

A NOTE ON SOME MACROLICHEN TAXA FROM PACHMARHI, MADHYA PRADESH, INDIA

Pachmarhi, the hill capital of M. P., is situated at an elevation of 1067 m above sea level, at 22°28'N latitude and 78° 26'E longitude in the Mahadeo hills of Satpura Range. In the form of a saucer shaped plateau, Pachmarhi covers an area of about 60 sq km. It is surrounded by prominent peaks of Satpura Range: Dhupgarh (1350 m) in the south west, Mahadeo (1328 m) in the south and Chauradeo (1312 m) in the south east. The plateau has remarkably deep ravines and several waterfalls. Climatically the average maximum and minimum temperatures during the summers and winters are 40°C—22°C and 21°C—4.5°C respectively. The annual rainfall varies from 125 cm to 200 cm. The general vegetation typically consists of deciduous trees such as *Shorea robusta* (a more common tree), *Terminalia tomentosa*, *T. chebula*, *T. belerica* and *Emblica officinalis*.

Among the lichens the foliose forms are less frequent and chiefly occur on the trees growing along the banks of the streams and in moist and shady areas of the forest. The paucity of foliose forms is probably due to shorter period of rains and dry climatic conditions. The crustose lichens are more frequent and are found on barks of trees, rocks and on boulders. A collection of lichens from the Pachmarhi area was made by the author in January, 1973. The specimens have been worked out at the Lichenology laboratory, Department of Botany, Lucknow University, Lucknow, under the guidance of Dr. D. D. Awasthi. The foliose forms (macrolichens) that have so far been finally determined are being enumerated below; the numbers within the parentheses indicate the field numbers.

1. *Leptogium denticulatum* Nyl.—Thallus corticolous, lead grey, upper surface rough, isidiate; isidia laminal, simple to squamuliform; lower surface without tomentum; apothecia reddish brown, 0.5-1 mm in diam.; spores colourless, ellipsoid, muriform, 18-30 × 6.5-12 μm. Common in the dense moist and open forest on way to Pancy pool (73.52); on way to Patharchatta (73.59); on way to Dhupgarh (73.170, 73.173).

2. *Parmelia aptata* Kremp. apud Nyl.—Thallus corticolous, yellowish grey, closely adnate, much lobed, lobes imbricate, sorediate, soralia marginal and pustulate; lower side black; cortex K+, light yellow, C-, KC-, Pd-; medulla K-, C-, KC-, Pd-. Rare in the dense moist forest; Down fall (73.113).

3. *Parmelia isidiza* Nyl.—Thallus corticolous, adnate, yellowish to grey, lobes small, isidiate, margin entire with bulbate cilia; under side pale brown medulla K+red, C- KC-, Pd+orange red. Common in the dense and open forests near Pancy pool diversion (73.12, 73.69); on way to Little fall (73.119); on way to Twynam pool (73.144); near Vijai Prapat diversion (73.174).

4. *Parmelia praesorediosa* Nyl.—Thallus corticolous and saxicolous, grey; margin sorediate and eciliate; cortex K+ yellow, C-, KC-, Pd-; medulla K-, C-, KC-, Pd-. Common in open as well as in shady areas; Downfall (73.114); on way to Little fall (73.132); on way to Chhota Mahadeo (73.155); on way to Pipariya (73.183, 73.202, 73.203).

5. *Parmelia rampoddensis* Nyl.—Thallus corticolous, large, loosely attached, whitish to grey; margin entire with long simple cilia, some elevated lobes with soredia; lower surface black; medulla K-, C-, KC+red, Pd-. Rare in the area; near Vijay Prapat diversion (73.172).

6. *Parmelia tinctorum* Nyl.—Thallus large, loosely attached, whitish grey to greyish brown, densely isidiate; margin eciliate; medulla K—, C+pink, KC+red, Pd—. Common in open and dense forest; on way to Pancy pool (73.71); on way to Little fall (73.120, 73.125); on way to Chhota Mahadeo (73.148).

7. *Parmelia* (*Xanthoparmelia*) sp.—Thallus saxicolous, closely appressed, yellowish, irregularly lobed, lobes up to 1.5 mm broad, margin black, eciliate; lower surface brown to black; upper surface isidiate; isidia cylindrical, simple or branched (rarely); medulla K+orange red, C, KC—, Pd+yellow. Crystals of usnic acid and stictic acid are formed in G. A. o-T. On way to Little fall (73.133, 73.136). This specimen resembles *P. congensis* in the presence of stictic acid but differs from it in the nature of isidia. It also shows resemblance to *P. neocongensis* in the nature of isidia, but the latter is reported to be without stictic acid.

8. *Dirinaria consimilis* (Stirt.) Awas.—Thallus corticolous, closely appressed, yellowish grey to ashy grey, sorediate, longitudinally plicate, under side corticate and black, cortex K+yellow; medulla K—, C—, KC—, Pd—; divaricatic acid absent. Common in dense shady areas; Downfall (73.105, 73.112, 73.116, 73.117); on way to Little fall (73.122); on way to Chhota Mahadeo (73.153).

9. *Heterodermia albidiflava* (Kurok.) Awas.—Thallus corticolous, grey brown, isidia and soredia absent, underside corticate; apothecia 0.5—2 mm in diam.; spores 2 celled, brown without polyblastidia  $25-28 \times 12-13 \mu\text{m}$ ; medulla K+, red, C—, KC—, Pd+yellow red. Rare near Pancy pool diversion (73.18); on way to Pancy pool (73.64, 73.74).

10. *Heterodermia diademata* (Tayl.) Awas.—Thallus corticolous, greyish white, underside corticate; apothecia 1-5 mm in diam., spores 2 celled, brown thick walled, without polyblastidia,  $25-34 \times 10-15 \mu\text{m}$ ; cortex and medulla both K+yellow, C—, KC—, Pd—. Common in dense and open forests; on way to Pancy pool (73.23); on way to Twynam pool (73.143); on way to Pipariya (73.185).

11. *Heterodermia dissecta* (Kurok.) Awas.—Thallus corticolous, whitish grey to brown, margins of the lobes elevated, crenate to squamulose and becoming sorediose; underside corticate; apothecia absent; crystals of atranorin, zeorine, norstictic acid and salacinic acid are formed in G. A. o-T., some thin plates of unknown compound are also formed. On way to Pancy pool (73.78A).

12. *Heterodermia pseudospeciosa* (Kurok.) W. Culb.—Thallus corticolous, pale brown, much lobed, lobes imbricate, terminally sorediate; underside corticate; apothecia 1-3 mm in diam., margin crenate, inward turned becoming sorediose at maturity; spores 2 celled, brown without polyblastidia,  $25.5-30.5 \times 12-15.5 \mu\text{m}$ ; thallus K+yellow, medulla K+yellow; crystals of atranorin, zeorine, salacinic acid and norstictic acid are formed in G.A. o-T.; salacinic acid is present in traces. Near Pancy pool diversion (73.13).

13. *Heterodermia tremulans* (Mull. Arg.) W. Culb.—Thallus corticolous, whitish grey to brown, lobes short, margins upturned and sorediose; underside corticate; medulla K+yellow, C—, KC—, Pd—; crystals of atranorin and zeorine are formed in G. A. o-T.; salacinic acid and norstictic acid are absent. On way to Pancy pool (73.78B).

14. *Physcia endococcinodes* Poelt.—Thallus corticolous, greyish brown, closely appressed; medulla red, K+purple violet; apothecia up to 1.5 mm in diam. and seated on a crown of cilia, epithecium K—; spores ellipsoid, 2 celled, brown, thick walled, pachysporaria type,  $22-37 \times 8.5-17 \mu\text{m}$ . Rare on way to Pipariya (73.188).

15. *Physcia hispidula* (Ach.) Frey.—Thallus corticolous, whitish grey, underside with dense black rhizines projecting beyond the thallus margin; apothecia up to 3 mm in diam. and seated on a crown of black cilia; epithecium K—; spores ellipsoid, 2 celled, brown,

thick walled,  $22-30.5 \times 8.5-15 \mu\text{m}$ ; cortex and medulla both K—, C—, KC—, Pd—. Common in dense and open places; on way to Pancy pool (73.75); on way to Pipariya (73.184, 73.193).

16. *Physcia* cfr. *tribacia* (Ach.) Nyl.—Thallus corticolous, irregularly lobed, lobes small, occasionally marginally soreciate, tips slightly expanded; margin entire; medulla K+ yellow, C—, KC—, Pd—. Rare on roadside tree of Dhupgarh road (73. 163). The specimen resembles *P. tribacia* in all respects except K+reaction in the medulla.

The author is grateful to Dr. D. D. Awasthi for guidance and thankful to Mr. J.K. Misra for cooperation during the collection trip.

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