

# Lichens in Sal forest of Wildlife Institute of India

(A photographic documentation)

Sachin M.H. & B.S. Adhikari



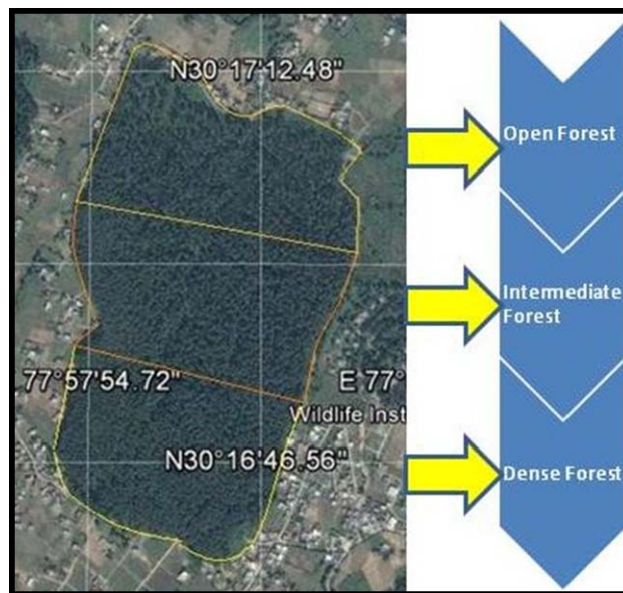
*Lichens in Sal forest of  
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Lichens are plants, composed of a fungus and a green or blue-green alga, living together in a symbiotic association. The lichens are also regarded as an example of controlled parasitism, because the fungus seems to obtain most of the benefits without killing the alga and the alga may grow more slowly in the lichenized state than when it lives in free state. There is a close physiological integration in the lichen symbiosis. The fungus dominates the alga and derives its nutrition. The food prepared by the alga in the form of carbohydrates flow to fungus, in return the fungus provides the alga a place to live and convert the primary food into secondary metabolites. The occurrence of secondary metabolites adds to the uniqueness of the lichen symbiosis. The common sexual reproductive bodies of lichens are known as perithecia and apothecia.

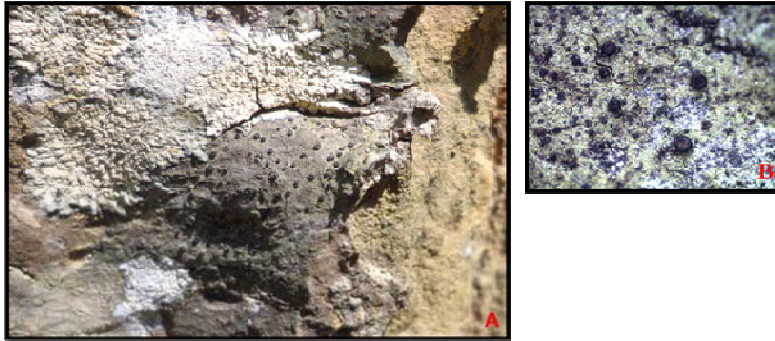
Lichens grow on a variety of substrates some lichen species are substrate specific. Technically in keys for identification of lichens the term saxicolous, corticolous, lignicolous, ramicolous, terricolous, foliicolous and muscicolous referred for rock, bark, twig, wood, soil, leaf, inhabiting and bryophytic lichens, respectively.

A preliminary survey on lichens in sal forest of Wildlife Institute of India was made during 2014.

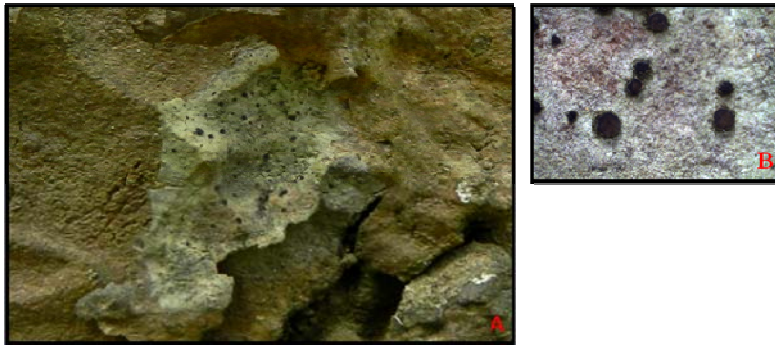


During the survey, lichen specimens were collected from lower to higher girth class sal trees from different sites (open, medium and dense canopy forest) and identification was conducted in National Botanical Research Institute, Lucknow.

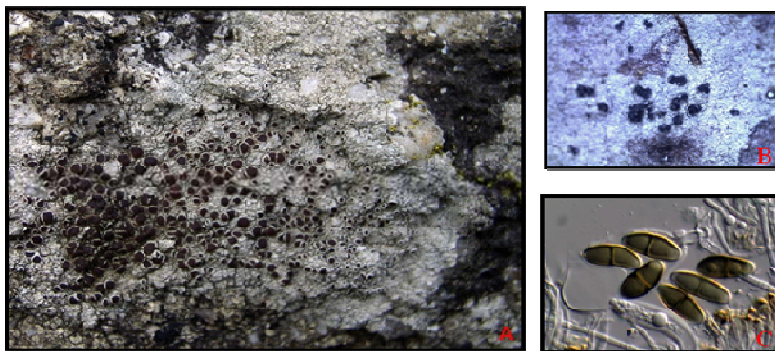
In all, 23 species of lichens have been identified, of which 3 species (2 species of *Herpothallon* and one species of *Lepraria*) are newly documented from the region.



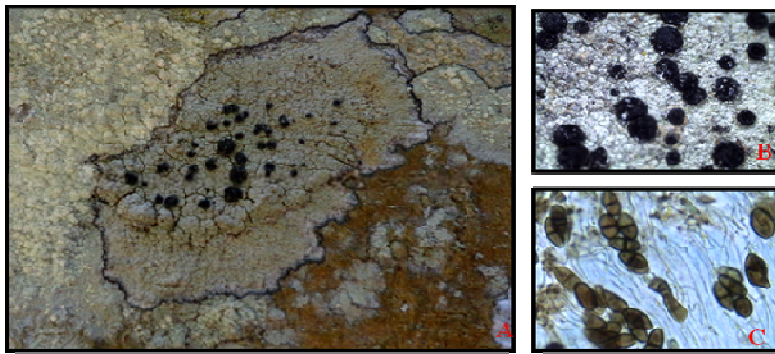
*Bacidia medialis* (A: thallus and B: microscopic image of perithecia)



*Bacidia submedialis* (A: thallus and B: microscopic image of perithecia)



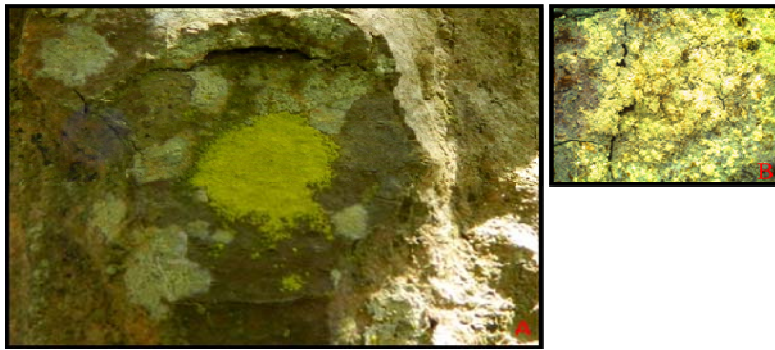
*Buellia disciformis* (A: thallus, B & C: microscopic images of fruiting body and its spores)



*Buellia tinctoria* (A: thallus, B & C: microscopic images of thallus and spores)



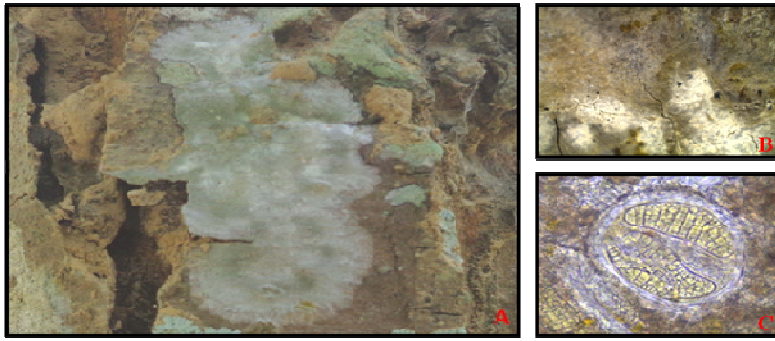
*Caloplaca bassiae* (A: thallus and B: microscopic image of apothecia)



*Chrysothrix candelaris* (A: thallus and B: Microscopic image of soredia)



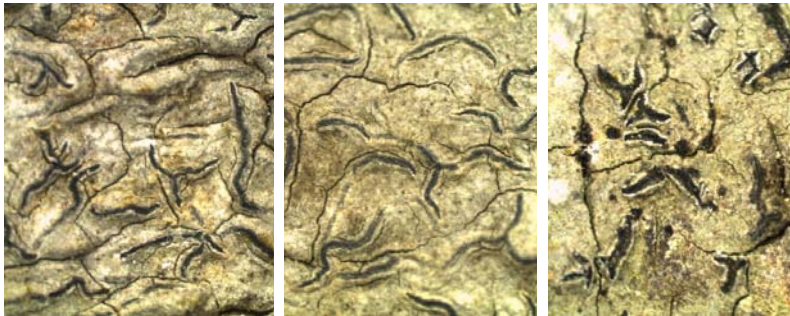
*Chrysothrix chlorina* (A: thallus and B: Microscopic image of soredia)



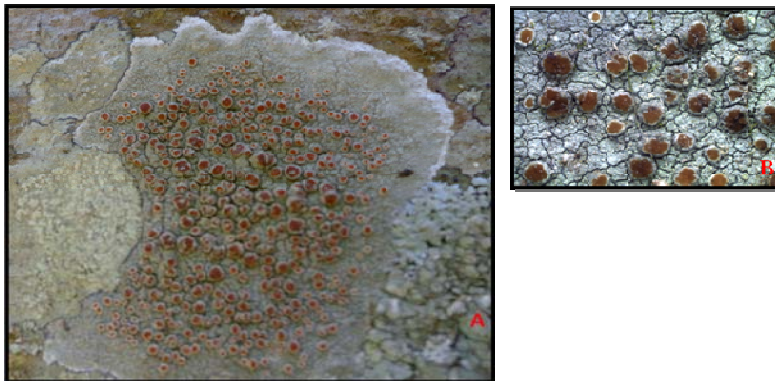
*Cryptothecia punctulata* (A: thallus; B & C: Microscopic images of fruiting body and ascus)



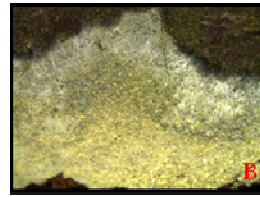
*Dirinaria consimilis* (A: thallus, B: microscopic image of thalli and C: sekikaic acid structure obtained from Microcrystallization process)



*Graphis leonella*, *Graphis areceae* and *Graphis consimilis* thallus and lirellae



*Haemotomma puniceum* (A: thallus and B: apothecia)



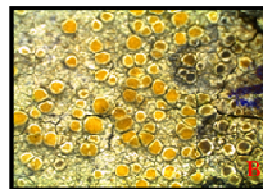
*Herpothallon* sp. 1 (A & B: thallus)



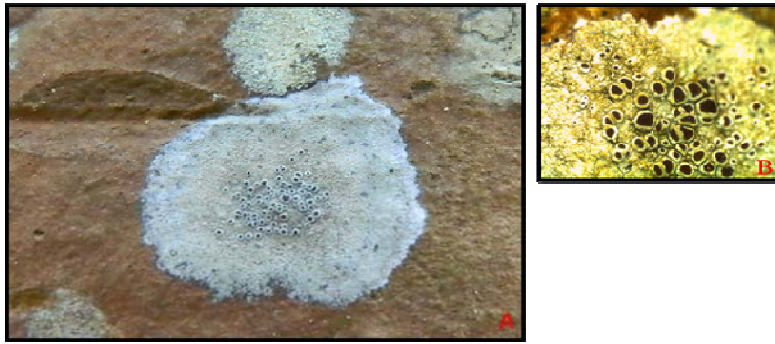
*Herpothallon* sp. 2 thallus



*Lecidea granifera* thallus



*Lecanora achroa* (A: thallus and B: apothecia)



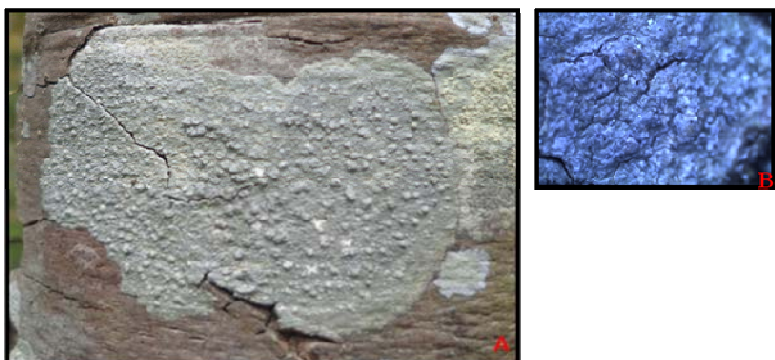
*Lecanora tropica* (A: thallus and B: apothecia)



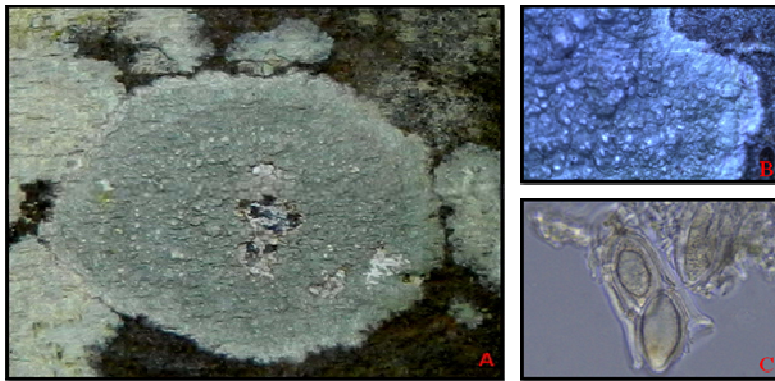
*Lecanora* sp. (A: thallus and B: apothecia)



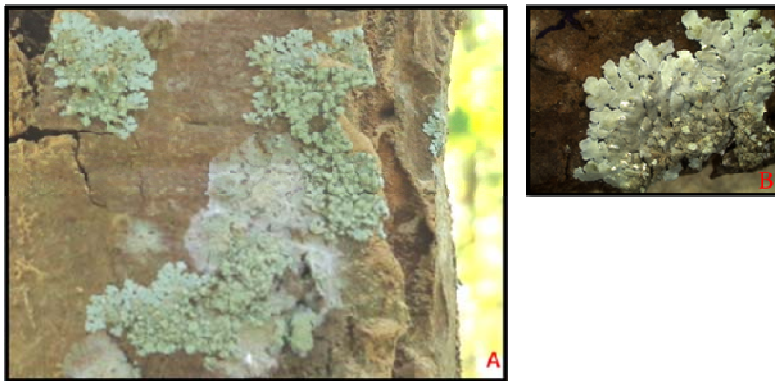
*Lepraria* sp. (A & B: thallus)



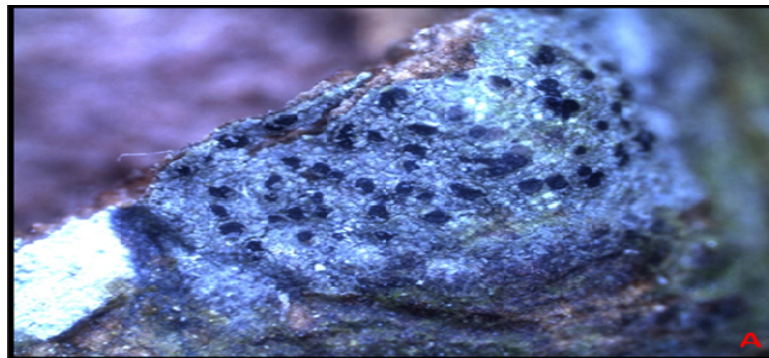
*Pertusaria quassiae* (A: thallus and B: fruiting body)



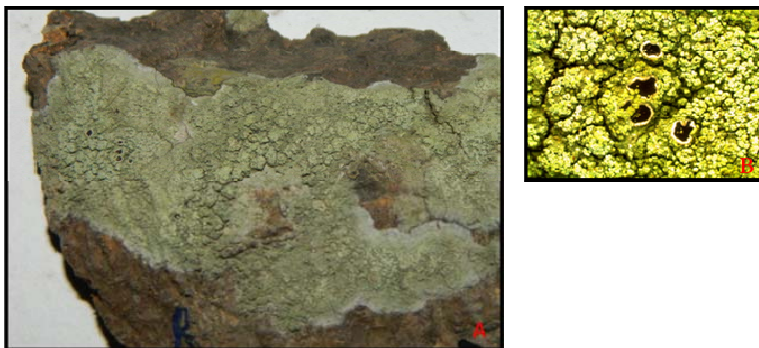
*Pertusaria granulata* (A: thallus; B & C: microscopic images of thallus and spores)



*Physcia tribacoides* (A: thallus and B: soredia)



*Rinodina saphodes*



*Vainoraria* sp. A: thallus and B: apothecia