Bull. Natn. Sci. Mus., Tokyo, Ser. B, **26**(2), pp. 67–74, June 22, 2000

A Preliminary Study on the Mycodiversity of Maipokhari, East Nepal

Mahesh K. Adhikari

Department of Plant Resources, Ministry of Forests & Soil Conservation,
Thapathali, GPO Box no. 841, Kathmandu, Nepal.
E-mail: mycologist@mahesh.wlink.com.np

Abstract This is a preliminary report on mycological investigation at Maipokhari area. Nine genera of Ascomycotina and twenty-eight genera of Basidiomycotina were found from this area. Among the collected taxa many of the species listed in this paper are new to the area. References on the fungi of Maipokhari area and Nepalese Himalayan belts are listed.

Key words: East Nepal, Maipokhari, mycodiversity

Introduction

Maipokhari lies in the North Eastern corner between 26°30′–27°28′N latitude and 87°35′–88°20′E longitude of the Nepalese Kingdom in the Ilam district of Mechi zone. It is a natural lake with interesting geosettings situated at a height of 2100 m surround by small hillocks around it. It embraces an interesting mythological legend related to goddess Durga.

Phytogeography of the area The area possesses cool temperate climate with heavy amount of rain with typical assemblage of interesting biodiversity. The area embraces typical temperate mixed flora. The phytodiversity is composed of *Cryptomeria japonica* (introduced from Japan and naturalized), *Castanopsis indica*, *C. hystrix*, *Schima wallichii*, *Rhododendron arboreum*, *Alnus nepalensis*, *Symplocus summuntia*, *Berberis aristata*, *Dendrocalamus* sp., *Ilex* sp., and *Lyonia ovalifolia*. Many orchid species belonging to *Dendrobium*, *Cymbidium*, *Coelogyny* and pteridophyte like *Polystichum*, *Dryopteris*, *Glychenia* and *Selaginella* are found. These complex phytogeographical conditions generally provide a good homeland for growth of tremendous amount of parasitic, saprophytic and mycorrhizal fungi in the region. Darjeeling of India, the area from where numerous species of fungi had been reported mainly by Berkeley, is near from Ilam district, situated out of the east side of the International Boundary.

The first historical event of collection of natural plant diversities from Ilam district started from J. D, Hooker's period. Since then several botanical investigations

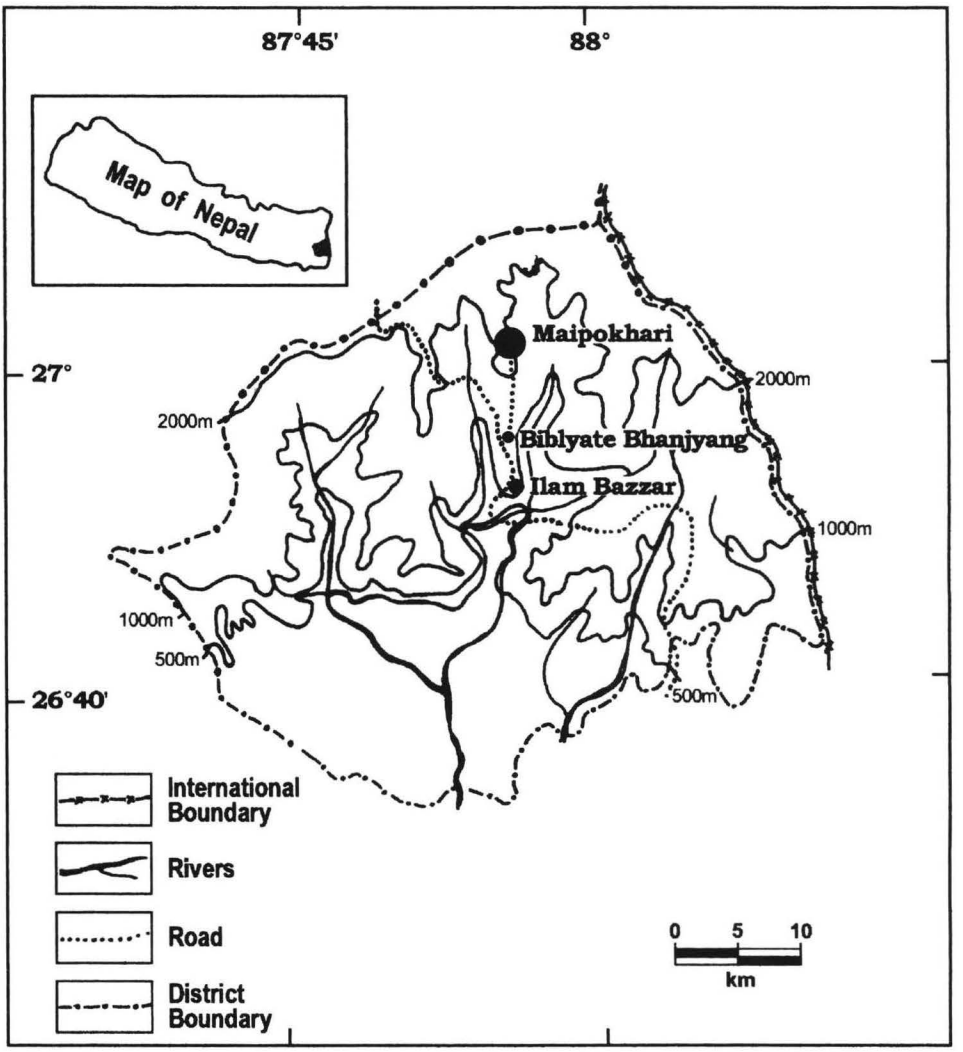

Fig. 1. Map of Maipokhari area in Ilam district, East Nepal.

have been going on. The recent investigation on mycological diversities of this area has created an enthusiasm towards its intensive exploration.

Itinerary of collection The fungal collection during this period (July 15–25, 1998) encompasses the areas shown in the map provided here (Fig. 1). The recent investigation was done in joint expedition with National Science Museum, Tokyo, Japan and Nepal Flora Implementation Project, DPR, Kathmandu, Nepal. The route traverce from Ilam to Maipokhari through Biblyate on foot.

Mycodiversity in the area

A. Bibliographic review

The glimpse on the historical accounts and studies on mycoflora made in Nepalese Himalayan belts can be seen in Adhikari (1990a, 1991a, 1996a) and Adhikari & Manandhar (1996, 1997). The bibliographical review provide vivid records of collections and reports made on investigation of fungi in Nepal but these revealed very few studies and investigation of fungi from Eastern Nepal (Adhikari, 1976; 1981–82; 1984; 1987; 1988 a; 1988 b; 1988 c; 1988 d; 1990 a; 1990 b; 1991 a; 1991 b; 1991 c; 1991 d; 1992 a; 1994; 1994–95; 1995 a; 1995 b; 1996 a; 1996 b; 1996 c; Adhikari & Adhikari, 1996–1997; Adhikari, Adhikari, Joshi, Bhandary, Gyawali & Pradhan, 1996; Adhikari & Durrieu, 1996; Adhikari & Manandhar, 1996 a; 1996 b; 1997; Adhikari & Parajuli, 1993; 1994; Adhikari, Parajuli & Durrieu, 1994; Balfour-Browne, 1955; 1968; Berkeley, 1854 a; 1854 b; 1854 c; 1854 d; Bhandary, 1980; 1984; Bills & Cotter, 1989; Cotter & Miller, 1987; Cotter, 1987; Hjortstam, 1983; Hjortstam & Ryvarden, 1984; Imazeki, Kobayashi & Aoshima, 1966; Kobayasi, 1965; Kreisel, 1967; 1969; 1976; Manandhar & Adhikari, 1988; 1994; 1995; Maas, 1992; Miller. & Cotter, 1988; Otani, 1982; Pandey, 1976; Ranjitkar & Bhatt, 1976; Ryvarden, 1977; Sacherer, 1979; Sharma, 1983 a; 1983b; Sharma & Sharma, 1983; Singh, 1966; 1968; Singh & Adhikari, 1977; Singh & Nisha, 1974; 1976 a; 1976 b; 1976 c; Singh & Upadhyaya, 1978; Thind & Sharma, 1983; Tullons & Bhandary, 1992; Tullons, Hongo & Bhandary, 1992; Waraitch & Thind, 1977 a; 1977 b; 1977 c). Maipokhari has not been previously explored and investigated for its fungal diversity, although some botanists collected a few species of fungi through their botanical exploration.

By the present investigation on fungi from Eastern Nepal, it has been observed that the pure stand of *Cryptomeria japonica* does not favour the growth and dominance of fungi. These may be due to growth of tremendus amount of mycophagus bacteria and or other microbes in the soil and roots of plants which inhibit them. The litter debris of *Cryptomeria japonica* do not favour the regulation of temperature in the soil or it is the resinus substance which do not allow the growth of fungi such as saprophytic and mycorrhizal elements. It is the other species of forest which favour the growth of fungi.

B. Prevalent fungal taxa

Some of the major genera found in this area are *Aleuria*, *Amanita*, *Boletus*, *Clavaria*, *Coprinus*, *Coriolus*, *Cortinarius*, *Dacrymyces*, *Daldinia*, *Epichloe*, *Exobasidium*, *Fistulina*, *Ganoderma*, *Geoglossum*, *Gomphus*, *Hygrocybe*, *Hyndnum*, *Hypocrea*, *Hypomyces*, *Lactarius*, *Leotia*, *Lycoperdon*, *Marasmius*, *Nectria*, *Naematoloma*, *Oudemansiella*, *Peziza*, *Phylloporus*, *Pleurotus*, *Polyporus*, *Rhodophyllus*, *Russula*, *Scleroderma*, *Stereum*, *Strobilomyces*, *Thelephora*, *Tremella* and *Xylaria*.

Frequency of fungal taxa A notable frequency of species have been found in

Table 1. Frequency of some of the groups of Ascomycotina (57 spp.). Tns=Total number of species; SF=Species frequency.

Taxa	Clavicipitales	Helotiales	Pezizales	Sphaeriales	Hypocreales	Others
Tns	3	20	6	5	16	7
SF	5.3	35.0	10.5	8.8	28.0	12.3

Tabel 2. Frequency of some of the groups of Basidiomycotina (80 spp.). Tns=Total number of species; SF=Species frequency; Aur=Auriculariales, Dacr=Dacrymycetales, Tre=Tremellales, Gan=Ganodermatales. Poly=Polyporales, Clav=Clavariales, Tric=Tricholomatales, Agar=Agaricales, Russ=Russulales, Cast=Gastromycetes, Others=the other Orders.

Taxa	Auri	Dacr	Trem	Gan	Poly	Clav	Tric	Agar	Russ	Gast	Others
Tns	2	2	2	2	14	2	18	11	16	5	6
SF	2.5	2.5	2.5	2.5	17.5	2.5	22.5	13.7	20.0	6.3	7.5

this area. The Ascomycotina is also relatively found in high frequency. The tables 1 and 2 show a pattern of diversity, frequency and dominance.

C. Enumeration of the species

Some of the species collected in this area in 1998 are already identified and enumerated below. All specimens are deposited in the National Herbarium of Nepal (KATH). Added numbers at the end of each species show the specimen numbers of KATH. Separated specimens of Doi's collection are deposited also in TNS.

Aleuria aurantia (Pers.: Fr.) Fuckl., On soil, no. 980064.

Amanita rubrovolvata Imai, On soil, no. 980059b.

Auricularia mesenterica (Dicks.: Fr.) Pers., On dead wood, no. 980033.

Clavulinopsis fusiformis (Sow.: Fr.) Corner, On soil, no. 980065.

Clavaria vermicularis Swartz.: Fr., On soil, no. 980057.

Coltricia cinnamomea (Jacq.: Fr.) Murr., On soil, no. 980044.

Coprinus comatus (Mull.: Fr.) Pers., On soil, no. 980086.

Daldinia concentrica (Bull.: Fr.) Ces. & de Not., On dead wood, no. 980099.

Exobasidium butleri P. & H. Sydow, On soil, no. 980050.

Fistulina hepatica (Schaeff.) Fr., On soil, no. 680036, Nepalese name: Bhalu chyau

Gomphos floccopus (Schw.) Singer, On soil, no. 980054.

Hygrocybe pseudoconica Lange [=*H. nigrescens* (Quel.) Kuhn.], On soil, no. 980084.

Hypocrea muroiana Hino & Katsumoto, On dead trunk of broad-leaved tree, no. 980096 (duplicate specimen D. 9696 in TNS).

Hypocrea nigricans (Imai) Doi, On dead trunk of broad-leaved tree, no. 980097 (du-

plicate specimen D. 9678 in TNS).

Hypocrea pachybasioides Doi, On branchlet of broad-leaved tree, no. 980098 (duplicate specimen D. 9695 in TNS).

Hypomyces rosellus (Alb. & Schw.: Fr.) Tul., Among mosses on the ground, no. 980099 (duplicate specimen D. 9675 in TNS).

Lactarius volemus (Fr.: Fr.) Fr., On soil, no. 980039.

Nematoloma fasciculare (Huds.: Fr.) Kummer, On soil, no. 980051.

Oudemansiella radicata (Rehl.: Fr.) Singer, On soil, no. 980060.

Russula alboareolata Hongo, On soil, no. 980049.

Russula cyanoxantha (Schw.) Fr., On soil, no. 980083.

Russula kathmanduensis Adhikari, On soil, no. 980042.

Russula pectinatoides Peck, On soil, no. 980041.

Russula senesis Imai, On soil, no. 980061.

Russula sororia (Fr.) Romell, On soil, no. 980040.

Scleroderma verrucosum (Bull.) Pers., On soil, no. 980058.

Strobiliomyces strobilaceus (Scop.: Fr.) Berk. [=*S. floccopus* (Vehl.: Fr.) Karst.], On soil, no. 980079.

Tylopilus nigerrimus (Heim.) Hongo & Endo, On soil, no. 980087.

Acknowledgments

I express my thanks to Mr. M. S. Bista, Director General, Department of Plant Resourses, Ministry of Forests and Soil Conservation, His Majesty's Government of Nepal, and Dr. Yoshimichi Doi, Department of Botany, National Science Museum, Tokyo, Japan (in Tsukuba).

References

Adhikari, M. K. 1976. Chyau: ek charcha (=Mushrooms: a discussion). *Gorkhapatra*. (Kath.) **76**: 6. (in Nepali).

Adhikari, M. K. 1981–82. Chyau: Ayurvediya vishleshan ek vivechana (=Mushrooms: An Ayurvedic concepts). *Jour. Nep. Pharm. Assoc.* **9**: 17–21 (in Nepali).

Adhikari, M. K. 1984. Note on *Asterophora parasitica* (Fr.) Sing. and *Russula densifolia* (Secr.) Gillet from Nepal. *Jour. Nat. Hist. Mus.*: 23–126.

Adhikari, M. K. 1987. Nepalma chyauko upabhoga ra upabhokta: prarambhik sarabhekshan ek chhoto janakari; (=Consumers and consumption of mushrooms in Nepal: a preliminary survey). *Naya Aawaj*. **6**: 3–4 (in Nepali).

Adhikari, M. K. 1988 a. Polypores (wood rotting fungi) of Nepal. *Banko Janakari*. **2**: 9–20.

Adhikari, M. K. 1988 b. New records of fleshy fungi from the Kathmandu valley. In M. Watanabe & S. B. Malla (Eds.), Cryptogams of the Himalaya vol. **1**, The Kathmandu Valley, pp. 133–139. National Science Museum, Tokyo, Japan.

Adhikari, M. K. 1988 c. The genus *Russula* from the Kathmandu Valley. In M.Watanabe & S. B. Malla (Eds.), Cryptogams of the Himalaya vol. **1**, The Kathmandu valley, pp. 141–146. National Science

Museum, Tokyo, Japan.

Adhikari, M. K. 1988 d. Some higher fungi from Langtang and its adjoining area. *Proccedings of the papers National conference on Science & Technology organized by RONAST, Kathmandu: BSNS* **1**: 237–241.

Adhikari, M. K. 1990 a. History of mycological explorations in Nepal. *Cryptog. Mycol.* **11**: 111–128.

Adhikari, M. K. 1990b. The Genus *Russula* from Nepal (II). In M. Watanabe & S. B. Malla (Eds.), Cryptogams of the Himalayas. vol. **2**, Central and Eastern Nepal, pp. 101–112, National Science Museum, Tokyo, Japan.

Adhikari, M. K. 1991 a. Hunting wild mushrooms in Nepal. Presented at the training on the study, collection and preservation of Natural History of Nepal, pp. 1–12, Organized by Natural History Museum. Goeth Institute and King Mahendra Trust for Nature Conservation.

Adhikari, M. K. 1991 b. Nepalka Jangli Chyauharu: Chhoto Janakari (=Wild mushrooms of Nepal : Brief introduction). *Kalpavriksha*. **1**(4): 4–5; Idem. 2. *Kalpavriksha*. **1**(5): 6–8; Idem. 3. *Kalparvriksha*. 1(6): 6–7; Idem. 4. *Kalparvriksha*. **1**(7): 5–7.

Adhikari, M. K. 1991 c. Notes on some higher fungi from Nepal. *Jour. Nat. Hist. Mus.* **12**: 9–18.

Adhikari, M. K. 1991 d. Research trends on Nepalese mycoflora. *Jour. Inst. Agric. Ani. Sc.* **12**: 17–27.

Adhikari, M. K. 1992 a. Nepalma naya patta lagaieka dhusiharu: samkshipta vivaran (= newly discovered fungi from Nepal: brief discussion). *Kalpavriksha*. **2**(16): 3–6.

Adhikari, M. K. 1992 b. Nepalma naya patta lagaieka dhusiharu: samkshipta vivaran (= newly discovered fungi from Nepal: brief discussion). *Kalpavriksha*. **2**(17): 5–10.

Adhikari, M. K. 1994. First wild mushroom series stamps. *Philatelic news*, *Nepal* **2**(1): 5–6.

Adhikari, M. K. 1994–1995. Mycodiversity in Nepal: a glimpse. *Bull. Nat. Hist. Soc. Nep.* **3–4** (1–4): 4–6.

Adhikari, M. K. 1995 a. Toxic and medicinal mushrooms from Nepal. *Network APINMAP/SCAMAP*, *Nepal* **1**(1): 1–2.

Adhikari, M. K. 1995 b. New records of fleshy fungi from the Kathmandu valley 2. *Green World* **6**: 37–38.

Adhikari, M. K. 1996 a. Biodiversite des Basidiomycetes au Nepal: etude systematique et biogeographique. Specialite Ecologie–Mycologique. These du Doctorat de L'Universite present devant l'Universite Paul Sabatier, Toulouse, France. no. d'ordre 2309, pp. 205.

Adhikari, M. K. 1996 b. New records of fleshy fungi from the Kathmandu valley 3. *Nat. Hist. Soc. Bull.* **5–6** (1–4): 13–15

Adhikari, M. K. 1996 c. Fungal diseases of tropical trees in Nepal. Impact of diseases and insect pests in tropical forests. In *Proc.* of IUFRO symposium KFRI, pp. 192–198, Peechi, India.

Adhikari, M. K., K. S. Adhikari, A. R. Joshi, R. C. Bhandary, M. B. Gyawali, & B. Pradhan. 1996. Studies on food value and mycotoxic wild mushrooms of Nepal submitted to APINMAP/SCAPMAP/UNESCO Comittee of Nepal, Ministry of Education, Nepal- 1996, pp. 1–92.

Adhikari, M. K. & G. Durrieu. 1996. Ethnomycologie Nepalaise. *Bull. Soc. Myc. France*. **112**: 31–41.

Adhikari, M. K. & V. Manandhar. 1996 a. The genus *Lactarius* in Nepal. *Advances in Botany* **21**: 387–395.

Adhikari, M. K. & V. Manandhar. 1996 b. Fungi of Nepal, Part 1: Historical review & Myxomycotina. *Bull. Dept. Med.* Pl. **13**: 1–69, Thapathali, Kathmandu, Nepal.

Adhikari, M. K. & V. Manandhar. 1997. Fungi of Nepal, Part 2. Mastigomycotina, Zygomycotina and Ascomycotina. *Bull. Dept. Pl. Res.* **16**: 1–60, Thapathali, Kathmandu, Nepal.

Adhikari, M. K. & P. Parajuli. 1993. The genus *Amanita* in Nepal. *Banko Janakari*. **4**(2): 130–134.

Adhikari, M. K. & P. Parajuli. 1994. Mycorrhizal fungal diversity in the pine forests of Kathmandu valley, Nepal. In abstracts of the paper, ECOS, pp. 182–187 Kathmandu, Nepal.

Adhikari, M. K., P. Parajuli & G. Durrieu. 1994. Le genre *Amanita* au Nepal. *Bull. Soc. Myc. France*.

110: 29–33.

Adhikari, K. S. & M. K. Adhikari. 1996–1997. Collection and consumption of wild edible mushrooms sold in Kathmandu valley, Nepal. *The Geographer's Point*. **1–2**: 1–9.

Balfour-Browne, F. L. 1955. Some Himalayan fungi. *Bull. Brit. Mus.* (*Nat. Hist.*) Ser. Bot. **1**: 189–218.

Balfour-Browne, F. L. 1968. Fungi of recent Nepal expedition. *Bull. Brit. Mus.* (*Nat. Hist.*) Ser. Bot. **4**: 99–141.

Berkeley, M. J. 1854 a. Decades of fungi, Decades XLI–XLIII, Indian fungi. *Hooker's Jour. Bot., Kew. Gard. Misc. Jour.* **6**: 129–143.

Berkeley, M. J. 1854 b. Decades of fungi, Decades XLIV–XLVI. Indian fungi. *Hooker's Jour. Bot., Kew. Gard. Misc. Jour.* **6**: 161–174.

Berkeley, M. J. 1854 c. Decades of fungi, Decades XLVII–XLVIII. Indian fungi. *Hooker's Jour. Bot., Kew. Gard. Misc. Jour.* **6**: 204–212.

Berkeley, M. J. 1854 d. Decades of fungi, Decades XLIX–L. Indian fungi. *Hooker's Jour. Bot., Kew. Gard. Misc. Jour.* **6**: 225–247 (reprint 1969, Decades of fungi 1–62, Amsterdam, Asher Co. 280pp.).

Bhandary, H. R. 1980. Notes on some macrofungi of Nepal. *Jour. Nat. Hist. Mus.* **4**: 23–32.

Bhandary, H. R. 1984. Mushrooms. pp. 225–247. In T. C. Majapuria, *Nepal Nature's Paradise*, Bangkok, White lotus Comp. Ltd.

Bills, G. F. & H. V. T. Cotter. 1989. Taxonomy and ethnomycology of *Lactarius* Sec. Dapetes (Russulaceae) in Nepal. *Mem. New York Bot. Gard.* **49**: 192–197.

Cotter, H. V. T. 1987. The systematics and ecology of boletes with special reference to the genus *Suillus* and its ectomycorrhizal relationship in Nepal. Dissertation submitted to the faculty of the Virginia Polytecnic Institute and State University in Partial fulfilment of the requirement for the degree of Ph. D. in Botany, pp. 175, Blacksburge, Virginia, U.S.A.

Cotter, H. V. T. & O. K. Miller. 1987. Ectomycorrhizal association of the Bolete genus *Suillus* in Nepal. Proceeding Seventh North American conference in mycorrhizae, p. 5, Ganeaville, fl. U.S.A.

Hjortstam, K. 1983. Studies in the genus *Hyphodontia* Basidiomycetes 1. *Hyphodontia* section *Hyphodontia*. *Mycotaxon*. **17**: 550–554.

Hjortstam, K. & L. Ryvarden. 1984. Some new and noteworthy Basidiomycetes (Aphyllophorales) from Nepal. *Mycotaxon*. **20**: 133–151.

Imazeki, R., Y. Kobayasi & K. Aoshima. 1966. Fungi. In H. Hara (Ed.), The Flora of Eastern Himalaya, pp. 611–626, University of Tokyo, Japan.

Kobayasi, Y. 1965. Himalayan *Calostoma* and *Isaria*. *Jpn. Jour. Bot.* **40**: 228–229.

Kreisel H. 1967. Taxonomisch-Pflanzengeographische Monographie der Gattung *Bovista*. *Nova Hedwigia* **25**: 62.

Kreisel, H. 1969. Gasteromyzeten aus Nepal. *Khumbu Himal*. **6**: 25–35.

Kreisel, H. 1976. Gasteromyzeten aus Nepal. II. *Feddes Reportorium*. **87**: 83–107.

Manandhar, V. & M. K. Adhikari. 1988. Three agarics new to Nepal. *Proc. Nat. Conference on Science and Technology organized by RONAST, BSNS* **28**: 31, Kathmandu, Nepal.

Manandhar, V. & M. K. Adhikari. 1994. *Lepiota* and its allied genera from Nepal. *Proc. Second Nat. Bot. Conference*, pp. 79–86, Kathmandu, Nepal.

Manandhar, V. & M. K. Adhikari. 1995. *Lepiota* and its allied genera from Nepal 2. *Nat. Hist. Soc. Bull.* **3–4**: 2–3.

Maas, G. 1992. Myceneae of the Himalayan foothills. *Persoonia*. **15**: 50–53.

Miller, O. K. & H. V. T. Cotter. 1988. Observation of tissue morphology and spore ultrastructure of *Calostoma junghuhnii* (Gasteromycetes). *Can. Jour. Bot.* **66**: 2470–2473.

Otani, Y. 1982. Cup fungi collected in Nepal 1. In Y. Otani (Ed.), *Reports on the Cryptogamic Study in Nepal*, pp. 75–91, National Science Museum, Tokyo.

Pandey, B. D. 1976. Survey, collection, preservation and identification of the mushrooms in Nepal. *Nep.*

Jour. Agri. **6–11**: 115–129.

Ranjitkar, H. D. & D. D. Bhatt. 1976. A note on *Craterellus cornucopioides*. *Ind. Phytopath.* **29**: 305–306.

Ryvarden, L. 1977. Some wood inhabiting Aphyllophoraceous fungi from Nepal. *Khumbu Himal.* **6**: 379–386.

Sacherer, J. 1979. The high altitude ethnobotany of the Rolwaling Sherpas: a contribution of Nepalese studies. *Jour. Res. Cen. Nep. Stud.* CNAS **6**: 46–64.

Sharma, M. P. 1983 a. A new *Dasyscyphus* species from India. *Biblio. Mycol.* **91**: 115–121.

Sharma, M. P. 1983 b. Helotiales type specimens in the PAN Herbarium. *Bibl. Mycol.* **91**: 139–150.

Sharma, M. P. & R. Sharma. 1983. Two new records of inoperculates from the Himalayas (India). *Bibl. Mycol.* **91**: 171–179.

Singh, S. C. 1966. Mushrooms. *Deorali.* **4**: 15–31.

Singh, S. C. 1968. Some parasitic fungi collected from Kathmandu valley (Nepal). *Ind. Phytopath.* **21**: 23–30.

Singh, S. C. & M. K. Adhikari. 1977. Some fleshy fungi from Kathmandu (Nepal). *Jour. Nat. Hist. Mus.* **1**: 49–57.

Singh, S. C. & Nisha. 1974. *Exobasidium butleri* in Nepal. *Ind. Phytopath.* **27**: 387–389.

Singh, S. C. & Nisha. 1976 a. Myxomycetes of Nepal. *Jour. Sci.* **6**: 73–83.

Singh, S. C. & Nisha. 1976 b. A contribution to the parasitic mycoflora of Nepal. *Jour. Sci.* **6**: 11–14.

Singh, S. C. & Nisha. 1976 c. Some fleshy fungi of Nepal. *Jour. Sci.* **6**: 83–88.

Singh, S. C. & B. N. Upadhyaya. 1978. Notes on some fungi to Nepal. *Jour. Nat. Hist. Mus.* **2**: 51–53.

Thind, K. S. & M. P. Sharma. 1983. The Nepal Helotiales. *Biblio. Mycol.* **91**: 265–279.

Tullons, R. E. & H. R. Bhandary. 1992. *Amanita chepangiana*; a new species from Nepal. *Mycotaxon.* **93**: 25–31.

Tullons, R. E., T. Hongo & H. R. Bhandary. 1992. *Amanita neovoidea*–taxonomy and distribution. *Mycotaxon.* **95**: 235–242.

Waraitch, K. S. & K. S. Thind. 1977 a. Fungi of Nepal (Pezizales). *Jour. Nat. Hist. Mus.* **1**: 21–34.

Waraitch, K. S. & K. S. Thind. 1977 b. Pyrenomycetous fungi from Nepal. 1. *Jour. Nat. Hist. Mus.* **1**: 203–206.

Waraitch, K. S. & K. S. Thind. 1977 c. Pyrenomycetous fungi from Nepal. 2. *Jour. Nat. Hist. Mus.* **1**: 207–214.