Y E A S T

A News Letter for Persons Interested in Yeast

May 1962 Volume XI, Number 1

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Many thanks to those who have contributed to this issue by sending in news items and accounts of research projects. The next issue will be published in November 1962. A contribution of $0.50 from those who have not contributed for some time would be appreciated to finance future editions of the News Letter. Many thanks to those who have contributed recently.

The Editors

I. Centraalbureau voor Schimmelcultures, Yeast Division, Julianalaan 67A, Delft, Holland. Communicated by Mrs. N. J. W. Kreger-van Rij.

The following new species, for which a description was published, have been received by the C.B.S.

Brettanomyces custersianus v.d. Walt
(J. P. van der Walt, Antonie van Leeuwenhoek, 27: 332, 1961)

Brettanomyces dublinensis Gilliland
(R. B. Gilliland, J. Inst. Brew., 68 (N.S. 59): 51, 1962)

Candida ingens v.d. Walt et v. Kerken
(J. P. van der Walt & A. E. van Kerken, Antonie van Leeuwenhoek, 27: 284, 1961)

Debaryomyces phaffii Capriotti
(A. Capriotti, J. Bact., 82: 326, 1961)

Hansenula wickerhamii Capriotti
(A. Capriotti, J. Bact., 82: 359, 1961)

Symbiotaphrina buchneri (Graebner) Kühlwein et Jurzitza
(H. Kühlwein & G. Jurzitza, Arch. Mikrobiol., 40: 247, 1961)

Torulopsis vartiovaarai Capriotti
(A. Capriotti, Can. J. Microbiol., 7: 681, 1961)

II. Departmento de Microbiologia, Instituto Botanico, University of Lisbon, Portugal. Communicated by Dr. N. van Uden.

1. Miss Helen Buckley from New York and Mr. Ismet Taysi from Ankara, Turkey are spending a year in this laboratory. Miss Buckley is working on the intestinal yeast flora of free-living birds and colaborating in the taxonomic revision of the genus Candida. Mr. Taysi is concerned with marine yeasts and is also studying the fermentation by yeasts of a number of sugars not usually employed in taxonomy.

2. Dr. Abranches, Miss Vidal Leiria and Miss H. Sousa Robalo all from Lisbon joined our group. Dr. Abranches is refining an enzymatic method for the quantitative study of yeasts in sputum. Miss Vidal is on a project dealing with the taxonomic revision of the genus Torulopsis and is also colaborating in experimental work regarding the influence of diet on the intestinal yeast flora of warmblooded animals. Miss Robalo is concerned with lipase activity of the yeasts.

3. Dr. van Uden will attend the International Congress of Microbiology and the A.I.B.S. meetings during August 1962 in Montreal, Canada and Corvallis, Oregon respectively; he is looking forward to seeing again the old friends in the States.

4. Publications.

Uden, N. van and R. Castelo-Branco, "Metschnikowiella zobelli sp. nov., two yeasts from the Pacific Ocean pathogenic for Daphnia magna", J. Gen Microbiol. 26, 141-148, 1961.

Uden, N. van and L. do Carmo-Sousa, "Quantitative aspects of the intestinal yeast flora of swine", J. Gen. Microbiol. 27, 35-40, 1962.

Uden, N. van and L. do Carmo-Sousa "On the intestinal yeast flora of freeliving baboons (Papio cynocephalus)", Sabouraudia (in press).

Uden, N. van and L. do Carmo-Sousa "On the intestinal yeast flora of freeliving hippopotami (Hippopotamus amphibius), wart hogs (Phacochoerus aethiopicus) and bush pigs (Potamochoerus choeropotamus)", Antonie van Leeuwenhoek (in press).

Fell, J. W. and N. van Uden, "Yeasts in marine environments". Proc. Symposium on marine microbiology, 1962.

Uden, N. van and M. C. Kolipinski, "Torulopsis haemulonii sp. nov., a yeast from the Atlantic Ocean". Antonie van Leeuwenhoek (in press).

Uden, N. van and C. E. Zobell, Candida marina nov. spec., Torulopsis torresii nov. spec. and T. maris nov. spec., three yeasts from the Torres Strait. Antonie van Leeuwenhoek (accepted for publication).

III. Soil Bureau, Department of Scientific and Industrial Research, Eastern Hutt Road, Lower Hutt, New Zealand. Communicated by Dr. Margaret di Menna.

Most of my time in the last two years has been spent in survey work on soil yeasts. About fifty New Zealand soils have been examined and some Pacific Island soils have also been looked at. Numbers of yeasts have varied between nil and 600,000 per gram of soil; dominant species have been, with monotonous regularity, Cryptococcus albidus, Cryptococcus terreus and Candida curvata. Numbers are most consistently high in moist but well drained, cool to cold, rather acid soils. Very warm, dry, or droughty soils, such as are rarely encountered in New Zealand but are commoner in the tropical Pacific Islands, do not seem to be able to support a yeast flora at all. Candida curvata is commonest in moist soils with cool to warm temperatures, Cryptococcus terreus in drier warm soils and Cryptococcus albidus in cool dry or cold wet soils. For instance, C. curvata is likely to be the dominant yeast species in a moist soil at or near sea level in New Zealand but Cr. albidus will be dominant in a New Zealand mountain soil or a soil from one of the sub-Antarctic islands.

Some samples of Antarctic soils have been examined recently. Many of them contained no yeasts, but some had small yeast floras of 250 to 2,000 yeasts per gram of soil, mainly psychrophilic species which grow poorly or not at all at 20°C.

IV. Low Temperature Research Station, Cambridge, United Kingdom. Communicated by M. Ingram and J. A. Barnett.

During experiments on the storage of poultry (from which bacteriological findings have already been published: Barnes and Shrimpton, 1958, J. Appl. Bact. 21, 313; Ingram and Thornley, 1959, J. Appl. Radn. and Isotopes 6, 122), about 350 strains of yeasts were isolated from the carcases. Of these only 23 have been found to ferment in glucose, and further, none of those tested so far have been found to produce ascospores. The fermenting yeasts have the characteristics of Candida tropicalis. A large proportion of the others appear to be Candida lipolytica and Trichosporon infestans. A few strains are probably T. pullulans, C. zeylanoides and C. mycoderma, in addition to some unidentified pink yeasts.

The yeast flora on these birds seems different from that reported by Walker and Ayres (1959, appl. Microbiol. 7, 251) and Njoku-Obi et al (1957, appl. Microbiol. 5, 319).

V. Laboratoire de Microbiologie et de Mycologie, Faculté des Sciences, 16, quai Claude Bernard, Lyon 7e, France. Communicated by Prof. J. Boidin.

Since last November the work on yeasts in my laboratory has continued. The following article will appear soon in the Bulletin de la Société Mycologique de France "Les levures à spores réniformes", by J. Boidin, F. Abadie, J. L. Jacob and M. C. Pignal. A summary follows:

After a detailed descriptive study of the yeasts with kidney- or crescent-shaped ascospores, the authors are of the opinion that the budding species with fragile asci (ascospores liberated at maturity), now assigned to the genera Endomycopsis, Saccharomyces, Zygosaccharomyces, Pabospora, and Zygofabospora, constitute a natural group to which must be added S. lactis. The authors propose to reestablish and assign these yeasts to the genus Guilliermondella Nads. et Krassiln., in accord with the International Rules of Botanical Nomenclature.

Other publications will follow on yeasts with warty spores and on those with hat-shaped spores.

VI. University of California, Davis, Department of Bacteriology. Communicated by Dr. D. M. Reynolds.

Mrs. Frances E. Rudert, Donald M. Reynolds and Col. A. T. Brice, in the Department of Bacteriology, University of California, Davis are studying the spore discharge mechanism in Sporobolomyces. In 1954, Professor D. Müller at the University of Copenhagen, photographed with a motion picture camera, spore discharges of this yeast, at a framing rate of 64 pictures per second (about 2-1/2 times normal speed). We are attempting to carry on Prof. Müller's work by following this phenomenon, at higher speeds--eventually at a rate which will provide a sequence of pictures showing the spore actually leaving the sterigma, and depicting both the trajectory of the spore and the water droplets. A framing rate of 600 pictures per second has proved too slow--we are currently working at a speed of 1,000 pictures per second and will increase it with another high-speed camera to higher framing rates, in an attempt to gain further knowledge on the spore discharge mechanism. If necessary, high-speed stroboscopic photography will be attempted.

VII. Laboratorio de Fermentaciones y Enologia, Facultad de Quimica, Montevideo, Uruguay. Communicated by Prof. C. R. Cano-Marotta (Head of the Laboratory).

In the Zymology Section of this laboratory Mrs. D. Bracho de Kalamar and Prof. Cano-Marotta continue the study of "The yeasts of the wine fermentation in Uruguay". They have recently finished a study in two zones:

1 - "El Colorado" Zone

100 strains of yeasts were isolated in the three following stages:

a) Grape juice recently obtained
b) During the active fermentation
c) Several days after the end of this fermentation

In the absence of SO_2 the fermentation begins by Kloeckera apiculata capable of producing low percentages of alcohol (less than 3 g/l). The fermentation is continued and completed by

Sacch.	cerevisieae var. ellip.	60%
"	rosei	10%
"	fructuum	10%
"	chevalieri	10%
"	carlsbergensis	10%

From stage C a high number of Candida krusei was isolated. In the presence of 40 g/hectoliter of SO_2 the fermentation is initiated directly by yeasts of the Saccharomyces genus with a clear preponderance of

Sacch. cerevisieae var. ellip.	80%
" fructuum	10%
" carlsbergensis	10%

Of stage C was isolated

Sacch. cerevisieae var. ellip.
" oviformis
Pichia membranaefaciens
Candida krusei

The maximum alcohol produced by a certain number of these strains was determined.

VIII. Laboratorio de Micologia, Facultad de Quimica, Montevideo, Uruguay. Communicated by Dr. R. C. Artagaveytia-Allende.

In the journal Mycopath. et Mycol. applicata the following articles were accepted for publication:

a) Genus Candida: species that assimilate lactose, by R. C. Artagaveytia-Allende and Carmen Legnani.
b) Species of the genus Candida that assimilate KNO_3 by R. C. Artagaveytia-Allende and Carmen Legnani
c) Species of the genus Candida that do not assimilate KNO_3 and only assimilate glucose, by R. C. Artagaveytia-Allende and Carmen Legnani
d) Genus Candida: Species that assimilate glucose, galactose, sucrose, maltose and that do not assimilate lactose, by R. C. Artagaveytia-Allende and Carmen Legnani.

These studies are grouped according to the respective assimilatory schemes of the new species of yeasts described since 1952 and they were compared with the ones that were accepted by Lodder and Kreger-van Rij for the genus Candida.

Undoubtedly among these new species there are some which are closely related to other species already known and only slight differences exist between them.

The Institute of Mycology in Recifi, Brazil (IMUR) has accepted for publication the following paper: The genera Cryptococcus and Nigrococcus, some considerations concerning their species, by R. C. Artagaveytia-Allende and Carmen Legnani.

In this work new species of Cryptococcus were compared with the ones already known and differences are pointed out between the known species and the ones that we found. The genus Nigrococcus has been included in the family Cryptococcaceae but we feel that due to its black pigmentation it should be included in a separate family outside the Cryptococcaceae (order Moniliales) because the Cryptococcaceae are characterized by bright colors or are hyaline and the black color of Nigrococcus more likely relates it to the Dematiaceae. Therefore, in the present work we offer some considerations about the "yeast like forms" of filamentous fungi.

During January 1962, Drs. Bortol and Maguregui from the Faculty of Chemistry, Buenos Aires, visited our laboratory to study certain aspects of yeast.

In the journal Ciencia (Mex.) 21, 59, 1961 there was an article about Torulopsis glabrata which includes our observations during our stay in the Instituto de Micologia de Recife, Pernambuco, Brazil.

Also in some other Mexican journals, there will be published soon several works about new species of yeasts that we found after 1952. This will be a review article.

Presently we are working on ecology of aquatic yeasts and this is a continuation of work started a long time ago. Also we are continuing the work on yeast classification.

IX. University of California, Department of Food Science and Technology. Communicated by Dr. H. J. Phaff.

Since the last publication of the Yeast News Letter the following papers have been published or have been accepted for publication.

1. Lidia do Carmo-Sousa and H. J. Phaff. "An improved method for the detection of spore discharge in the Sporobolomycetaceae". Jour. Bacteriol. 83, 434, 1962.

2. M. W. Miller and H. J. Phaff. "On the occurrence of various species of yeast in nature". Mycopathol. et Mycol. applicata 16, 1, 1962.

3. H. J. Phaff and L. do Carmo-Sousa. "Four new species of yeast isolated from insect frass in bark of Tsuga heterophylla (Raf.) Sargent". Antonie van Leeuwenhoek, in press, 1962 (No. 2).

4. M. W. Miller and H. J. Phaff. "Successive microbial populations in Calimyrna figs". Applied Microbiol., in press (Sept. 1962).

5. H. E. Snyder and H. J. Phaff. "The pattern of action of inulinase from Saccharomyces fragilis on Inulin". Jour. Biol. Chem., in press, Aug. 1962.

The following paper will be presented at the International Congress of Microbiology at Montreal, August 1962. "Hydrolytic action by enzymes of Bacillus circulans on walls of various yeasts". H. Tanaka, H. J. Phaff and L. W. Higgins.

Dr. Michael J. Lewis, originally from the University of Birmingham, England, has joined our group to continue work on nitrogen excretion by brewer's yeast. The project is sponsored by the Brewing Industries Research Institute.

Dr. J. F. T. Spencer, Prairie Regional Laboratory, Saskatoon, Sask., Canada, will spend a sabbatical year at Davis to work in the area of yeast ecology and taxonomy. Dr. Spencer is planning to arrive at Davis in September of this year.

X. Institut für Gärungsgewerbe, Mikrobiologische Abteilung, Seestr. 13, Berlin N 65 (West). Communicated by Dr. Siegfried Windisch.

Our investigations on genetics of Saccharomyces yeasts have been continued. By means of the mass isolation technique of spores, culture yeasts have been shown to be triploid or tetraploid in most cases according to mating type segregation. Cases in which the ploidy analysis did not succeed are supposed to be caused by aneuploidy of the yeast strains. (C. C. Emeis and S. Windisch: Bestimmung der Kernwertigkeit von Hefen der Gattung Saccharomyces mit der Massenisolations technik. Z. f. Naturforschung 15 b, 702, 1960).

Later on Emeis has found that aneuploidy really occurs frequently in these yeasts. (C. C. Emeis: Aneuploide Hefen. Zentralblatt f. Bakt. I Orig. 184, 247, 1961).

Emeis has given a complete description of these experiments with bottom fermenting beer yeasts and other yeast types, which are being continued. (C. C. Emeis: Polyploide Kulturhefen. Proc. Europ. Brew. Conv. Vienna, 205, 1961).

The fact that bottom fermenting beer yeasts are in general homothallic makes it difficult to perform genetic analysis. Therefore, a new method for this purpose has been developed, which is based on crossing LiCl-sensitive spores of homothallic wild types with LiCl-resistant heterothallic haploids. If the wild types had well defined M-genes (for maltose fermentation), hybrid types were obtained whose haploids were heterothallic and had defined M-genes. These strains served to test the M-genes in technical carlsbergensis yeasts, 4 strains of which contained only M_1 and one only M_6. (H. Oeser: Genetische Untersuchungen über das Paarungstypverhalten bei Saccharomyces und die M-Gene einiger untergäriger Bierhefen. Archiv. f. Mikrobiologie, in press.)

Our methods and experience on genetic constitution of Saccharomyces yeasts have been reviewed and discussed. (S. Windisch: Wallerstein Lab. Comm. XXIV, No. 85, 316, 1961, New York; S. Windisch: Schweizer Brauerei-Rundschau 73, 2, 1962; S. Windisch: The Brewers Digest Febr. 1962, 47.)

Saccharomyces pastorianus cannot be acknowledged any more, as investigations have shown made with 20 strains of this species. Eight strains ferment raffinose completely and 12 only to 1/3. All strains have fermentation deficiencies. The origin of "pastorianus"-strains from normal beer yeasts is discussed. (S. Windisch: Untersuchungen über Saccharomyces pastorianus. Monatsschrift f. Brauerei 14, 183, 1961.)

I had a kind invitation for a lecture to be given at a Seminar of Kurth Malting Co. in Milwaukee in November 1961. It was a pleasure for me to join it by the kindness of Mr. Eric Kneen. During this trip to the USA I had the opportunity to visit the Northern Regional Research Laboratories in Peoria, specially Dr. Wickerham and Dr. Hesseltine.

At the biannual meeting of the Deutsche Gesellschaft für Hygiene und Mikrobiologie in Düsseldorf I have surveyed the taxonomy and ecology of yeasts. (S. Windisch: Zentralblatt f. Bakt. I Orig. 184, 228, 1962.)

Dr. H. Gutz from our laboratory has spent in 1959/60 a year with Dr. U. Leupold at the Institute of General Botany, University of Zurich, Switzerland. The purpose of this research visit was to become familiar with the genetics of Schizosaccharomyces pombe. Gutz took part in the work of Leupold on intragenic recombination and allelic complementation in the ad_7 and ad_6 loci of Schiz. pombe. Leupold has analyzed the intragenic distribution and the complementation pattern of about 360 mutants induced by ultra-violet irradiation. Allelic complementation has been only found in the ad_6 locus. Gutz has begun to analyze 364 mutants induced with nitrous acid and 65 mutants induced with X-rays. In both loci the intragenic distribution of the nitrous acid mutants is quite different from that of the ultra-violet mutants. The X-ray mutants show a distribution similar to that of the ultra-violet mutants. Some of the results obtained in the ad_7 locus have been published in a preliminary communication. (H. Gutz: Nature 191, 1125, 1961).

XI. Southern Illinois University, Carbondale, Illinois. Communicated by Dr. C. C. Lindegren.

Since the last publication of the Yeast News Letter, the following articles have been published or accepted for publication:

1. Lindegren, C. C. A hypothesis of viral pathogenesis. Nature 194, 130-133 (1962).

2. McClary, Dan O., Bowers, W. D., Jr., and Miller, G. R. Ultraviolet microscopy of budding Saccharomyces. J. Bacteriol. 83, 276-283 (1962).

3. Hirano, Tadashi, Lindegren, C. C. and Bang, Y. N. Electron microscopy of virus-infected yeast cells. J. Bacteriol. Accepted for publication.

Dr. Akira Yuasa of the University of Tokyo will visit the laboratory this summer and will carry on research on the structure of the yeast cell. Another visitor will be Mrs. Masako Osumi of the Japan Women's University.

XII. University of Wisconsin, College of Agriculture, Department of Bacteriology. Communicated by Dr. H. O. Halvorson.

Dr. Kihara of our laboratory has been looking for intermediates of protein synthesis in yeast. He has isolated from washed ribosomes of Saccharomyces dobzhanskii X S. fragilis, which had been given an eighty second pulse of $S^{35}O_4$, peptides which have a higher specific activity than any of the other ribosome fractions. Preliminary characterization of these peptides shows that they are bound to RNA and are distinctively different from transfer RNA. We are currently examining the possibility that these RNA-peptides are interrupted portions of growing peptide chains.

Dr. Okada and Mr. John Gorman, employing a gratuitous ethyl-thio-α-D-glucoside (α-TEG), followed the inducer permeation and induction of isomaltase in haploid strains of S. cerevisiae. The genetic requirement for isomaltase fermentation are complementary gene pairs (MG_1 MG_2 and MG_2 MG_3) as reported by Terui et al. and Hawthorne in studies with selected haploid strains containing combinations of these three alleles. They observed that the MG_2 allele controls an inducible permeation system and the MG_1 and MG_3 alleles are control genes for isomaltase synthesis. The structural gene has not yet been mapped. The permeation system is sensitive to azide and dinitrophenol. At maximum saturation of inducer, 80% of the internal yeast volume is equivalent to the concentration in the medium. The autocatalytic kinetics of enzyme induction in isomaltose fermenting strains cannot be explained entirely by the kinetics of induction of the permeation system or by the time required for inducer uptake.

Miss Alberta Herman and Miss Marjorie Tingle have been investigating the genetic controls governing β-glucosidase synthesis in Saccharomyces lactis. The following is a brief summary of their results: three allelic forms of what appears to be the structural gene for β-glucosidase have been identified. Both glucose and β-methyl glucoside act as inducers in this system. Results of a simultaneous induction indicate that these two compounds induce the same β-glucosidase. Segregation patterns indicate (1) a single locus controls inducibility by β-methyl glucoside, (2) two or more loci regulate induction by glucose and (3) these loci are unlinked and act independently of one another. In heterozygous diploids, both β-methyl glucoside and glucose inducibility are recessive.

Non-inducibility dominance in both cases can be explained through formation of non-competitive repressor(s). Lack of linkage of the factors regulating induction by glucose and β-methyl glucoside then implies that control occurs through two independent systems of repression. At present, it is not known at what level this control is exerted. If it is at the level of the gene, then here is a unique situation in which two independent systems of repression affect the same structural gene. -- Dr. Jiri Chaloupka, Institute of Microbiology, Prague, will study peptide synthesis in yeast.

XIII. Antibiotics Division, Central Drug Research Institute, Lucknow, North India. Communicated by Dr. T. R. Thyagarajan.

Dr. T. R. Thyagarajan returned to India last September after spending one year in the U.S.A. where he worked as a postdoctorate fellow in Prof. H. B. Naylor's Laboratory (Division of Bacteriology, Dept. of Dairy and Food Science, Cornell University, Ithaca, New York). He had the opportunity to visit and work in the Department of Microbiology at Dartmouth Medical School, Hanover, New Hampshire, for a period of six weeks. The cordiality and courtesy of the Department of Dairy and Food Science at Cornell University and the Dartmouth Medical School at Hanover, particularly Prof. H. B. Naylor and Dr. S. F. Conti made my trip both enjoyable and scientifically rewarding.

The following papers have been published:

1. Thyagarajan, T. R. and Naylor, H. B. Nuclear Structure of Living Saccharomycodes Ludwigii. Naturwissenchaften 48, 558-559, 1961.

2. Thyagarajan, T. R. and Naylor, H. B. Structure and mode of Nuclear Division in Living Rhodotorula glutinis. Nature 193, 398-399, 1962.

3. Thyagarajan, T. R. and Naylor, H. B. Cytology of Rhodotorula glutinis. J. Bact 83(1), 127-136, 1962.

XIV. Brief News Items:

1. We have been studying the fate of Candida albicans in experimental infections in the mouse, using fluorescent antibody for tagging. By this means, a high degree of sensitivity has been attained which has permitted us to detect fragments of Candida cells and small numbers of cells. Adjunct to these studies, we are investigating the antigenic components in this genus and related ones such as Torulopsis and antibiotics effective against mycotic infections.

Professor M. Solotorovsky
Department of Bacteriology
Rutgers - The State University
New Brunswick, New Jersey

2. We are anticipating publication of a review of the genus Hansenula in BACTERIOLOGICAL REVIEWS perhaps in the December issue. It will cover phylogeny, antigenic relationships, phosphomannans, zymonic acid, sphingolipids, invertase, and sexual agglutination as related to the genus.

Lynferd J. Wickerham
U.S.D.A. Northern Regional Research Lab.
Peoria, Illinois

3. I am ready to edit a general catalogue of the cultures of micro-organisms maintained in the Japanese collections. The list consists of about 12,000 type strains of molds, yeasts, bacteria, actinomycetes and viruses, and it will be published next July.

Hiroshi Iizuka
Prof. and Director
I.A.M. Type Culture Collection
Institute of Applied Microbiology
University of Tokyo
Japan

4. Previously I reported the finding of an unknown yeast strain (spore forming yeast) which was isolated from Blue cheese. Based on the various properties of this yeast, I believe that it represents a species of a new genus of yeast.

The full data on this strain is now in press (J. General and Appl. Microbiology, Japan).

Shōji Gotō
Institute of Fermentation
Yamanashi University
Kofu, Japan

5. a) Foreign scientists working in IMUR: Dr. S. K. Shome, University of Lucknow, India, until July, 1962. Dra. Magdalena Pavlich Herrera, Fac. Medicine, San Marcos, Lima, Peru, until June, 1962.

b) Publications in press: Monographs on "The Capnodiales" Batista and R. Ciferri, Italy; "The sooty molds of the family Asbolisiaceae" Batista and Ciferri, Italy; "The Chaetothyriales" Batista and R. Ciferri, Austria.

c) Public lectures: Batista and collaborators of IMUR, during the 13th Brazilian National Congress of Botany, presented a series of 14 papers on Ascomycetes and Hyphomycetes. Recife, 18-25/2/1962.

d) Work being done: Soil microbiology investigations in the Amazon basin, which will cover an area of almost 4 million square kilometers; special attention will be paid to the relation of yeast fungi to soil profiles.

Prof. A. Chaves Batista, Director
Instituto de Micologia
Universidade do Recife
Pernambuco, Brazil

6. Dr. J. L. Ingraham, formerly with the Department of Viticulture and Enology, University of California, Davis, has been appointed Chairman of the Department of Bacteriology, University of California, Davis, effective July 1, 1962.

XV. Letters to the Editor

Dear Sir,

Yeast Nomenclature.

Yeasts being fungi and fungi traditionally being considered plants, the nomenclature of yeasts is subject to the International Code of Botanical Nomenclature. In the latest edition of this Code (1961; Utrecht, International

Bureau of Plant Taxonomy and Nomenclature) Article 9, Note 3, states "A type specimen of a taxon of recent plants, the Bacteria and Fungi excepted, must be preserved permanently and cannot be a living plant or culture." In other words, the nomenclatural type of a yeast may be a living culture. According to Recommendation 7A "when living material is designated as a type (for Bacteria and Fungi only; see Art. 9, Note 3), appropriate parts of it should be immediately preserved". Yeast taxonomists might usefully consider under what circumstances this Recommendation is relevant.

Taxonomists when proposing new species of yeasts usually provide Latin diagnoses as required by Art. 36. Frequently, however, they fail to fulfill the requirement of Art. 37 which reads "Publication on or after 1st Jan. 1958 of the name of a new taxon of the rank of family or below is valid only when the nomenclatural type is indicated (See Arts. 7-10)". Quite a number of recent specific names for yeasts are not validly published because the type was not designated; they thus have no status. Every author proposing a new species of yeast is urged to designate a type culture and to indicate where this culture (the holotype, or 'holocultype' in Ciferri's terminology; Taxon, 6:154, 1957) and subcultures from it have been deposited.

While there is no obligation on any taxonomist to register new generic or specific names (including new names and new combinations) it would be generally helpful if authors of such names would as soon as possible after publications notify the Director, Commonwealth Mycological Institute, Ferry Lane, Kew, Surrey, England, by sending a reprint or a full bibliographical reference so that the names can be recorded promptly in the Index of Fungi. Published half-yearly by the Institute, this periodical attempts to list all new fungal names with bibliographical citations of their places of publication.

G. C. Ainsworth
Commonwealth Mycological Institute
Ferry Lane
Kew, Surrey
England

On the following pages a list is presented of those currently on the mailing list of the Yeast News Letter.

The first 108 names represent in alphabetic order, individuals or laboratories outside the U.S. and Canada. Then follow, also alphabetically arranged, addresses of those in the United States of America and Canada.

We shall be glad to include additional names of persons which are interested in receiving the Yeast News Letter. We are asking for voluntary contributions of $0.50 per year (or $1.00 biennially) to help in defraying the cost of mailing and mimeographing the News Letter.

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