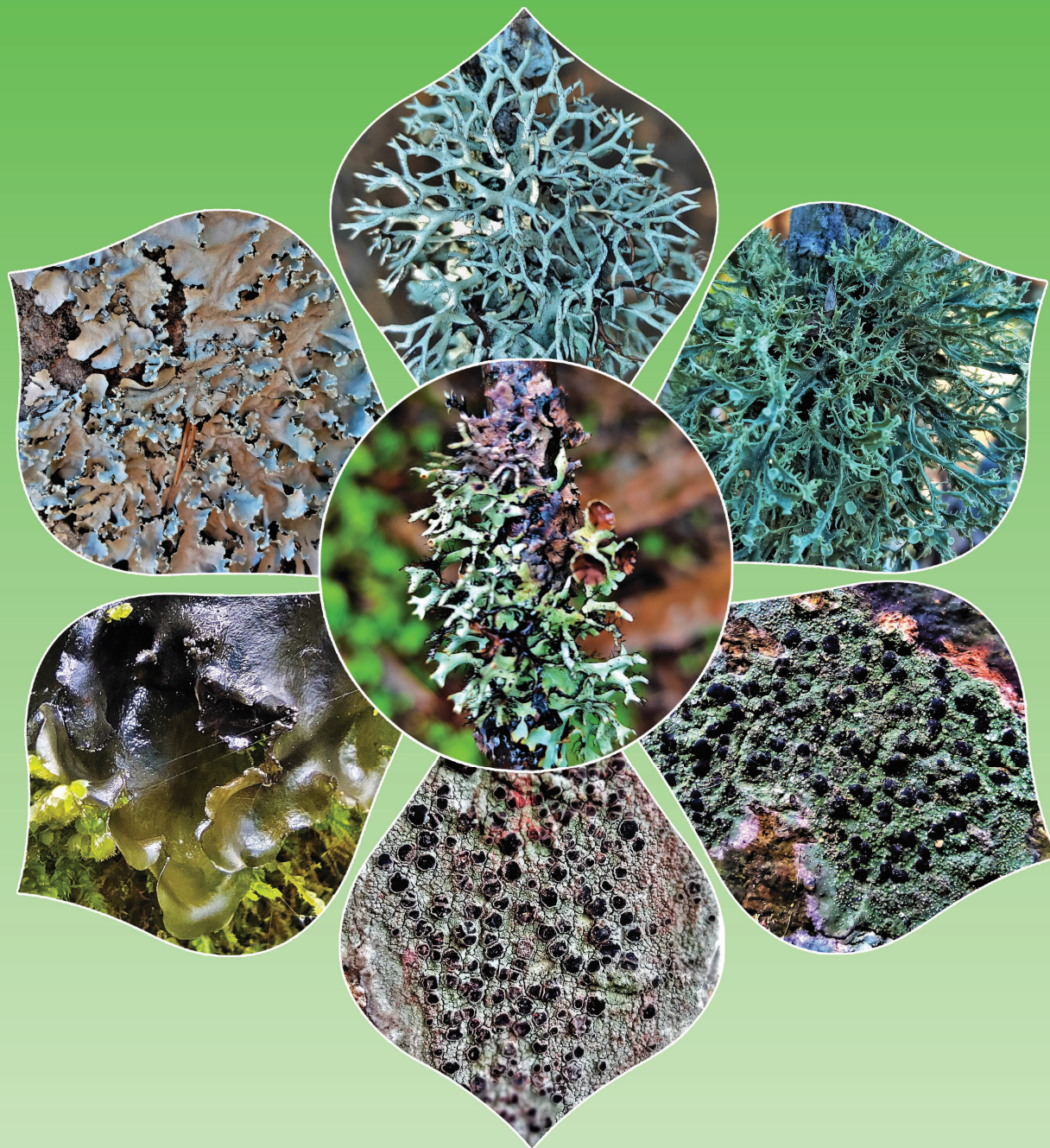


Lichens of Nepal

(Checklist)



Government of Nepal
Ministry of Forests and Environment
Department of Plant Resources
National Herbarium and Plant Laboratories
Godawari, Lalitpur



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Chitra Bahadur Baniya

Rajesh Tamang

Amrit K.C.



Government of Nepal
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2022

SUMMARY

Lichen is commonly known as “JHYAU/झ्याऊ” in Nepali. Lichen is a life form with a natural attachment between two organisms: an alga and a fungus together in a symbiotic association. The algal component in the lichen is called phycobiont or photobiont (blue green algae and/or green algae) and the fungal component is called mycobiont (Ascomycetes or Basidiomycetes). Nature can only combine these two components to each other. Lichens are also called ascolichen and basidiolichen based on their fungal partner of their association.

Among the 20,000 species of lichens so far believed to be existing in the world, 95% among them are the ascomycetes group of fungi while the remaining are the basidiomycetes and deuteromycetes of 3% and 2% respectively. Lichens are basically classified as crustose, foliose and fruticose based on their thallus structure.

Lichens grow and multiply by all three reproductive methods: vegetative, asexual, and sexual. Vegetative is the most common method of multiplication in which fragments detach from the mother thallus by means of certain external force. Detached fragment grows to separate individual. Asexual reproduction takes place by asexual spores such as soridia or isidia. Each asexual spore converts to lichen thallus after landing in any suitable habitats. Sexual reproduction fully depend on fungal partner until formation of sexual spore. Germination of fungal spore takes place after dispersal thus gives rise to a primary thallus. Lichen formation will take place after falling gonidia or algal asexual spores of Specific taxa upon the primary thallus.

The first lichen collection in Nepal was made by Nathaniel Wallich in 1820-21. His collections were studied and described by Taylor in the same year and reported nine species as new to science. These were *Alectoria spinosa*, *Parmelia atrocapilla*, *P. diademata*, *P. exsecta*, *P. nepalensis*, *P. wallichiana*, *Sticta wallichiana* and *Usnea compressa*. Nylander in 1860 published a monumental work on lichens entitled *Synopsis Methodica Lichenum* that included some of the Nepalese specimens collected by Sir J. D. Hooker and Thompson during 1846-1848.

Lichens have been used as food, medicine, dyes, perfume, ritual and aesthetic value by certain communities of people and in decorative purposes. Most of their secondary metabolites have been used in cosmetics, pharmaceuticals etc.

The present checklist of lichens of Nepal enumerated 1129 taxa including infra-specific categories. They were belonging to 237 genera and 66 families. *Cladonia* was the largest genera having 81 species followed by *Lecanora*, *Usnea*, *Parmotrema*, *Caloplaca*, *Leptogium* and others.

5. LICHEN DIVERSITY AND CHECKLIST

The present checklist of lichens of Nepal enumerated 1129 taxa including 1078 species and 51 infra-specific categories which belonging to 237 genera and 66 families. The Parmeliaceae is the largest family having 48 genera and 273 species which followed by Physciaceae having 13 genera and 103 species; Cladoniaceae having five genera and 86 species; Lecanoraceae having nine genera and 83 species (Table 1).

Table 1: Number of genera and species in the largest 10 different families

S.N.	Family	Genera	Species
1	Parmeliaceae	48	273
2	Physciaceae	13	103
3	Cladoniaceae	5	86
4	Lecanoraceae	9	83
5	Teloschistaceae	17	61
6	Collemataceae	4	46
7	Caliciaceae	10	44
8	Ramalinaceae	8	41
9	Graphidaceae	11	41
10	Lecideaceae	7	35

Among all the genera, *Cladonia* is the largest genera having 81 species which is followed by *Lecanora* (51 sp.), *Usnea* (42 sp.), *Parmotrema* (37 sp.), *Caloplaca* (37 sp.), *Leptogium* (28) and others (Table 2).

Table 2: Largest 20 genera with their number of species

Genera	Species	Genera	Species	Genera	Species
<i>Cladonia</i>	81	<i>Lecidea</i>	24	<i>Physcia</i>	17
<i>Lecanora</i>	51	<i>Hypotrachyna</i>	21	<i>Parmelia</i>	16
<i>Usnea</i>	42	<i>Graphis</i>	21	<i>Peltigera</i>	16