

Abstracts of Journals Received in the Library Oct-Dec 2008

Journals Abstracted

Bolets de Catalunya - XXVII 2008

Clusiana - Vol 47 No 1 2008

Annales Botanici Fennici - Vol 45 No 4 2008

YESCA Revista de Micologia - No 20 2008

Mycobiology - Vol 36 No 3 Sep 2008

Schweizerische Zeitschrift für Pilzkunde - Vol. 86, No 4, 15th. August 2008

Schweizerische Zeitschrift für Pilzkunde vol. 86, no. 5, 15th. October 2008

Mushroom, The Journal of Wild Mushrooming – Issue 99 Vol 26 No 2 Spring 2008

Mycological Research Information about recent issues (including free access to contents lists and abstracts of published papers) can be found on the Elsevier website at www.elsevier.com/locate/mycres

Bolets de Catalunya XXVII 2008

Published by the Societat Catalana de Micologia [Spanish] A loose leaf collection of fifty superb colour photos of fungi with detailed descriptions printed on the reverse of each card. Text by 17 different authors and photos by 13 different people.

Clusiana Vol 47 No 1 2008

Jandrasits L & Fischl G (pp.5-13) [Hungarian with English abstract] Report on research into occurrence of *Colletotrichum* species as diseases on some protected plants in the Orseg region of Hungary. Plants most severely affected were *Orchis morio*, *O. ustulata* and *Platanthera bifolia*. Illustrated with b/w photos. (17 refs.)

Koszka A (pp. 15-19) [Hungarian with English abstract] re *Poronia punctata*. Brief description, survey of previous occurrences and report of a new find, discussion of its status in various European countries and review of questions about its distribution in Hungary and its protections. It is much less common than it used to be in Hungary because of human activity and it is suggested that it should be categorised as endangered in the Hungarian Red Data List (23 refs.)

Lenti I (pp. 21-30) [Hungarian with English abstract] Report of a survey of mycophilous fungi (fungi that live on other fungi) in the Batorliget Nature Reserves on the Great Hungarian Plain. 27 species on 54 different host species were recorded. (66 refs.)

Nagy L (pp. 31-44) [Hungarian] Dichotomous key to 142 taxa of *Coprinus* s/l known in Europe to date. Illustrated with b/w drawings of some microscopic features with captions in English as well as Hungarian. (17 refs.)

Rudolf K, Pal-Fam F & Morschhauser T (pp. 45-74) [Hungarian with English abstract] Report of a survey of the fungi of Cserehat, NE Hungary previously mycologically unexplored. A brief description of the area and its various habitats is followed by an annotated list of species recorded. (76 refs.)

Sandorne Ferenc K (pp. 75-83) [Hungarian with English abstract] Report of cultivation trials for *Grifola frondosa*. Illustrated with b/w photos and drawings. (10 refs.)

Albert L (ed.) (pp. 85-102) [Hungarian and English] Excellent colour photos with b/w drawings of microscopic features and descriptions on the back in both Hungarian and English of *Agaricus porphyrocephalus*, *Cortinarius caperatus*, *C. cotoneus*, *C. violaceus* *Leucoagaricus ionidicolor*, *Russula seperina*, *Sericeomyces subvolvatus*, *Poronia punctata*, *Grifola frondosa*, *Flammulaster limulatus*, *Hericium coralloides*.

Siller I (pp. 103-118) [Hungarian] Summary of the main types of mushroom poisoning, their toxicology, therapy and list of the principal toxic species. (21 refs.)

Annales Botanici Fennici - Vol 45 No 4 2008

Li J, Xiong H X & Dai Y C (pp.315-319) [English] Descriptions of two new species of Polypore from Hubei Province in central China, *Rigidoporopsis tegularis* Juan Li & Y C Dai sp. nov and *Skeletocutis fimbriata* Juan Li & Y C Dai sp. nov. illustrated with b/w photos and drawings. (7 refs.)

YESCA Revista de Micologia No 20 2008

All in Spanish some with brief English abstract. If no English abstract only rough translations of subjects of articles are given - Is there anyone living in the UK with a good knowledge of Spanish who would be prepared to do abstracts of articles in Spanish? Please contact Anne Andrews on andrews26w@ntlworld.com

A general index to Volumes 1-19 accompanies this issue.

Salcedo I (pp.14-18) [Spanish only] Is our mycoflora changing? (5 refs.)

Morcillo F C (pp. 24-25) Description of *Favolaschia calocera* a polyporous fungus found on *Ulex europeus* found in Europe for the first time in 2002. Illustrated with b/w drawings and a colour photo inside front cover. (1 ref.)

Moreno A C (pp. 26-31) Description of a rare *Lepiota*, *L. pallida*. Comparison is made with similar species. Illustrated with b/w drawings and a colour photo inside front cover. (15 refs.)

Fernandez-Vicente J, Hidalgo F, Undagoitia J (pp. 32-49) Species of *Boletes* and related genera from the Saja-Besaya Natural Park, Cantabria, Spain are listed with descriptions of the rare and interesting species *Boletus fechtneri*, *B. pulverulentus*, *Xerocomus depilatus*, *Gyroporus castaneus* and *G. cyanescens*. Illustrated with b/w drawings of *B. fechtneri* and *X. depilatus* and colour photos of *B. fechtneri* (inside back cover) *B. pulverulentus* (p.42), *X. depilatus* (p.41) and *G. castaneus* (p.40). (11 refs.)

Butron J L P et al. (pp. 50-58) Additions to the list of fungi found in the Eucalyptus forests of Cantabria and Vizcaya, Spain with notes on *Ciboria* (*Rutstroemia*) sp. *Scutellinia* cf. *minor*, *Cortinarius cielandii* and *Resupinatus striatulus*. Illustrated with b/w drawings of *C. cielandii* and colour photos on p. 39 of this and *Ciboria*. (16 refs.)

Herrero V C (pp. 59-60) Brief description of *Agaricus nivescens* Illustrated with colour photo inside back cover. (7 refs.)

Herrero V C (pp. 61-62) Brief description of *Amanita lividopallescens*. (8 refs.)

Puente A P (pp. 63-64) Brief description of *Inocybe pintureaui*. Colour photo on p.42. (2 refs.)

de la Parte L B (pp. 65-66) Brief description of *Heterobasidion annosum*, illustrated with b/w drawing. (6 refs.)

de la Parte L B (pp. 67-68) Brief description of *Pachypholeus citrinus* illustrated with b/w drawing. (2 refs.)

Puente A P (pp. 69-70) Brief description of *Cortinarius caligatus*. Colour photo on p. 41. (4 refs.)

Mycobiology - Vol 36 No 3 Sep 2008

Abstractor – Anne Andrews

Lee J H, Han K S, Bae D W, Kim D K & Kim H K (pp. 143-147) [English] Report of find of the myxomycete *Diachea leucopodia* on strawberry plants in a greenhouse in Korea. Description illustrated with b/w and colour photos and much discussion about taxonomic position of the genus. (10 refs.)

Saleem A-R (pp. 167-172) [English] Examination of 30 samples of beef luncheon meat from supermarkets revealed 31 species of fungus. Those with the highest lipase production were treated with food preservatives which resulted in some inhibitive effect on the mycelial growth and enzyme production. (25 refs.)

Wang X Y, Hur H, Lee Y M, Koh Y J & Hur J S (pp.190-192) [English] First report of the lichenised ascomycete *Heterodermia squamulosa* in South Korea., with description including chemicals found in thallus and comparison with closely related species. Illustrated with colour photos of f/b and macro and microscopic characters. (9 refs.)

Wang X Y, Hur H, Lee Y M, Bae F, Koh Y J & Hur S J (pp. 193-194) [English] Report of first find of *Cladonia peziziformis* in Korea with description and colour photo.

Schweizerische Zeitschrift für Pilzkunde vol. 80, no. 4, 15th. August 2008

Abstractor – Ray Tantram

(In German, some articles in French & Italian)

Musumeci E. (p. 137-138, 134-136) [also in Italian p. 134-136] Fungus of the month 5 is *Xerocomus bubalinus*, a species within the difficult group around *X. communis* and *X. rubellus*. This robust species with reddish cap, yellowish pores and with reddish brown fibres on its stipe, is described and micro features highlighted. It was collected at a roadside edge on October 2005, growing on sandy, stony soil amongst vegetation and exclusively under Birch. Identification proved difficult, involving checks by experts in this group, including Simoni. Ambiguous answers led to DNA analyses. These proved difficult and took two years to complete. It appears that the species is part of a complex within the phylogenetic tree, a so-called 'Cluster'. This collection was finally assigned to *Xerocomus bubalinus*, a taxon very close to *X. communis*, with both showing few macro and micro differences. An additional analysis showed that *X. erubescens* demonstrated clear differences with respect to the common *X. communis*. Colour plates show the species in situ, and in cross-section, line drawings show micro features. (5 refs.)

Kathriner P; Mühlbacher K. (p. 140-143) [also in French p. 143-144, 140-142] Two interesting root truffles collected in 2007, are described. These are *Rhizopogon pannosus* and *R. vinicolor*. To spread their spores hypogeous fungi must reach the surface, and rely on smell for the mature fruitbodies to be dug out by animals. *R. pannosus* has a roundish, yellow-brown granular fruitbody 1-3cm in diameter. The peridium immediately stains orange on cutting, but fades within a few hours. The gleba at first is white. An initial misidentification as *R. rocabrunae* was corrected by Frau Martin, as the interwoven peridial hyphae examined are a feature of *R. pannosus*. Additionally all collections of this species, as here, have been under *Abies alba*. *Rhizopogon vinicolor* has a red-brown peridium which later shows blackish brown flecks, and has a wine-red trama. Keys from the Internet helped identify this mainly US species which associates with Douglas Fir. Colour plates show *R. pannosus* in situ, also photomicrographs of spores and basidia; and *R. vinicolor* and its spores and basidia. (8 refs.)

Neukom H-P. (p. 145) [German] A campaign is being run in Switzerland by VAPKO to encourage fungus forayers to have their collections examined officially for edible and poisonous species. A poster and six post cards have been prepared showing edible species and poisonous 'doubles'. All Swiss local authorities have been sent this material. It can be obtained via e-mail from ruth.banziger@gmx.ch or through www.vapko.ch

Flammer R. (p. 146-147, 149) [also in French p. 148-149] A collection of *Boletus torosus* from Innsbruck in 1993 was found to contain coprin, but none was detected in *Boletus luridus*, which also changes colour dramatically on cutting. Some ambiguities remain and more work needs to be done regarding correct fungal identification and chemical analyses. *B. torosus* is rare in Switzerland, and differs from close relatives as it is very compact, and dense for its size. It occurs frequently in parts of SW France, where it is collected as edible. It is toxic raw and causes digestive problems in some people, which does not seem linked to wine consumption. At present problems cannot be linked to the coprinus syndrome, which occurs within minutes of alcohol consumption, and recurs for 3-4 days following the fungus meal if alcohol is again consumed. Colour plates shows *B. torosus* in the two forms found in broadleaved and in coniferous woodland (res) . A box details the coprinus syndrome.(6 refs.)

Flammer R. (p. 150-151) [also in French p. 152-153] Periscope 17 has a further look at items of mycological-medical interest in Switzerland and abroad. VAPKO Suisse Romande has issued statistics on poisoning cases. Only 12 incidents were notified. Six graphics are in the original report.

Toxological problems in south-west France concern *Tricholoma equestre*. It was officially declared a toxic species in 2005, but is still available at markets, as control measures have not been implemented. Likewise many mycophagists in this region still consume the very frequent *Leucoagaricus leucothites* in considerable quantities, despite it causing sickness and diarrhoea, and possibilities of confusing it with *Amanita verna* and *A. virosa*. The deaths of two dogs after ingesting toxic species are also recorded. (1 ref.)

A paper published in Pennsylvania highlights treatment problems in children where there is only a suspicion of fungus ingestion, and much parental hysteria. (1 ref.)

The 'Letterbox' feature discusses potential risks for children from garden fungi. Many small fungi have not been tested for toxicity, or even assigned correctly to fungal genera. This applies eg. to confusions with *Pholiotina* and *Conocybe* species and their look-alikes. Some indeterminate species may also contain psilocybin. Garden fungi should be scrutinised where there are small children. (4 refs.)

Cléménçon H. (p. 154-156) [also in French pp. 157, 155-156] Images in microscopy (37) examines *Marasmiellus perforans* which colonises fallen Spruce needles, often in great swarms. Already in 1789 the botanist Franz Georg Hoffmann recognised how this species 'sits' on the needle, perforating its outer tissue. Once in the needle the fungus destroys weakly photosynthetic needle tissue and expands. Later the fungus attacks the needle's central conducting cylinder. Many fungal hyphae show under the microscope in all needle tissues. Shortly ahead of forming the fruitbody 1-2 thick hyphal tangles appear within the needle, which grow and penetrate through the needle surface to build the stipe and cap. Two photomicrographs show growth behaviour. The small scale picture shows the needle in transverse section, with the fungus stipe in longitudinal section, and demonstrates its emergence through the needle. The detailed image shows a section of the central cylinder, the outer skin of the needle and residues of the needle's cell walls. Dead spruce needles with

fruitbodies on them were fixed with aldehyde, dewatered in methyl cellulose and embedded in methacrylate. 4µm thick microtome sections were stained in toluidine blue; photographed with an Olympus DP11 and processed with Photoshop CS3. (Note: Correct Checklist name is *Micromphale perforans*)

Rohner O. (p. 158) Two major studies of macro-fungi have been published in Switzerland in the last few years: a government-funded long-term study and a Red List of threatened species. The former, on threats to woodland existence, showed that fungal flora remain healthy despite pollution and harvesting of fruitbodies. The author argues that the data collected in the FUNGUS database does not offer an objective basis for judging rarity. The Red List contains far too many subjective assumptions. Fungi should be regarded as "weeds" that are not susceptible to eradication, and certainly they should not be protected. The Red List merely charts a coming and going of mycelia in the ground, and is not an instrument for protecting fungi.

Senn-Irlet B. (p.159) [Reply to above] Although the report showed that overall the fungal flora in test areas has not changed over 30 years, it also highlighted that undisturbed woodlands contained about 30% more fungi, than those visited weekly by fungal collectors. The study concluded that acting on precautionary principles was justified. IUCN guidelines were used in compiling the Red List. These incorporate quantitative methods to evaluate extinction likelihood. The random sampling technique used is a proven scientific method. The majority of fungi are not pioneer species and need a long period of time to establish themselves. Many have already become extinct. The two studies cannot be used to determine policy in isolation, but offer useful tools to guide towards effective fungus protection.

Senn-Irlet B. & Jacob P (p.160-161, 163) [also in French p.162-163, 161] www.swissfungi.ch is the new web-atlas charting distribution, threatened status and protection of fungi in Switzerland. The atlas, with its familiar red dots, shows confirmed sightings of fungi since 2001. Last winter the whole subject was reworked thoroughly into a comprehensive and useful online tool. Selecting a Latin name for a fungus brings up a list of species in this genus, and a number of options for further study. Additional information includes protection status, altitude distributions and substrates. Over 5,100 fungal species, for which there is at least one record, are illustrated. Modern digital cameras and software allow the compilation of a photo gallery. The pictures are shown as 'thumbnails' below the distribution maps. Clicking on an image activates the photo-gallery and allows viewing in larger format. Any photographer can contribute, with copyright and authorship acknowledged. Image quality is deliberately low to avoid photo-theft. Currently over 2,000 images have been included. Swiss-fungi is available in three languages: German, French, and English. [www.wsl.ch/dossiers/pilze/index DE](http://www.wsl.ch/dossiers/pilze/index_DE) or www.swissfungi.ch Illustrations show distribution maps for *Boletinus cavipes* (2001 and 2008) and *Polyporus mori*. A table shows substrate information for the latter species. (2 refs.) .

Hinni H-P; Gilgen G. (p. 166) Several fruitbodies of a rare bracket fungus, with a gilled-to-daedaloid hymenophore were found on a dead standing trunk of *Prunus* spp. *Lenzites warneri* was suspected, but macroscopic examination was not conclusive, and no spores could be found. Jean Duc was able to use special methods to initiate sporulation, and checked spores against *L. betulina*. The collection, photographed from a ladder, was confirmed as *Lenzites warneri* from spore sizes and also some macro features. This is a Mediterranean taxon, which has always been found on deciduous trees. *L. betulina* occasionally appears also on conifer wood. There are 4 collections named in www.swissfungi.ch, the last in 2004. (4 refs.)

Ritter H (in German p. 170, French p.170-171) This Book Review features “ Mykologische Notfalldiagnostik”,: Flammer R; Flammer T, 2nd. Edition. This second edition has been completely reworked and convinces by its clear, well-structured headings. Multi-colour printing offers a great advantage, and access to important information is now faster. Diagrams are also helpful, as is incorporating photographs within the text. To summarise, this is a successful and very professional reworking. It is aimed by practitioners for practitioners (with further information available in Flammer R; Horak E. Giftpilze-Pilzgifte, Schwabe Verlag, Basel) There is very little literature available on mycological emergency diagnostics, and this standard work is to be heartily recommended for those in charge of diagnoses in every hospital. It is available in German, French and English editions.]

In German, some articles also in French & Italian

Senn-Irlet B; Aeberhard H; Von Niederhäusern F. (p. 178-180) [also in French (p. 181-182, 178-180)] Fungus of the month (7) is *Rhytidhysterium hysterinum*, a discomycete in the *Patellariaceae* family, found again in Switzerland after an absence of 100 years. Two collections were announced from different locations in January 2008. Its 1-2mm x 0.5-1.5mm fruitbodies are partly embedded in the bark of *Buxus sempervirens* when young. Macro and micro features are described, and its taxonomy discussed. It is characterised by an unusual combination of features. The young fruitbody can be described as a hysterothecium, but later becomes a more or less typical apothecium, with brown two-celled spores in a bitunicate ascus. The red colour reaction with potassium hydroxide demonstrates a hymenium type often observed in lichens. Two colour plates show fruitbodies, and three photomicrographs sections, spores and the KOH reaction. (9 refs.)

Roth J-J. (p. 186-187, 183,185) [original French p. 183-185] Myxomycete of the month (8) is *Diacheopsis reticulospora*, a species found in mountainous regions, and first collected in Savoy. Its blackish iridescently-gold plasmocarp with violet to reddish shimmer, is described. It can vary in size from a few millimetres to 2.7cm. The genus *Diacheopsis* was first described by Charles Meylan in 1930. This brief article is dedicated to Meylan and his outstanding work on myxomycetes. A colour plate shows fruitbodies, and line drawings show the capillitium with spores, and peridium with spores. A bibliography is included. www.tela-botanica.org/page.myxomycetes offers more information on these organisms and contains links to three further websites. (5 refs.)

Flammer R. (p. 189-190) [also in French p.191-192] Progress in treatments for poisonings from amanitin-containing fungi has markedly reduced fatalities, with mortality rates dropping from 50% to 5% over the last 50 years. A number of different treatments, developed by consensus are used and methods are constantly being refined. Pierre Bastien (1924-2006) was a doctor who believed that only his treatment was effective, and rejected all other approaches. He went on the offensive with three self-experiments and in 1985 published a book on his survival following ingestion of *Amanita phalloides*. His experiments were flawed as he acted in anticipation of what would follow, unlike hapless victims. Repeated rejection of his methods by established medicine resulted finally in his demoralisation and his wife's suicide. Teamwork, not egoism proved the key to successful treatments. Bastien's 4-point treatment protocol is presented. (6 refs.)

Flammer R. (p. 192-194) [also in French p. 194-195] Periscope 18 reports on matters of mycological/medical interest. Moulds not only decompose dead animal and plant materials but can also attack living organisms. A welder was enveloped in a cloud of spores when handling his compost bin. Treated erroneously for a bacterial infection, invasion of his system by *Aspergillus fumigatus* was not detected until too late. Moulds can lodge in the lungs and cause allergies and invade the whole body where there are immune deficiencies. Care should be taken in handling such materials. (1 ref.)

Four poisonings in south-west France were reported at the European Toxicology Congress in May 2008 due to mistakenly ingesting *Entoloma vernum* in place of *Marasmius oreades*. It shares a long latency with *Amanita verna* and treatments should take possible amanitin poisoning into account. Colour plates show *Entoloma vernum* and *E. sinuatum*. (1 ref.)

Carrying a large *Sparassis crispa* in his arms for over two miles initiated an allergic nettle-rash reaction in a keen mycophagist. Carrying three *Amanita muscaria* fruitbodies apparently initiated itching, paranoia and visual disturbances in a different subject! After eating deep-frozen Chanterelles a further subject later developed a rash all over his body.

Letterbox discusses the culinary value of *Panellus serotinus* – its a matter of taste! It is suggested that those handling mulches and compost should hold their breath and preferably wear a mask.

Cléménçon H. (p. 198-199) [also in French p, 199-200] Images for microscopy (38) concerns the gill trama in *Amanitas*, which was described as 'bilateral' in 1889 by Fayod. Later this static interpretation was moved into a dynamic one involving 'pressure cells', as defined by Bas in 1969. The term was replaced by Bas in 1997, by 'acrophysalids', but has not found general acceptance. Here per-radial sections from gills of *Amanita muscaria* and from (the related) *Limacella glioderma* are shown both in overview and greatly magnified. The acrophysalids are more obviously bilateral in the Fly Agaric, and arranged here towards the base. Both highlighted cells are blind. The cellular sub-hymenium of both species demonstrates their close relationship to one another. The slides were prepared by fixing the material in aldehyde, and embedding in methylacrylate. Microtome sections were stained with toluidine blue, and photographed digitally.

Rafreider H. (p. 200); Fahrni J (p.201) Short contributions in support of Red Lists.

Riva A (p. 202-3) ONLY IN ITALIAN - very briefly summarised! Albrecht von Haller (1708-1777) was an important Swiss mycologist, who also had interests in politics, medicine and natural history generally. His major work was his *Flora Helvetica* 1742, which included studies of fungi, and was the first published Swiss flora. Two of the 24 plates were of fungi and lichens. Plate 1 from his book is shown here, with 10 species illustrated.

Neukom H-P. (p. 204-207) An interview with Béatrice Senn-Irlet covers her lifetime interest in fungi and her professional achievements. She believes that fungal conservation and the compilation of Red Lists comprise an important part of her work, but is happy to enjoy a fungal meal, especially of *Boletus edulis*. Colour plates show the subject and the rare *Phyllotopsis nidulans*.

Cléménçon H. (p. 209-211) An attempt is made to clarify definitions of rhizomorphs, rhizoids and trichoids. Rhizomorphs were first described for *Armillaria spp.* and became associated with black, reinforced structures. Most true rhizomorphs are white without the tough outer layer, but all have a typical complex hyphal structure which includes secretory hyphae. Rhizoids are hair-shaped and often bunched or filamentous, they do not form into tough strands, and are never found in the higher fungi. They often cluster round the basal stems of mosses. Trichoids form at the base of certain fungi. They differ from rhizomorphs by consisting, in most cases, merely of closely-packed and interwoven vegetative hyphae. They are usually short and finely pointed. Colour plates and photomicrographs show rhizoids on the stem base of the moss *Polytrichum formosa* at 3 different magnifications, rhizomorphs of *Armillaria ostoyae*, *Clitocybe inornata* and *Lepiota cristata*, and a cross-section shows their hyphal structures in *Clitocybe candida*. Trichoids on the stipe base of *Mycena flavoalba* are illustrated in 3 magnifications.

Buser P. (p. 212-213) An attempt to clarify a definition of "pseudoparaphyses" found that the correct term for these bodies, which lie between the basidia of certain fungi, was hymenial physalids. These "wall cells" occur mainly in the genera *Conocybe*, *Coprinus*, *Bolbitius* and *Leucoprinus*. Prof. Heinz Cléménçon helped in this work. A colour plate shows *Conocybe crispella* and a photomicrograph of a gill section highlights the hymenial physalid cells between the basidia.

Boujon C; Favre I. (p. 215) ONLY IN FRENCH An article by these authors in **SZP 3/2008, p. 96-99** on 'Interesting Cortinari species...' was accompanied by poor quality reproduction of some of the colour plates. *Cortinarius varicolor* var. *pseudovaricolor*, *C. privignorum* and *C. adustorimosus* are presented here in improved quality.

Mushroom, The Journal of Wild Mushrooming – Issue 99 Vol 26 No 2 Spring 2008 Colier L
(pp. 5-10) Long description of attempts to find “the perfect flush” or bonanza of Morels to collect for eating in Montana, USA.

Rogers M (pp. 11-12) Notes about her hobby by a “mycophilatelist” or collector of stamps portraying fungi.

Sommer B (pp. 13-16) Discussion of collecting, cooking and preserving Chanterelles. The different species to be found in California are discussed together with some look-alikes to be avoided. Illustrated with paintings of *C. infundibuliformis*, *C. cinnabarinus*, *C. cibarius*, *C. formosus* on p.15 and photos of *Hygrophoropsis aurantiacus* and *Omphalotus olivascens* on p. 16..

Shernoff L (pp. 17-24) In this article on part of the genus *Boletus*, the author first describes and explains his division of the genus into groups mainly on the basis of field characters. The groups are Appendiculati, Bicolores, Calopodes, Luridae, Edulis, Pseudoleccinum, Subtomentosus, Sulphurea and Retiboletus. The groups are further divided into “large” and “small”. Next the section Appendiculati and the large species in section Bicolores are described in detail, species by species, with information on macro characters, area and habitat where found, history of nomenclature, degree of rarity, edibility and identification problems. Illustrated with colour photos on p.16 and back and front covers.. (4 refs.)

Goldhor S (pp. 28-32) The author reflects on whether fungi are the weirdest of all living macro-organisms. She cites the recently discovered *Psathyrella aquatica* which grows completely under water, the first basidiomycete to have been found in this habitat. This leads to consideration of other unexpected habitats such as the back of a deep dark seaside cave, or the snow melt zone in western North America. These “snowbank fungi”, about 30 different species push up through the snow which melts around them and remain to indicate where the edge of the snow was. They are mostly found in the spruce/fir forests in the mountains, not in open snowbeds in arctic or alpine areas. This leads on to consideration of another habitat which is a unique and little known ecosystem, the canopies of big old trees in temperate rainforests. Two books by researchers who have explored this inaccessible zone are reviewed and the lichen flora of this habitat is discussed at length.

Rubin-Mahon E (pp. 35-36) Discussion of the appearance and edibility of Wood Blewits with some recipes. Blewits well cooked are not toxic for most people but the taste changes with aging and some people dislike them anyway. Illustrated with colour photos of Blewits and for comparison of *Cortinarius* species which are similar in appearance and should not be eaten under any circumstances.