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Fungi of Recent Nepal Expeditions

By Frances L. Balfour-Browne

The fungi recorded below were collected during four general botanical expeditions made in the Nepal highlands by (1) J. D. A. Stainton, W. R. Sykes and L. H. J. Williams in 1954, (2) J. D. A. Stainton in 1956, (3) A. H. Norkett in 1961–62 and (4) J. D. A. Stainton in 1962. Expeditions (1) and (4) were in Central Nepal while the other two were mainly in Eastern Nepal.

The collections were made at altitudes between 300 m. and 5,000 m. At the highest levels were Conifer and Rhododendron forests with Evergreen Oaks coming in from below, and the lower levels were characterized by rice terraces, bamboos, ferns and Castanopsis forest. Sheals & Inglis (1965) give details of the local geography and the nature of the terrain encountered in Expedition (3).

In this account references have been restricted to the authorities of the names used and to the more significant or well-known synonyms. For additional references to most of the species the revised (1960) edition of Butler & Bisby’s indispensable Fungi of India by Vasudeva should be consulted.

In some groups the delimitation of genera is very controversial and consequently the classification and the names employed are very much a personal matter of opinion with very little agreement amongst workers. This is particularly so for the Polyporaceae. During the last twenty years new systems of classification for this group have been published by Pilát (1936–42, Europe), Cunningham (1947, 1947–50, 1965, New Zealand), Corner (1932, 1953, general), Overholts (1953, America), Imazeki (1943, Japan), Donk (1933, 1960, general), Singer (1962, general), Bondartzev (1953, Russia), Nobles (1958, Canada), Pinto-Lopez (1952, Portugal), Kotlaba & Pouzar (1957, Europe), Teixeira (1962, Brazil). These systems have been based on a variety of criteria: general anatomical and morphological structure, hymenial structure, hyphal structure, biosystematics, hyphal thickening and the presence or absence of clamps, and physiological characters. Significant as are these characters, nevertheless owing to the difference in emphasis placed upon them by different authors, considerable difficulty arises in attempting to derive a stable or consistent nomenclature. Here, therefore, the well-known, old or mainly Friesian subdivisions have been used for the Polyporaceae and the less conservative names included in the synonymy.

Recently suggested, but still tentative, relationships of certain agarics (so hitherto regarded) with polypores rather than with other agarics, or vice versa, are also not taken up here. The second edition of R. Singer’s The Agaricales in Modern Taxonomy (1962) should be referred to for new ideas on the classification of this group.

As regards the Clavariaceae, these have been named by Dr. E. J. H. Corner of Cambridge, and each identification for which he is responsible is indicated by his initials in parentheses.

In mountainous countries such as Nepal with an annual rainfall in some areas of 500 cm., the difficulty is to get the plants dry. The tendency is therefore to press them too enthusiastically, with the consequence that some of the agarics and

bot. 4. 3
Clavariae were tissue-paper thin and their hyphal structure indiscernible. To off-set this it would have been valuable to have had some of the soft and fleshy fungi preserved in fluid, and full notes as to colour, texture and shape when fresh are always much desired. For the rest, the material was in good condition and together represents the largest collection so far from this difficult and until recently almost inaccessible region: 160 species excluding some immature and over-ripe specimens which so far have resisted identification. Previous records consist of about two dozen species collected by Sir Joseph D. Hooker over a century ago and described by Berkeley (1850, 1851, 1852, 1854) and about 70 species collected by Polunin, Sykes and Williams in 1952 and reported in a previous number of this journal (Balfour-Browne, 1955).

All the specimens cited in this paper are in the herbarium of the British Museum (Natural History).

**PHYCOMYCETES**

**ALBUGINACEAE**


*Cystopus amaranthi* (Schwein.) Berk. in Grevillea 3: 58 (1874).

**Nepal:** Bhurungdi Khola, 1,600 m., on *Amaranthus lividus* L., 20th May, 1954, *Stainton*, *Sykes & Williams* 5342.

Distribution: Worldwide.

For a recent review of the genus *Albugo* consult Bestagno Biba (tom. cit.: 339-58).

**PERONOSPORACEAE**

Sclerospora graminicola (Sacc.) Schroet. in Cohn, Krypt.-Fl. Schles. 3 (1): 236 (1886).


**Nepal:** Bongakhani, 2,130 m., on grass, 22 Aug. 1954, *Stainton*, *Sykes & Williams* 3943.

Distribution: America, Europe, Africa, India, Australia.

**PYTHIACEAE**


*Botrytis infestans* Mont. in L’Institut, Sect. 1, 13: 313 (1845).

**Nepal:** Murigurja Gad, 2,500 m., on potato, 27 July 1954, *Stainton*, *Sykes & Williams* 3654.

Distribution: Worldwide.
ASCOMYCETES
MORCHELLACEAE

Morchella elata Fries, Syst. Mycol. 2 : 8 (1822).
Nepal: Siklis, north of Pokhara, 3,000 m., on rotten tree trunk, 21 Apr. 1954, Stainton, Sykes & Williams 4956.
Distribution: America, Europe, India, China, Japan, Australia.

HELVELLACEAE

Nepal: Lete, 2,600 m., beneath conifers, 27 Aug. 1954, Stainton, Sykes & Williams 7501.
Distribution: Worldwide; previously recorded from Nepal in 1955.

HUMARIACEAE


Peziza aurantia Fries, Syst. Mycol. 2 : 49 (1822).
Nepal: Ghar Khola, 2,130 m., 14 June 1954, Stainton, Sykes & Williams 5759.
Distribution: Worldwide.

GEOGLOSSACEAE


Distribution: United States, Himalayas.
These specimens were examined and identified by Dr. Maas Geesteranus.

Nepal: Gosainkund, Malemchi, 2,800 m., on bare earth, 30 May 1962, Stainton 3789.
Distribution: India.
Pale rose coloured ascophores about 1 cm. tall with smooth or contorted caps.

SCLEROTINIACEAE


Peziza firma Fries, Syst. Mycol. 2 : 117 (1822).
Ciboria firma (Fries) Fuckel, Symb. Mycol. : 312 (1869).
Phialea firma (Fries) Gill., Champ. Fr., Discom. : 101, t. 74 fig. 2 (1883).
Nepal: Dhankuta Province, near Mahe, 1,300 m., on dead twig, 20 Sept. 1961, Norkett 5175 B.
The fungus agrees well with this species except that its spores are somewhat short, 9-11 × 4-5 μ. The material, however, is barely ripe.

HYALOSCYPHACEAE

Perrotia malemchiensis Balfour-Browne, sp. nov. (Fig. 1.)

Apothecia sparsa, superficialia, sessilia, carnosa, uda pallide brunnea, sicca cinnabarina, extus villosa, 500-1,000 μ diam.; setae cylindraceae ad basim ± cohaerentes apice liberae et acutae, septatae, minute granulosae, pallide ochraceae; asci clavati, recti vel curvuli, octospori, 80-110 × 9-10 μ; sporae clavatae vel fusoideae, hyalinae, 5-7 septatae, 20-30 × 4-5 μ; paraphyses filiformes, septatae, hyalinae.
Ad ligna et cortices arborum frondosarum.

Fig. 1. Perrotia malemchiensis Balfour-Browne. A, asci containing ascospores; B, paraphyses; C, ascospores; D, external hair; E, apothecium. Stainton 3768.
Nepal: Gosainkund, Malemchi, 2,400 on a dead tree, 29 May 1962, Stainton, 3768 (holotype).

This differs from related species not only in colour and measurements but in spore septation: *P. fusca* Müll. & Dennis, 1-septate; *P. lutea* (Phill.) Dennis, up to 31-septate; *P. himalayensis* Müll. & Dennis, 3-septate.

**DERMATEACEAE**

*Mollisia dhankutae* Balfour-Browne, sp. nov. (Fig. 2.)

Apothecia superficialia, sessilia, usque ad 1·5 mm. diam., disco sordide flavido-albo; excipulo fusco-brunneo, pseudoparenchymatico; asci cylindraceo-clavati, octospori, poro jodo tincto, 80-90 × 9-10 μ; ascosporae biseriatae, elongato-

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![Diagram](image)

**Fig. 2.** *Mollisia dhankutae* Balfour-Browne. A, asci and paraphyses; B, ascospores; C, apothecia. Norkett 7751 A.
fusoidae, uniseptatae, hyalinae, 16–20 × 3·5–4 μ; paraphyses filiformes, septatae, 2 μ, supra usque 3·5 μ.

In ramis siccis Bambusae.


Although very close to Mollisia caesia var. andina Dennis (Kew Bull. 14 : 441 (1960)) from Venezuela, it differs in the absence of a whitish margin to the receptacle, in the slightly larger and more acutely pointed spores and in the different host. It differs also from Cenangella bambusicola Rick (Broteria 5 : 37 (1906)), which was described from living bamboo in South America, in that the paraphyses do not form an epithecium and the apothecia are not at first white, but externally very dark brown with an off-white disc.

OSTROPACEAE

VIBRISSEA TRUNCORUM Fries, Syst. Mycol. 2 : 31 (1822).

NEPAL: Rambrong, Lamjung Himal, 4,500 m., on dead roots of Rhododendron, 10 July 1954, Stainton, Sykes & Williams 6269.

Distribution: America, Europe. Apparently not previously recorded from Nepal or neighbouring countries, possibly because it is easily overlooked, being small and generally found on roots, frequently submerged in water, or on debris.

Apothecia scattered or in groups, with orange discs, 3–5 mm. diam., seated on pale stalks, blackish below, 15 × 2–3 mm. Asci 250–300 × 6–8 μ; ascospores acicular, hyaline, multiseptate, 180–200 × 1·5 μ. Paraphyses branched, filiform with spherical heads.

DIATRYPACEAE


Distribution: Ceylon and India.

The Nepal collection agrees with the type material described from Ceylon: spores 7–9 × 2·2–2·5 μ, hyaline to light brown.

HYPOCREACEAE


NEPAL: Mayangdi Khola, 1,000 m., on inflorescence of Chrysopogon aciculatus, 4 Sept. 1954, Stainton, Sykes & Williams 4137.

Distribution (of B. andropogonis): India, Philippines.

The inflorescence of the host is so deformed and shrouded by the fungus as to give the appearance of quite a different genus of grass. Only the Ephelis stage of the fungus is represented: conidia acicular, 20–24 × 1·5 μ.
**FUNGI OF RECENT NEPAL EXPEDITIONS**


**NEPAL:** Taplejung district, Dhankuta Province, Sanghu, 2,000 m., on an indeterminable grass haulm, 17 Oct. 1961, Norkeet 56g6 C.


**PHYLLACHORACEAE**


*Sphaeria repens* Corda, Icones Fung. 4 : 42, tab. 9 fig. 123 (1840).


**NEPAL:** Phewa Tal, 800 m., on fallen leaves of *Ficus religiosa*, 6 May 1954, Stainton, Sykes & Williams 5254.

Distribution: Cuba, Natal, India.

Several species of *Catacauma* have been described from *Ficus* spp. but this Nepal collection is quite typical of *C. repens*.

**XYLARIACEAE**

**HYPOXYLON MULTIFORME** (Fries) Fries, Summa Veg. Scand. : 384 (1849).

*Sphaeria multiformis* Fries, Syst. Mycol. 2 : 334 (1823).

**NEPAL:** Taplejung, Mewa Khola, 2,750 m., on moss-covered branch (? birch), 22 Jan. 1962, Norkeet 9300. Ganesh Himal, Ankhu Khola, 2,130 m., on rotting log, 12 May 1962, Stainton 36g4.

Distribution: Widespread in Northern hemisphere; previously recorded from Nepal.


**NEPAL:** Bakhri Kharka, north of Pokhara, 2,000 m., 25 Apr. 1954, Stainton, Sykes & Williams 5056.

Distribution: Tropical and semitropical; America, Africa, China, Japan.

Miller (loc. cit., 1961) should be consulted for an account of this species and its considerable synonymy.


*Sphaeria adscendens* Fries in Linnaea 5 : 537 (1830).


Distribution: South America, West Indies, Africa, India, Nepal, Indonesia.
This is the fungus previously recorded from Nepal as Xylaria hypoxylon var. tropica (Balfour-Browne, loc. cit.). Dennis (loc. cit., 1961) considers that it should be treated as a separate subspecies of Xylosphaera hypoxylon Dumort. Dennis had not seen the type specimen of Xylaria hypoxylon forma tropica and left open the question of whether that name was a synonym of Xylosphaera hypoxylon subsp. adscendens. I too have not seen the type, but I follow Dennis in considering that this is a separate subspecies.


Hypoxylon melliissii Berk. in Melliss, St. Helena : 379 (1875).  
Xylaria melliissii (Berk.) Cooke in Grevillea 11 : 85 (1883).  
Xylaria arbuscula Sacc. in Michelia 1 : 249 (1878).—J. H. Mill. in Bothalia 4 : 265 (1942).

Nepal: Dhankuta Province, Chainpur district, Tumlingtar, Sabhaya Khola, 600 m., "growing out of a niche in rock", 8 Dec. 1961, Norkett 84^1 A.
Distribution: Generally common in the tropics and subtropics, but not previously reported from the Himalayan region.
The Nepal collection consists of branched stromata with long slender stalks and short cylindrical heads; ascospores are 14–16 × 4.5 μ.


Sphaeria polymorpha St. Amans, Fl. Agenaise : 520 (1821).  
Xylaria polymorpha (St. Amans) Grev., Fl. Edinensis : 335 (1824).

Nepal: Arun Valley, Sabhaya Khola, 2,300 m., on tree trunk in forest, 7 Sept. 1956, Stainton 1607.
Distribution: Worldwide.
For a recent account and complete synonymy see Dennis (loc. cit.).


Distribution: Africa, Ceylon, India, Indonesia, Australia.
For a recent account of the species, Dennis (loc. cit.) should be consulted.
FUNGI OF RECENT NEPAL EXPEDITIONS


*Sphaeria deusta* Fries, Syst. Mycol. 2: 345 (1823).


NEPAL: Bakhri Kharka, north of Pokhara, 2,000 m., 25 April 1954, Stainton, Sykes & Williams 5056.

Distribution: Worldwide.

CORONOPHORACEAE


NEPAL: Sanghu, gulley below camp, 2,000 m., on dead twig, 21 Dec. 1961, Norkett 6390.

Distribution: Originally recorded from Allahabad, and not reported since.

This species was originally described as parasitic in the stromata of *Haplosporella phyllanthina* and again in the present gathering it is growing within the remains of a fungal pycnidium, but the identity of the latter could not be determined, nor that of the host twigs.

PLEOSPORACEAE

Fenestella fenestrata (Berk. & Broome) Schroet. in Cohn, Krypt.-Fl. Schles. 3(2): 435 (1897). (Fig. 3).


NEPAL: Dhankuta district, Chitre, on dead twig, 2,000 m., 20 Sept. 1961, Norkett 5159 A.

Distribution: N. America, Europe.

The fungus occurs on an unidentified dicotyledonous twig. The pseudothecia are superficial, ± stipitate, arising in small groups on an inconspicuous stroma. Asci cylindrical, 250 × 20 μ approx. Ascospores 30–50 × 12–14 μ, broadly fusiform, dark brown, the end cells being ± hyaline; there are 3 main and several lesser transverse septa and several longitudinal septa.

Petrak (Sydowia 8: 165 (1954)) describes *Cucurbitaria pakistanica* from Choa Saidan Shah, on *Acacia modesta*. This resembles the Nepal fungus in general structure but its spores are considerably smaller, the average size being 13–22 × 8–10 μ.

VENTURIACEAE


Fig. 3. *Fenestella fenestrata* (Berk. & Broome) Schroet. A, asci containing ascospores; B, ascospore; C, stroma with pseudothecia. Norkett 5159 A.

**NEPAL**: Dhankuta Province, Taplejung district, Sanghu, 2,000 m., on *Osbeckia* sp., 4 Oct. 1961, Norkett 5696 D.

**Distribution**: Previously recorded only from Ceylon.

**POLYSTOMELLACEAE**


**NEPAL**: Dhankuta Province, Taplejung district, Sanghu, 1,600 m., on fern, *Davallia* sp., 7 Jan. 1962, Norkett 8552.

**Distribution** (of *S. discoidea*): Previously recorded on *Polypodium longissimum* from Java.
The Nepal material is not quite ripe, but appears to represent the above species. Its rounded black stromata occur on the underside of the fronds and are somewhat raised in the centre. The asci and the 1-septate brownish spores, which are not fully mature, measure approximately $35 \times 8\,\mu$ and $10 \times 4\,\mu$ respectively.

Several black stromatic Ascomycetes with 1-septate spores have been described on ferns. Careful comparison of type and authentic material is needed and would probably reveal that a number of names are synonyms.

**BASIDIOMYCETES**

**USTILAGINACEAE**


Distribution: Worldwide.


Uredo olivacea DC., Fl. Franç. 6 : 78 (1815).

Distribution: Worldwide.


Sphacelotheca reiliana (Kühn) Clint. in Journ. Mycol. 8 : 141 (1902).


Distribution: Recorded in most countries where maize is grown.
Ustilago bistortarum (DC.) Körn. in Hedwigia 16: 38 (1877).

Uredo bistortarum DC., Fl. Franc. 6: 76 (1815).

**Nepal:** East of Chalike Pahar, 4,830 m., on leaves of Polygonum affine, 22 Sept. 1954, Stainton, Sykes & Williams 4541. Distribution: Worldwide.

Forming in this material elongated pustules over the under surface of the leaf lamina, and not occurring on the margins. The spores are pale purple, angular to globose, 10–16 μ, minutely verrucose.

This species, common in most parts of the world, appears not to have been recorded previously from India or neighbouring countries.


**Nepal:** Above Seng Khola, 4,500 m., in flowers of Morina, 25 June 1954, Stainton, Sykes & Williams 3254. Distribution: Recorded from Kashmir in 1944 on Morina longifolia.


Ustilago nuda Rostr. in Tidsskr. Landokon 8: 745 (1889), nom. nud.

**Nepal:** Chimgoan, north of Tukucha, 3,000 m., on barley in field, 3 June 1954, Stainton, Sykes & Williams 904. Gurjakhani, 2,830 m., on wheat, 1 June 1954,
Stainton, Sykes & Williams 2940. Tamur valley, Mewa Khola, on wheat, 17 May 1956, Stainton 343.
Distribution: Worldwide.
For the status of this name, see under Ustilago hordei above.


Distribution: United States of America.
The Nepal collection agrees well with this species; it forms large pustules on the underside of the leaves; the spores are pinkish purple, spherical or subspherical, 7–9 μ diam., marked with striae. This species differs from U. bistortarum in the distinctly smaller spores.

Tilletiaceae

Melanotaenium selaginellae Henn. & Nyman in Warb., Monsunia 1 : 2 (1900).
Nepal: Dhankuta Province, Taplejung district, Sanghu, on Selaginella sp., 27 Oct. 1961, Norkett 6551 A.
Distribution: Previously recorded from Tjibodas in Java.
In the present collection the smut occurs mostly on the basal portion of the leaves, but occasionally it covers the whole leaf surface. Spores dark brown, globose, coarsely verrucose, 15–18 μ diameter.

Melampsoraceae

Distribution: India.
The teleutospore stage is represented in this collection. Morphologically, the Coleosporium species on Senecio are difficult to separate, but, on the basis of inoculation experiments carried out by Bagchee (loc. cit.) on rusts on different species of Senecio, that on S. alatus would appear to be his C. barclayense.


Fungi of Recent Nepal Expeditions


Distribution: Widely represented in the Northern hemisphere and previously recorded from Nepal.

The uredospores occurred on stems as well on both leaf surfaces. A greater proportion of the spores on Wahlenbergia were oblong and elongated compared with those on Campanula. Probably two biological forms are represented. Gaëumann (loc. cit.) should be consulted for an account of at least six such forms which have been isolated from different genera and species of Campanulaceae.


Distribution: Europe, North Africa, Asia Minor, India.

The uredospores are coarsely and densely echinulate, 18–30 X 12–20 μ, oblong to irregularly globose.

Coleosporium pedicularidis Tai in Farlowia 3 : 100 (1947).


Distribution: China.

There is little doubt that the Nepal fungus represents this species. The uredosori are chiefly on the upper surface of the leaves, with very few pustules on the lower.


Nepal: Sattewati, 2,000 m., on Plectranthus sp., 12 Oct. 1954, Stainton, Sykes & Williams 8950.

Distribution: India, Japan.

Coleosporium senecionis (Pers.) Fries, Summa Veg. Scand. : 512 (1849).


Distribution: Worldwide.

Uredospore stage. See note under Coleosporium barclayense.


Distribution: North America, Europe, India, Japan.


NEPAL: Annapurna Himal, 4,150 m., on Saxifraga moorcroftiana Wall., 2 Aug. 1954, Stainton, Sykes & Williams 6587.
Distribution (of M. hirculi): Europe (Finland, Russia, Switzerland).

Although this species so far has apparently only been recorded from Europe, the Nepal collection agrees very closely with the original description of M. hirculi, but the fungus occurs not only on the under surfaces, but more frequently on the upper leaf surfaces, which become considerably discoloured and blotchy. Uredospores are globose, ovate or ellipsoid, minutely verrucose, 16–25 × 14–18 μ; paraphyses are abundant and capitate or clavate, 35–60 × 10–20 μ with a thick wall. The teleutospores are brown, oblong, 35–55 × 8–12 μ.


NEPAL: Dhankuta Province, Taplejung district, 1,950 m., on Diplazium sp., 9 Jan. 1962, Norkett 8642 A.
Distribution (of M. exigua): Poland, Japan and the Siberian coast.

Uredosori only are represented; they occur in brown discoloured areas on both sides of the fronds. Many of the spores are somewhat irregularly polygonal in shape. They measure 28 × 15 μ (average) and are quite smooth.

PUCCINIACEAE

FROMMEA DUCHESENEAE (Arth.) Arth. in Bull. Torrey Bot. Club 44: 504 (1917); in N. Amer. Fl. 7: 731 (1925).

Kuhneola duchesneae Arth. in N. Amer. Fl. 7: 185 (1912).


NEPAL: Ghar Khola, 1,600 m., on Duchesnea indica, 14 June 1954, Stainton, Sykes & Williams 5767.

Distribution: Nepal, and North America and France, where the host is naturalized.

It seems that Arthur in 1934 (loc. cit.) had second thoughts about treating the rust on Duchesnea indica as a full species and, describing it as a “less robust form” compared with F. obtusa, regarded it merely as a variety of the latter species.

In the Nepal collection the uredo-sori are abundant, the uredospores measure
9-14 × 18-20 μ, distinctly small for *F. obtusa* (which occurs on *Potentilla* sp.) but in agreement with the spores described on *Duchesnea* from America by Arthur and from France by Viennot-Bourgin. No other spore form was present on the Nepal plants. In the absence of firm evidence to support synonymy with *F. obtusa* the name *F. duchesneae* is retained here. This is the first record of the rust in what is considered to be the host plant’s centre of origin.


**Nepal**: Near Gurjakhani, 3,000 m., on *Juniperus wallichiana*, 3 June 1954, Stainton, Sykes & Williams 2969.

**Distribution**: Nepal.

The material under consideration is old, the sori are broken up and the teleutospores have lost their pedicels.


**Nepal**: Village south of Chakure Lekh, 6 Apr. 1952, Polunin, Sykes & Williams 1890.

**Distribution**: India, Nepal.

**Phragmidium incompletum** Barcl. in Journ. Asiatic Soc. Bengal 59 (2): 83 (1890).

**Nepal**: Siklis, north of Pokhara, 3,000 m., on *Rubus* sp., 21 Apr. 1954, Stainton, Sykes & Williams 4950.

**Distribution**: India.

The uredospore stage only is present, and it agrees well with the original account, except that it is chiefly epiphyllous. Uredospores have a thick, 3-4 μ, epispore, which is warty. There are no paraphyses.


**Nepal**: Bhuji Khola, 2,800 m., on *Potentilla nepalensis*, 16 Oct. 1954, Stainton, Sykes & Williams 9058.

**Distribution** (of *P. nepalense*): India.

Uredosori only are represented. In the original description it was not stated whether the epispore is smooth or echinulate. Padwick & Azmatullah Khan (Mycol. Papers, Imp. Mycol. Inst. 10: 4 (1944)) record this species and describe the uredospores as finely echinulate. This agrees with those on the present collection, and the measurements are similar.


Nepal: Jagat, 2,600 m., on *Urtica* sp., 5 July 1954, Stainton, Sykes & Williams 3364.
 Distribution: India, Himalayas.
 Cf. Padwick & Azmatullah Khan (loc. cit.) for an account of the somewhat confused synonymy.

**Puccinia fagopyri** Barcl. in *Journ. of Bot.* 28 : 261 (1890).

Nepal: Dhankuta Province, Taplejung district, Sanghu, 2,000 m., on *Fagopyrum*, 11 Nov. 1961, Norkett 7173 A.
 Distribution: India.

**Puccinia gentianae** (Strauss) Link in *L., Sp. Pl.*, Ed. 4, 6 (2) : 73 (1825).


Nepal: South of Gurjakhani, 4,000 m., on *Gentiana* sp., 8 June 1954, Stainton, Sykes & Williams 3071.
 Distribution: Widely distributed in the northern Hemisphere.
 Only the aecidial stage is represented in the Nepal material.


Nepal: Gurjakhani, 2,800 m., on *Triticum vulgare*, 1 June 1954, Stainton, Sykes & Williams 2939.
 Distribution: Worldwide.


Nepal: Ghasa, Kali Gandaki Valley, 2,500 m., on *Berberis* sp., 31 May 1954, Stainton, Sykes & Williams 5499; same locality and host, 13 June 1954, Stainton, Sykes & Williams 5750.
 Distribution: Worldwide.
 Some of the pustules were a bright pink and considerably swollen.


 Distribution: North and South America, India, Indonesia, Philippines, China, Japan.


Nepal: Ghar Khola, 2,000 m., on *Colquhounia coccinea*, 14 June 1954, Stainton, Sykes & Williams 5758.
Distribution: India.
Aecidial stage only and chiefly epiphyllous; only a few isolated sori on the lower
surface and on the petioles. In the original account the aecia were said to be
hypophyllous.


Puccinia polygoni Alb. & Schwein., Consp. Fung. : 132 (1805), nom. superfl.—Gäum. in

Nepal: Dhankuta Province, Taplejung district, Sanghu, 2,000 m., on Polygonum
nepalense, 25 Nov. 1961, Norkett 7530 A.
Distribution: Worldwide.

The teleutospore stage is represented. This species and P. polygoni-amphibii are
united by some mycologists but treated as separate by others. The two species
are maintained here not only on biological grounds but also on account of definite
small morphological distinctions, which apply not only to European plants, as
generally stated, but also to American specimens as exemplified in the British
Museum herbarium. In P. polygoni-amphibii, usually occurring on Polygonum
amphibium, P. lapathifolium and related species, the teleutosori remain for long
covered by the epidermis and form small pimply pustules, and the spores are
frequently somewhat bent and easily lose their pedicels. On the other hand, in P.
polygoni-aviculareae, usually on Polygonum dumetorum and P. convolvulus, the
pustules rapidly burst through the epidermis of the host, leaving smooth black
cushions of straight, stalked teleutospores.

In the present instance the host, Polygonum nepalense, resembles in general
appearance and texture Polygonum convolvulus, and the teleutospores and sori of
the fungus agree exactly with those described for P. polygoni-aviculareae.


Nepal: Near Dogadi Khola, 4,300 m., on Epilobium sp., 23 June 1954, Stainton,
Sykes & Williams 3226.
Distribution: Worldwide.


Puccinia songarica Jacz. in Hedwigia 39 : (130), fig. 1 (1900).

Nepal: Rambrong, Lamjung Himal, 4,000 m., on Ranunculus sp., 29 June 1954,
Stainton, Sykes & Williams 6016.
Distribution: India, Turkestan, Mongolia.


Nepal: Chainpur path, Tumlingtar, 800 m., on Phyllanthus emblica, 21 Dec. 1961,
Norkett 8100.
Distribution: Previously recorded from India and Burma.

*Ravenelia phyllanthi* Mundk. & Thirum. (Mycol. Papers, Imp. Mycol. Inst. 16: 24, fig. 18 (1946)) seems to be synonymous. This was described on *Phyllanthus polyphyllus* from Mysore.

**UREDINALES**—Form Genera


**Nepal:** Dana, Kali Gandaki Valley, 1,600 m., on *Crinum amoenum* Roxb. ex Ker-Gawl., 13 June 1954, Stainton, Sykes & Williams 5738.

Distribution: India, South Africa.


**Nepal:** Nr. Dogadi Khola, 4,300 m., on *Geranium collinum* Steph. ex Willd., on open slopes, 23 June 1954, Stainton, Sykes & Williams 3227.

Distribution: India, Nepal, Japan.

The aecidia cover considerable areas of the lower side of the leaves, showing as light brown patches on the upper surface. Each aecidium is 250–300 μ diam. The size, ornamentation, colouring of the aecidia and aecidiospores correspond exactly with those originally described for *A. infrequens* by Barclay on a *Geranium* sp. (? *nepalensis*) from Simla. The present fungus agrees also with the details given for *A. sanguinolentum* on other *Geranium* spp. in Finland, Russia and America by Lindroth (Bot. Notiser 1900: 241), and he suggested this might be a synonym of Barclay's rust.

Polunin, Sykes & Williams 4765, recorded in 1955 in this Journal (Balfour-Browne, 1955) as *A. infrequens* is microscopically similar to the fungus now reported, but differs in that the aecidia are grouped in orbicular patches with a small bare spot in the centre of each patch, i.e., as described by Lindroth for the less heavily infected specimens of his *A. sanguinolentum*. The host of this earlier collection, which has now been identified also as *G. collinum*, is more elegant and slender. Possibly the heavy rust infection is responsible for the coarser growth of the host specimen of Stainton, Sykes & Williams 3227.

*A. sanguinolentum*, in consequence of inoculation experiments from *Geranium* spp. of European origin (Lindroth, *loc. cit.*), has been described as a stage in life history of *Puccinia polygoni-amphibii* Pers. However, until experiments are made using specimens of the Nepal fungus, no certain conclusions can be drawn as to its relationships or alternative host plants.

In the meantime *A. infrequens* Barcl. is the name preferred on grounds of distribution and would be also on grounds of priority should this species prove to be identical with *A. sanguinolentum*. 


Nepal: Ghar Khola, 1,800 m., on Scutellaria scandens D. Don., 14 June 1954, Stainton, Sykes & Williams 5763.

Distribution: Himalayas.

A similar fungus, Aecidium scutellariae-indicae Dietel, has been described from Japan on Scutellaria indica var. japonica. This may be identical with the above species (P. & H. Syd., Monogr. Ured. 4 : 115 (1923)).

Peridermium orientale Cooke in Ind. Forester 3 : 91 (1877) “orientalis”.

Aecidium complanatum Barcl. in Journ. Asiatic Soc. Bengal 59 (2) : 101 (1890).

Nepal: Dhaibungkot, 1,600 m., on dead pine needles, 31 May 1949, Polunin 041.

Near Beni, 1,300 m., on needles of Pinus longifolia, 23 May 1954, Stainton, Sykes & Williams 2794.

Distribution: India, Nepal, Bhutan.


Nepal: Sanghu, Dhankuta Province, 1,400 m., on Hypericum sp., 12 Nov. 1961, Norkett 7088.

Distribution: Ceylon, India.

Auriculariaeaceae


Laschia delicata Fries in Linnaea 5 : 533 (1830).


Nepal: Ranipauwa, north of Beni, Kali Gandaki, 1,000 m., 3 Sept. 1954, Stainton, Sykes & Williams 7629.

Distribution: mostly tropical; America, Africa, India, Australia, Pacific.


Nepal: Arun Valley, Num, 1,500 m., on tree trunk, 30 Aug. 1956, Stainton 1459.

Distribution: America, Europe, India, Indonesia, Australia.

The fructifications are broadly attached, many more or less disciform, and they therefore superficially resemble A. peltata Lloyd. However the hairs are much longer, up to 500 μ.

Auricularia polytricha (Mont.) Sacc. in Atti R. Ist Veneto, Ser. 6, 3 : 722 (1885).

Exidia polytricha Mont. in Bélanger, Voy. aux Indes-Or. 2 : 154 (1834).

Hirneola polytricha (Mont.) Fries in K. Vet.-Akad. Handl. 1848 (1) : 146 (1849).

Nepal: Tamrang Khola, 2,300 m., on branch of tree, 21 Nov. 1961, Norkett 7889.

Distribution: Worldwide.
TREMELLACEAE

**GUEPINIA HELVELLOIDES** (Fries) Fries, Elenchus Fung. 2 : 31 (1828).

*Tremella helvelloides* Fries, Syst. Mycol. 2 : 211 (1822).
*Tremella rufa* Pers., Mycol Eur. i (i) : 103 (1822).

**NEPAL:** Taglung, Kali Gandaki, 3,500 m., 22 Sept. 1954, Stainton, Sykes & Williams 7990.
Distribution: North America, Europe, China, India.

**TREMELLA MESENTERICA** Fries, Syst. Mycol. 2 : 214 (1822).

**NEPAL:** Dhankuta Province, near Mahe, 1,300 m., on dead tree, 20 Sept. 1961, Norkett 5175 D.
Distribution: Worldwide.

EXOBASIDIACEAE

**EXOBASIDIUM** sp.


Specific identification could not be made as the collections in all cases were very over-ripe. Several species of *Exobasidium* have been described on *Rhododendron*. References to the literature on *Exobasidium* can be found in Sundström (Phytopath. Zeitschr. 40 : 213-17 (1960)) and in McNabb (Trans. R. Soc. N.Z., Bot. i : 267 (1962)).

AGARICACEAE

**ARMILLARIA MELLEA** (Fries) Kummer, Führ. Pilzk. : 134 (1871).

*Agaricus melleus* Fries, Syst. Mycol 1 : 30 (1821).

**NEPAL:** Arun Valley, Kasuwa Khola, on tree trunk in forest, 11 Sept. 1956, Stainton 1618.
Distribution: Worldwide.

**CLITOCYBE TABESCENS** (Fries) Bresad., Fung. Trident. 2 : 84, t. 197 (1900).


**NEPAL:** Lete, Kali Gandaki Valley, 2,600 m., in leaf mould at base of *Pinus chylla*, 3 June 1954, Stainton, Sykes & Williams 5551.
Distribution: Worldwide.
FUNGI OF RECENT NEPAL EXPEDITIONS


Nepal: Chimgaon (north of Tukucha), Kali Gandaki, 4,500 m., 17 July 1954, Stainton, Sykes & Williams 1846.
Distribution: Worldwide.


*Agaricus disseminatus* Fries, Syst. Mycol. i : 305 (1821).


Nepal: Arun Valley, Hatiar, 2,300 m., on fallen tree in forest, 20 Aug. 1956, Stainton 1394.
Distribution: Worldwide.

CREPIDOTUS MOLLIS (Fries) Staude in Festg. Mitgl. XIX Versamml. deutsch. Land- und Forstwirthe Coburg : 71 (1857) (reimpr. quam Schwämme Mitteldeutschl. : 71 (1858)).


Nepal: Arun Valley, Kasuwa Khola, 2,800 m., on tree trunk in forest, 11 Sept. 1956, Stainton 1617.
Distribution: America, Europe, China, Japan, Australia.
Very badly crushed in pressing but the layers of parallel and gelatinous hyphae were readily observed; spores $9 \times 5 \mu$, smooth.

GOMPHUS FLOCCOSUS (Schwein.) Sing. in Lloydia 8 : 140 (1945).


Nepal: Above Sauwala Khola, 3,300 m., on earth bank in *Quercus* forest, 13 Sept. 1954, Stainton, Sykes & Williams 4375.
Distribution: Recorded from North America, China, Japan, as well as from Nepal (1955).

LACCARDIA LACCATATA (Fries) Cooke in Grevillea 12 : 70 (1884).


Nepal: Arun Valley, Barun Khola, 4,000 m., in short grass, pinkish brown, 15 Sept. 1956, Stainton 1662.
Distribution: Worldwide.

LACTARIUS PUBESCENS (Krombh.) Fries, Epicrisis Syst. Mycol. : 335 (1838).

Nepal: Arun Valley, Barun Khola, 4,000 m., in short grass, 15 Sept. 1956, Stainton 1660.

Distribution: Apparently worldwide, but it is uncertain how many records under the name of the coarser *L. torminosus* (Fries) Gray, from which many mycologists have not separated this species, refer to it. Very few species of *Lactarius* have as yet been recorded from India or any of the neighbouring countries.

*Leptota erminea* (Fries) Gill., Hyménomycètes : 59 (1874).


Nepal: Mathand, near Pokhara, 1,120 m., on shady bank, “white except top of cap which is brown”, 22 June 1954, Stainton, Sykes & Williams 5852.

Distribution: Europe, India, Australia.

*Marasmius crinis-equi* F. von Muell. ex Kalchbr. in Grevillea 8 : 153 (1880).


Nepal: Murigurja Gad, 2,500 m., on dead vegetation near ravine track, 27 July 1954, Stainton, Sykes & Williams 3647.

Distribution: America, India, Ceylon, Philippines, Australia.

*Panus polychrous* (Lév.) Singer ex Balfour-Browne, comb. nov.


Distribution: Cuba, India, Nepal, Ceylon, Philippines, Australia.

A few additional synonyms are given by Singer (loc. cit.).

*Panus tigrinus* (Fries) Sing. in Lilloa 22 : 275 (1951).


Nepal: Midam Khola, Chisankhu, 650 m., on dead tree trunk, 4 May 1954, Stainton, Sykes & Williams 5214.

Distribution: Worldwide.

*Pholiota squarrosa* (Fries) Kummer, Führ. Pilzk. : 84 (1871).


Nepal: Chimigaon (north of Tukucha), Kali Gandaki, 3,500 m., in forest, at base of conifer, 14 Sept. 1954, Stainton, Sykes & Williams 7830.

Distribution: North America, Europe, Japan.
FUNGI OF RECENT NEPAL EXPEDITIONS


Distribution: Worldwide.

HYDNACEAE


Hydnellum var. erinaceus Fries, Syst. Mycol. 1 : 407 (1821).

Distribution: America, Europe, India, Japan, China.


Distribution: America, Europe, India.

POLYPORACEAE


Nepal: Dhankuta Province, below Sanghu, on roots of bamboo, 1,800 m., 27 Feb. 1962, Norkett 10233.
Distribution: Mostly tropical; Madagascar, India, Ceylon, Java, Philippines.


Distribution: Worldwide.
**FUNGI OF RECENT NEPAL EXPEDITIONS**

**Ganoderma lucidum** (Fries) Karst. in Rev. Mycol. 3 (9) : 17 (1881).


**Nepal:** Bakhri Kharka, north of Pokhara, 2,000 m., on rotten tree trunk, 25 April 1954, *Stainton, Sykes & Williams 5075.*

Distribution: Worldwide

**Fomes pectinatus** (Klotzsch) Gill., Hyménoycètes : 686 (1874).

*Polyborus pectinatus* Klotzsch in Linnaea 8 : 485 (1833).

**Nepal:** Between Bakhri Kharka and Rambrong, 2,300 m., on rotten tree trunk, 26 Apr. 1954, *Stainton, Sykes & Williams 5081.*

Distribution: America, Europe, India, Australia, Philippines.

**Fomes marginatus** (Fries) Gill., Hyménoycètes : 683 (1874).


**Nepal:** Taglung, Kali Gandaki, 3,300 m., on forest tree, 11 July 1954, *Stainton, Sykes & Williams 1751.* Also at 3,500 m., 22 Sept. 1954, *Stainton, Sykes & Williams 7992.*

Distribution: America, Europe, India, Nepal, China, Japan.

**Polyporus arcularius** Fries, Syst. Mycol. 1 : 342 (1821).

*Polyporellus arcularius* (Fries) Pilat in Kav. & Pilat, Atlas Champ. 3 : 75, t. 30-31, fig. 18 (1936).

var. **arcularius.**


Distribution: Worldwide; previously recorded from Nepal.

var. **strigosus** Bourd. & Galz., Hymenomyc. Fr. : 532 (1928).

**Nepal:** Chipli, North of Pokhara, 2,600 m., on rotten tree trunk, 18 Apr. 1954, *Stainton, Sykes & Williams 4882.*

Distribution: Worldwide.

Distinguished by its marginal hairs.


**Nepal:** Sanghu, Milke Danda Forest, 2,900 m., on old dead tree, 16 Nov. 1961, *Norkett 7129.*
Distribution: Widespread in temperate and tropical regions.
The material is in good condition but not sporing. There is much confusion over the use of this name, *P. biformis* Klotsch and *P. cervinus* Fries. It is hoped to make a more critical study of the problem shortly. Meanwhile Overholt's interpretation of *P. pargamenus* is adopted.


*Polystictus persoonii* Cooke in Grevillea 14: 85 (1886).
*Daedalea sanguinea* Klotsch in Linnaea 8: 481 (1833).

**Nepal:** Chainpur district, Tumlingtar, Dhankuta Province, 600 m., on dead tree, 13 Dec. 1961, Norkett 8109 E.
Distribution: West Indies, India, Nepal, East Indies and throughout most of the tropics.


**Nepal:** Ghar Khola, 3,100 m., on dead trunk, 15 June 1954, Stainton, Sykes & Williams 5769. Arun Valley, Kasuwa Khola, 2,800 m., 11 Sept. 1956, Stainton 1624.
Distribution: Worldwide.

**Polyporus squamosus** Fries, Syst. Mycol. 1: 343 (1821).

**Nepal:** Rambrong ridge, north of Pokhara, 3,300 m., on rotten tree trunk, 27 Apr. 1954, Stainton, Sykes & Williams 5103.
Distribution: Worldwide.

**Polyporus sulphureus** Fries, Syst. Mycol. 1: 357 (1821).


**Nepal:** Chimgaon, Kali Gandaki, 3,500 m., 14 Sept. 1954, Stainton, Sykes & Williams 7828. Arun Valley, Kasuwa Khola, 2,800 m., on tree in forest, 11 Sept. 1956, Stainton 1621.
Distribution: Worldwide; previously recorded from Nepal.

**Polyporus zonalis** Berk. in Ann. & Mag. Nat. Hist. 10: 375, t. 10 fig. 5 (1843).

**Nepal:** Karelung, Madi Khola, 660 m., on rotten branch, 23 June 1954, Stainton, Sykes & Williams 5911.
Distribution: tropical and semi-tropical; Central and South America, Cuba, India, Indonesia, China, Australia.
Resembles the type but is a little thicker. Spores globose and no cystidia.


*Microporus affinis* (Nees) Kuntze, Revis. Gen. Pl. 3 (2) : 495 (1898).

Distribution: widespread in tropical and subtropical regions; previously recorded from Nepal.

POLYSTICTUS CINNAMOMEUS (Gray) Sacc., Syll. Fung. 6 : 210 (1888).


Distribution: Worldwide; previously recorded from Nepal.
Very close to *P. perennis* but distinguished by its more uniform and silkier cap.


*Coriolus hirsutus* (Fries) Quél., Enchir. Fung. : 175 (1886).—Bourd. & Galz., Hyménomyc. Fr. : 561 (1928).

NEPAL: Dhankuta Province, Milke Danda Forest, 260 m., 29 Nov. 1961, *Norkett* 8307 A.
Distribution: Worldwide.


*Polyporus perula* Fries, Syst. Mycol. 1 : 349 (1821).

NEPAL: Rupakot Tal, 800 m., on rotten branch, 5 May 1954, *Stainton, Sykes & Williams* 5233. Arun Valley, Hinwan Khola, 800 m., on rotten log, 4 Sept. 1956,

Distribution: Widespread in tropical and sub-tropical areas; previously recorded from Nepal.


Distribution: Mostly tropical and sub-tropical.

The Nepal material is thin and smooth and conforms with P. sanguineus. P. cinnabarinus Fries, at one time considered to be a synonym, has been shown to be distinct on the basis of cultural interfertility tests (McKay in Mycologia, 51 : 465–73 (1959)).


NEPAL: Surauti Khola, 660 m., on dead bamboo, 12 Aug. 1954, Stainton, Sykes & Williams 6869.

Distribution: Japan, Java, Madagascar.

The present collection appears to agree completely with Lloyd’s species as he figured it from Umemura’s Japanese specimen, but it is doubtful whether this species is distinct from Polystictus affinis (Fries) Fries.


Distribution: South America, Africa, India, East Indies, China, Australasia.

9–10 pores per mm., setae subulate, dark brown. This species differs from P. iodinus in having smaller pores.

POLYSTICTUS TEPHROLEUCUS (Berk.) Sacc., Syll. Fung. 6 : 275 (1888).


Trametes favolipora (Pilát) Pilát in Kav. & Pilát, Atlas Champ. 3 : 267, t. 182, fig. 105 (1939).

Distribution: Asia: Kazakstan, India and East Nepal.

Fine specimens but the pores in Stainton, Sykes & Williams 9137 are mostly discoloured owing to a mycelial growth over the hymenium.


Distribution: America, Madagascar, India, Malaya, Indonesia, Japan, China.


*Polyporus versicolor* Fries, Syst. Mycol. i : 368 (1821).

*Corticius versicolor* (Fries) Quél., Enchir. Fung.: 175 (1886).


Distribution: Worldwide; previously reported from Nepal.


*Corticius unicolor* (Fries) Pataouill., Ess. Tax. Fam. & Genr. Hyménomyc.: 94 (1900).

Nepal: Sanghu, 3,000 m., 1 Nov. 1961, Norkett 6728.

Distribution: America, Europe, North Africa, China, Australia.

**Trametes cervina** (Schwein.) Bresad. in Ann. Mycol. i : 81 (1903).


Nepal: Ulleri, north of Kusma, Kali Gandaki, 2,600 m., on tree in wood, 1 Nov. 1954, Stainton, Sykes & Williams 8275.
Distribution: Europe, Russia, India, Ceylon, China, Australia.
For nomenclature of this fungus see note under Polyporus pargamenus (p. 123).

Trametes gibbosa (Fries) Fries, Epicrisis Syst. Mycol. : 492 (1838).

Daedalea gibbosa Fries, Syst. Mycol. 1 : 338 (1821).
Pseudotrametes gibbosa (Fries) Bondartz. & Sing. in Ann. Mycol. 39 : 60 (1941).

Distribution: Europe, Africa, India, China.

Lenzites betulina (Fries) Fries, Epicrisis Syst. Mycol. : 405 (1838).

Daedalea betulina Fries, Syst. Mycol. i : 333 (1821).

Distribution: Worldwide.

Lenzites palisotii (Fries) Fries, Epicrisis Syst. Mycol. : 404 (1838).

Daedalea palisotii Fries, Syst. Mycol. 1 : 335 (1821) "Palisoti".
Daedalea applanata Klotzsch in Linnaea 8 : 481 (1833).
Lenzites applanata (Klotzsch) Fries, Epicrisis Syst. Mycol. : 404 (1838).

Nepal: Arun Valley, Sabhaya Khola, 800 m., on tree trunk, 3 Sept. 1956, Stainton 1576. Dhankuta Province, Chainpur district, Tumlingtar, 600 m., on dead branch, 13 Dec. 1961, Norkett 8109 A.
Distribution: Widespread, especially in the southern hemisphere.


Distribution: India, Nepal, Philippines, Japan.
No spores were found in any of the gatherings. Stainton, Sykes & Williams 5730 has a grey cap, 1639 has grey cap with wide brown margin, and in 7494 the cap is entirely brown.
THELEPHORACEAE

Corticium caeruleum (Pers.) Fries, Epicrisis Syst. Mycol. i : 562 (1838).


Nepal: Ganesh Himal, Ankhu Kholo, 2,800 m., on bark in broad-leaved forest, 17 May 1962, Stainton 3731.
Distribution: America, Europe, India, Australia, Japan.

Hymenochaete mougeotii (Fries) Cooke in Grevillea 8 : 147 (1880).

Thelephora mougeotii Fries, Elench. Fung. i : 188 (1828).

Distribution: Europe, India, Nepal, Australia, New Zealand, China.


Nepal: Dhankuta Province, Taplejung district, Sanghu, 2,000 m., 17 Oct. 1961, Norkett 5696 B; same locality, 15 Nov. 1961, Norkett 7112 C.
Distribution: North and South America, Africa, West Indies, India.


Thelephora rubiginosa Fries, Syst. Mycol. i : 436 (1821).

Distribution: Worldwide.

Thelephora tabacina Fries, Syst. Mycol. 1 : 437 (1821).

Distribution: Worldwide.


Stereoium umbrinum Berk. & Curt. apud Berk. in Grevillea 8 : 164 (1873).
Hymenochaete vinosa Cooke in Grevillea 8 : 149 (1880).

Distribution: America, Europe, Africa, India, Australia, New Zealand.

Stereoium ostrea (Fries) Fries, Epicrisis Syst. Mycol. : 547 (1838).

Thelephora ostrea Fries, Elench. Fung. 1 : 175 (1828).
Thelephora versicolor var. fasciata (Schwein.) Fries, loc. cit.
Stereoium fasciatum (Schwein.) Fries, Epicrisis Syst. Mycol. : 546 (1838).

Distribution: widespread; previously recorded from the Himalayas.
Since Fries did not treat Thelephora fasciata Schwein. as a separate species in his Elenchus, which is part of the starting-point for the Fungi caeteri, the epithet of his T. ostrea must be adopted when the two names are regarded as synonyms.


Distribution: Worldwide.


NEPAL: Dhankuta Province, Taplejung district, Sanghu 2,060 m., 15 Nov. 1961, Norkett 7112 B.

Distribution: North and South America, Japan, China.

The fructifications are pinkish buff, resupinate on twigs; the paraphyses have branching tips; spores 8 × 4.5 μ.

Stereum sanguinolentum (Fries) Fries, Epicrisis Syst. Mycol. : 549 (1838).

Thelephora sanguinolenta Fries, Syst. Mycol. i : 440 (1821).

NEPAL: Gurjakhani, 3,160 m. on small branches, 30 July 1954, Stainton, Sykes & Williams 3678.

Distribution: North America, Europe, South Africa, Australia, New Zealand.


Distribution: America, Europe, India, Indonesia, China, Japan.

Lentz and Boidin should be consulted for modern interpretations of this aggregate species.


NEPAL: South of Gurjakhani, 3,600 m., on tree in Abies forest, 16 Aug. 1954, Stainton, Sykes & Williams 3868.

Large robust sporophores superficially like those of a large S. princeps (Jungh.) Lév. but having a tomentose sulcate pileus, coarse, more or less parallel skeletal hyphae intermingled with generative hyphae, and no acanthophyses as such, but merely some slightly granular cystidial hyphae. The spores, irregularly globose, smooth or very faintly punctate and amyloid, 4.5–6 μ diameter, resemble those of S. sulcatum Burt and those of S. taxodii Lentz & McKay (Mycologia 52 : 262 (1960)), two species recently transferred by H. L. Gross to his genus Echinodontium (Myco-path. & Mycol. Appl. 24 : 8, 11 (1964)). The Nepal fungus however differs in the
absence of large encrusted cystidia and in the possession of large flabelliform reflexed pilei. In view of the large and conspicuous fructifications it would seem unlikely that this fungus has not been recorded previously. I therefore defer describing it as new to science.

**Thelephora caryophyllaea** Fries, Syst. Mycol. i : 430 (1821).


**Nepal**: Taplejung district, above Sanghu, 2,000 m., amongst moss on earth, 12 Oct. 1961, Norkett 5927 A.

Distribution: Worldwide.


*Stereum duriusculum* sensu Bresad. in Ann. Mycol. 6 : 43 (1908), non Berk. & Broome.


**Nepal**: Sanghu, 820 m., 9 Nov. 1961, Norkett 7324.

Distribution: America, Europe, Africa, India, Japan, Australia, New Zealand.

The species was recorded from India by Banergee. The Nepal collection consists of tough, resupinate thalli covering earth beneath tree roots, about 2–3 mm. thick, mid-brown, of stratose context. Only a few basidia were observed embedded in the dichophysoid paraphyses; spores globose, straw-coloured, echinulate, 5–6 μ diameter; context hyphae brown, dendroidly and dichotomously branched, most markedly and densely in the hymenial layer, where they form the brown dendrophyses and dichophyses; intermingled with them are finer, readily stained hyphae. Rogers & Jackson (Farlowia i : 309 (1943)), treat *Dichostereum durum* as a synonym of *Vararia pallescens* (Schwein.) Rog. & Jacks. Type material of *Thelephora pallescens* Schwein. in the B.M. Herbarium differs in several particulars, notably its finer context, and would appear to be not merely a different growth-form, as these authors suggested, but a distinct species.

**CLAVARIACEAE**

**Clavulina mussooriensis** Corner, Thind & Dev in Trans. Brit. Mycol. Soc. 4i : 204 t. 8 fig. 3, text-fig. i (1958).

**Nepal**: Near Gurjakhani, 2,800 m., among grass on open slope, 28 July 1954, Stainton, Sykes & Williams 3670.

Distribution: India.

(E.J.H.C.)
**Clavulina alta** Corner, sp. nov.

Receptacula ad 11 cm. alta, alba, sicco luride flava; stipite 2–6 cm. × 3–8 mm., bene evoluto; ramulis inferioribus polychotomis v. planato-multifidis, superioribus 1 mm. latis dichotomis v. cristas, axillis inferioribus 3–6 mm. latis. Sporae 9.5–14 × 7.5–9 µ, subglobosae, lacrymiformes v. pyriformes, apicu 1 µ longo. Basidia 6.5–7.5 µ lata, bispora. Hymenium incrassatum; cystidios nullis; hyphis subhymenialibus 6–17 µ latis, fere pseudoparenchymatics. Hyphae 3–12 µ latae, fibulatae, tenue tunicatae, cellulis potius brevibus.

**Nepal:** Chimgaon, north of Tukucha, Kali Gandaki, 3,500 m., on ground beneath conifers, 14 Sept. 1954, Stainton, Sykes & Williams 7825. (Herb. Mus. Brit. holotype).

This resembles *C. rugosa* (Fries) Schrot. in the large spores and wide subhymenial hyphae, and *C. cristata* var. *coralloides* Corner in the form of the fruit-body. I have not seen such a distinct form before, and the spores are constantly rather narrow for their length.

(E.J.H.C.)

**Lentaria macrospora** Corner, sp. nov.

Receptacula ad 10 cm. alta, gregaria v. caespitosa, carneoflava; stipite ad 25 × 2–4 mm., axillas inferiores polychotomae versus plus minus dilatato; ramulis superioribus teretibus dichotomis strictis ascendentibus, 1–2 mm. latis. Sporae 20–30 × 3.7–5.5 µ, hyalinae, cylindricae, v. subclavatae, saepe curvatae v. sigmoideae, et allantiformes, tenue tunicatae, haud amyloideae. Basidia ad 45 × 9–10.5 µ; stereigmatibus 2–4, 7–8 µ longis. Hymenium incrassatum; cystidios nullis. Hyphae 2.5–7 µ latae, fibulatae, tunicis ad 0.5 µ vix incrassatis; in mycelio 2.5–4 µ latae, fibulatae, monomiticae, tunicis tenacibus sed vix incrassatis, passim partibus ampulliformibus ad 15 µ latis inflatae, crystallis sphaeroides 2–7 µ latis inter hyphas numerosis.

**Nepal:** Tamur Valley, Ghunska, east of Walungchung Gola, 4,300 m., on ground under conifers, 27 July 1956, Stainton 1145. (Herb. Mus. Brit. holotype).

This resembles in shape and colour the common tropical *L. surculus* (Berk.) Corner but the spores are much longer, the hyphal walls are scarcely thickened, and the habitat seems to be humicolous. Many basidia had 1–3 long spiculiform sterigmata, but they may have been abnormal and formed after collection.

(E.J.H.C.)


**Nepal:** Taglung, south of Tukucha, Kali Gandaki, 3,300 m., on ground beneath trees, 11 July 1954, Stainton, Sykes & Williams 1691.

Distribution (of *Ramaria botrytoides*): America, southern parts of Australia and Tasmania, Japan; when the species is interpreted in a wide sense.

(E.J.H.C.)
FUNGI OF RECENT NEPAL EXPEDITIONS


Clavaria suecica Fries, Syst. Mycol. 1: 469 (1821).

Nepal: South of Gurjakhani, 3,300 m., on damp shady forest bank, 18 Aug. 1954, Stainton, Sykes & Williams 3902.
Distribution: Europe, China, Canada, Northern U.S.A.

(E.J.H.C.)

RAMARIA FLACCIDA (Fries) Ricken, Vadem. Pilzfr.: 254 (1918).

Clavaria flaccida Fries, Syst. Mycol. 1: 471 (1821).

Distribution: America, Europe, South Africa, Australia, China, Japan.

(E.J.H.C.)


Nepal: Taglung, south of Tukucha, Kali Gandkai, 3,000 m., beneath conifers, 12 July 1954, Stainton, Sykes & Williams 1790.
Distribution: U.S.A. and Canada.
The pink form is represented.

(E.J.H.C.)


Nepal: North of Barse, 4,000 m., on Abies stump, 14 Aug. 1954, Stainton, Sykes & Williams 3851.
Distribution: Tibet.
Spores 10.5-15 X 5-6 µ, rather coarsely subverrucose. No clamps.

(E.J.H.C.)

CYEPHELLACEAE

Chromocyphella bryophyticola Balfour-Browne, sp. nov.

Fungus cupulatus, cupulis sessilis, levis, griseo-albis, 0.5 mm. diam.; contextis tenuis, mollis, 15 µ latis ex hyphis elongatis effermatis; hymenio levo, brunneo; basidiis cylindricis, 15-16 X 4-5 µ; sporis globosis, 5-7 µ diam., brunneis, punctatis.
Nepal: Sanghu, 1,800 m., on moss, Pterobryopsis, and on an intermingled liverwort, on shady rock, 8 Nov. 1961, Norkett 7292. (Herb. Mus. Brit. holotype).
This fungus is not unlike *Cyphella chromospora* Patouill. (Tab. Anal. Fung. i : 19, fig. 32 (1883)), but the spores are larger. It differs from *Chromocyphella burttii* Bridge Cooke (Sydowia, Beiheft 4 : 137 (1961)), in its smaller basidia and its definitely punctate spores.

This appears to be the first record of a "Cyphella" in the Himalayan region.

**SCLERODERMATEACEAE**


Distribution: Worldwide.

Spores 8–10 μ, reticulated.

**LYCOPERDACEAE**


*Mycenastrum bovistoides* Cooke & Massee in Grevillea 16 : 26 (1887).


Distribution (of *Bovista bovistoides*): India.

The Nepal collection appears to be very close to this species but has very slightly warted spores, whereas Ahmad described them as smooth. The capillitium threads agree in being chestnut brown and unpitted.

*Bovista echinella* Patouill. in Bull. Soc. Mycol. Fr. 7 : 165 (1891).


Nepal: Chainpur district, Tumlingtar, 600 m., on earth near base of cliff of Sabhaya River, 9 Dec. 1961, *Norkett 8682 A.*

Distribution: North and South America, Jamaica, Europe, Pakistan.

The spores are smooth, not echinulate as described by Patouillard, but show "lines" beneath the outer membrane which at a certain focus appear like spines; the pedicels are mostly 6 μ long.


*Geaster fimbriatus* Fries, Syst. Mycol. 3 : 16 (1829).


Distribution: America, Europe, Africa, India, Australia.


Distribution: South America, West Indies, Europe, Ceylon, Australia (according to Cunningham, v. below).

The eight specimens from Nepal resemble the descriptions of Geastrum hariotii very closely in being non-hygroscopic, in having a sessile endoperidium, dark, sulcate peristome and small, 3–3.5 µ diam., minutely verrucose spores. But the surface of the endoperidium is furfuraceous or granular rather than pitted as described by some authors (Cunningham, Gasteromycetes Austral. and N.Z. : 165 (1942)).


Distribution: Worldwide.

**FUNGI IMPERFECTI**

**SPHAEROPSISIDACEAE**


Phoma agaves Durieu & Mont. in Mont., Syll. Pl. Crypt.: 271 (1856).
Coniothyrium agaves (Durieu & Mont.) Sacc., Syll. Fung. 3 : 318 (1884).

Nepal: Sanghu, 2,000 m., on Agave, 17 Nov. 1961, Norkett 7154; Sombu, 1,600 m., on Agave, 23 Sept. 1961, Norkett 5313.
Distribution: America, South Europe, Africa, India.

**NECTRIOIDACEAE**


Nepal: Phewa Tal, 800 m., on leaves of Castanopsis sp., 8 May 1954, Stainton, Sykes & Williams 5272 (a).

Distribution (of A. viridans): Central America (Trinidad, Vera Cruz, Cuba, Ecuador), Brazil, Mexico.

The Nepal fungus was growing on white fly. It differs from previous accounts in the greater number of pycnidia to each stromatic cushion, which is completely dotted over with the greenish ostioles; conidia 12–16 × 1.5–2 µ.
Another *Aschersonia* also was collected on *Castanopsis* leaves; this appears to be close to *A. caespiticia* Syd. (in Engl., Bot. Jahrb. 54 : 260 (1916)), but differs in the rough surface of the tubercles and its small basal cushions. Tilhar, 3 Nov. 1954, *Stainton, Sykes & Williams 9251* (a).

**LEPTOSTROMATAEAE**


**NEPAL**: East of Chalike Pahar, 4,160 m., on *Salix* sp., 25 Sept. 1954, *Stainton, Sykes & Williams 4587*.

Distribution: not previously collected in this part of the world but its perfect state, *Rhytisma salicina* Fries, has been recorded from the Punjab.

**MELANCONIACEAE**

*Mastigonetron americanum* (Mont.) Balfour-Browne, comb. nov.


*Seiridium liquidambaris* Berk. & Curt. apud Berk. in Grevillea 2 : 154 (1874).

*Mastigonetron fuscom* Klebahn in Myc. Centralbl. 4 : 18, fig. 37-38 (1914).


**NEPAL**: Taplejung district, Sanghu, Tamrang Khola, 2,000 m., on dead twigs, 19 Oct. 1961, *Norkett 6319 A*.

Distribution: North and South America.

The acervuli, about 0·5 mm. in diameter, are scattered over the twigs and resemble lenticels in appearance. The conidia, 20-27 × 9-10·5 μ, are dark brown, unicellular, ovoid or ellipsoid, each with a hyaline apical appendage 30-40 × 2 μ, and a pedicel 12 × 2 μ, approximately.

The fungus agrees exactly with Klebahn's species and apparently also with the type of *P. americana* (in spite of Montague's description of the conidia as bisepitate) since Guba, loc. cit., states that "Montagne's drawings of the fungus and my study show dark colored 1-celled ellipsoid conidia". The drawing mentioned is apparently unpublished.

In view of its unicellular conidia the species cannot be included in either *Monochaetia* or *Pestalotia*. As for *Seiridium* Nees & Henry, (Syst. Pilze : 18, t. 3 (1837)), arguments can be brought forward for retaining it as an earlier name for *Mastigonetron* if one regards as accurate the elder Nees's (Syst. Pilze & Schwämme : 22 (1816), t. 1 fig. 19 (1817)) description and drawing of unicellular appendaged conidia. This non-septate condition of the conidia was accepted by Berkeley & Curtis when they selected this genus for the fungus on *Liquidambar*. Alternatively, *Seiridium* can be regarded as an older name for *Monochaetia* if Fries's (Syst. Mycol. 3 : 473 (1832)) statement that his examination of Nees's material showed multiseptate conidia is taken as correct. The original collection appears to be lost but other collections since then and reputed to be the same species, i.e. *S. marginatum*, are invariably
described as having a brown septate conidium with a transparent apical seta. The probable explanation for this discrepancy is that Nees chanced to examine and illustrate the unripe fungus, i.e. before the conidia became septate, while they were still unicellular, spindle-shaped and contained grey granular protoplasm. Fries, on the other hand, and all subsequent workers have described the mature fungus, which represents what is now generally regarded as typical Monochaetia. Taking this latter view, or better still treating Seiridium as a nomen confusum, this generic name cannot be used in place of Mastigonetron and therefore the correct name for the Nepal fungus becomes Mastigonetron americanum, as cited above.

STILBACEAE

Distribution: Previous record and original description from bamboo, Sim's Park, Coonoor, Madras, 1956.

Podosporium himalensis Balfour-Browne, sp. nov. (Fig. 4).
The general form of the synnemata is similar to that described by Subramanian (Journ. Ind. Bot. Soc. 35 : 73 (1956)) for his Prathoda saparva; the conidia however are different and the conidiophores hardly distinct from the hyphae and not geniculate. The Nepal material resembles an extremely luxuriant form of Podosporium rigidum Schwein., originally described from Carolina. The hyphae are hormiscium-like and very probably any portion breaking away can regenerate fresh growth, independently of conidial reproduction.


Stilbum lateritium Berk. in Ann. Nat. Hist. 4 : 291, pl. 8 fig. 2 (1840).
Nepal: Tumlingtar, by shore of Sabhaya Khola, 600 m., 11 Dec. 1961, Norkett 8107 C.
Distribution: North and South America, Cuba, Dominica, Africa, Nepal, India, Ceylon, Australia.
Pleonectria pseudotrichia (Schwein.) Wollenw. is its perfect form. The present collection occurs on unnamed bark and is very sparing.

Stilbum kurzianum Cooke in Grevillea 16: 71 (1888).

Nepal: Sanghu, 2,000 m., 17 Nov. 1961, Norkett 7153.

Distribution: India.

On dead twigs of Rosa sp. Synnemata 3–4 mm. tall, pale orange soon becoming cinereous; conidia rod-shaped 7–9 × 3 μ.
TUBERCULARIACEAE


Cerebella andropogonis Rabenh. in Bot. Zeit. 9 : 669 (1851).

Nepal: Bhadauri, near Pokhara, 2,000 m., on inflorescence of a grass, 1 Nov. 1954, Stainton, Sykes & Williams 8326.

Distribution: Worldwide but chiefly in the tropics and subtropics.

This genus has been revised recently by Langdon (Mycol. Commonw. Mycol. Inst. Papers, 61 : 1-18 (1955) under the name Cerebella), and by Schol-Schwarz (tom. cit. : 149-173).


Nepal: Argam, near Pokhara, 830 m., on leaves and stems of Acrocephalus indicus (Burm.) O. Kuntze, 10 Sept. 1954, Stainton, Sykes & Williams 7146.

Distribution: Worldwide.

SPECIAL LITERATURE


