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Annual Index of the Reports on Plant Chemistry in 1968

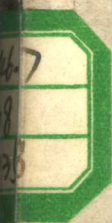
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(内部交流)

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**Annual Index of the Reports on
Plant Chemistry in 1968**

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Preface

Here is the Index for 1968. As shown in the preface for the volume for 1967 the materials for this volume are again collected chiefly from 'the Chemical Abstracts' as in the case of the issue for 1967.

The printing in photostat copies, adopted from the proceeding issue, is becoming to cover the delay of the publication of this series and we hope the next issue, covering the literatures of 1963, will appear at the beginning of next year.

December 1976

the Editors

CYANOPHYTA [藍藻植物]Nostocaceae [ネンジュモ科]

Anacystis montana ---- Hydrocarbons of n-C₁₇-n-C₂₉ with monoenes, dienes or trienes were detected by gas chromatography.¹⁾

- 1) E.Gelpi, J.Oro, H.J.Schneider, E.O.Bennett: Science 161, 700 (1968)

EUGLENOPHYTA [ミドリムシ植物]Euglenaceae [ミドリムシ科]

Euglena gracilis BERG. ---- The principal xanthophyll of *Euglena* was identified as diadinoxanthin previously isolated from *Nitzschia closterium*.¹⁾

- 1) K.Hitzetmueller, W.A.Svec, J.J.Katz, H.H.Strain: Ghém.Comm. 1968, 32

PYRROPHYTA [玄藻植物]Dinophyceae [恐鞭毛藻類]Gymnodiniaceae [ギムノジウム科]

Gyrodinium cohnii ---- Biosynthesis of dimethyl- β -propiothetin.¹⁾

- 1) Y.Ishida, H.Kadota: Kyôto dai.Shoku.Ken. 1968, 67

Peridiniaceae [ムシモ科]

Peridinium polonicum ---- Grenodinine (reineckate, mp 125-126°), poisonous principle against fish, was isolated and its structure was deduced to be allied to iboga alkaloids through spectral data.¹⁾

- 1) Y.Hashimoto, T.Okaichi, L.D.Dang, T.Noguchi: Nihon Suisanshi 34, 528 (1968)

Goniodomaceae [ゴニドマ科]

Goniodoma spp. ---- Goniodomin, an antifungal substance, C₄₃H₅₈O₁₁, mp 199°, was isolated from a dinoflagellate.¹⁾

- 1) G.M.Sharma, L.Michaels, P.R.Burkholder: C.A. 70, 96966 (1969); J.Antibiot. (Tokyo) 21, 659 (1968)

2 CHRYSOPHYTA

CHRYSTOPHYTA [黄藻植物]

Heterocontae [不等色藻類]

Vaucheriaceae [フナシミドリ科]

Vaucheria sp. ---- Heteroxanthin, $C_{40}H_{56}O_4$, a partial ester or esters of vaucheria-xanthin, $C_{40}H_{56}O_5$, a dihydroxy carotenoid, $C_{40}H_{54}O_2$, and diaolinoxanthin or a similar isomer $C_{40}H_{54}O_3$ were contained.¹⁾

- 1) H.H.Strain, W.A.Svec, K.Aitzetmueller, M.Grandolfo, J.J.Katz: Phytochem. 7, 1417 (1968)

Chrysophyceae [真正黄藻類]

Ochromonadaceae [オクロモナス科]

Ochromonas malhamensis ---- Biosynthesis of poriferasterol.¹⁾

- 1) A.R.H.Smith, L.J.Goad, T.W.Goodwin: Chem.Comm. 1968, 926.

CHLOROPHYTA [緑藻植物]

Chlorophyta algae ---- Sterol composition.¹⁾

- 1) N.Ikekawa, N.Morisaki, K.Tsuda, T.Yoshida: C.A. 69, 65152 (1968); Steroids 12, 41 (1968)

Chlorellaceae [クロレラ科]

Chlorella sp. ---- Biogenesis of secondary carotenoids.¹⁾ Separation of neoxanthin A-H.²⁾ Chlorophyllin, carotene and phytol were isolated.³⁾

- 1) F.C.Czygan: C.A. 69, 74646 (1968); Arch.Mikrobiol. 62, 209 (1968)
- 2) K.Tsukida, M.Yokota: Vitamin 38, 388 (1968)
- 3) O.Ishizaka, H.Ishihara, S.Niijitsu: Shoku.Ei-shi 9, 495 (1968)

Botryococcaceae [ボトリオコックス科]

Botryococcus braunii ---- Botryococcene, $C_{34}H_{58}$, and isobotryococcene were isolated from the alga.¹⁾ Gas chromatography-mass spectrometry of aliphatic hydrocarbons was reported.²⁾

- 1) J.R.Maxwell, A.G.Douglas, G.Eglinton, A.McCormick: Phytochem. 7, 2157 (1968)
- 2) E.Gelpi, J.Oro, H.J.Schneider, E.O.Bennett: Science 161, 700 (1968)

Solenastraceae [ソレナストルム科]

Ankistrodesmus sp. ---- Biogenesis of secondary carotenoids was studied.¹⁾

- 1) F.C.Czygan: C.A. 69, 74646 (1968); Arch.Mikrobiol. 62, 209 (1968)

Coelastraceae [ケラストルム科]Scenedesmus sp. ---- Biogenesis of secondary carotenoids.¹⁾

- 1) F.C.Czygan: C.A. 69, 74646 (1968); Arch.Mikrobiol. 62, 209 (1968)

Ulvaceae [アオガ科]Enteromorpha intestinalis LINK (ホウアオリ) ---- 28-Isufucoesterol, cycloartenol, 24-methylenecycloartanol, 24-ethylidenelophenol and 24-methylenelophenol were isolated.¹⁾

- 1) G.F.Gibbons, L.J.Goad, T.W.Goodwin: Phytochem. 7, 983 (1968)

Enteromorpha linza J.AGAR. (ウスバアオリ) ---- Free amino acid components.¹⁾

- 1) M.Takagi, K.Oishi, A.Okumura: C.A. 71, 19535 (1969); Nippon Suisan Gakkaishi 33, 669 (1967)

Ulva lactuca ---- 28-Isufucoesterol, cycloartenol and 24-methylenecycloartanol were isolated.¹⁾

- 1) G.F.Gibbons, L.J.Goad: Phytochem. 7, 983 (1968)

Ulva pertusa KIIEI. (アヲアガ) ---- Free amino acid components.¹⁾

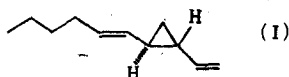
- 1) M.Takagi, K.Oishi, A.Okumura: C.A. 71, 19535 (1969); Nippon Suisan Gakkaishi 33, 669 (1967)

Dasycladaceae [カサノリ科]Cymopolia barbata ---- Sarganin complex, sarganin and sarganol, were isolated.¹⁾

- 1) N.G.de Martinez Nadal: C.A. 70, 80037 (1969); U.S. 3,415,928 (Cl.424-195) 10 Dec.1968, Appl. 24 Jul. 1964

PHAEOPHYTA [褐藻植物]Phaeophyta ---- Compositions of the sterol.¹⁾

- 1) N.Ikekawa, N.Morisaki, K.Tsuda, T.Yoshida: C.A. 69, 65152 (1968); Steroids 12, 41 (1968)

Isogeneratae [周形世代類]Dictyotaceae [アヒシガ科]Dictyopteris australis ---- Dictopterene was isolated and the structure (I) was established.¹⁾

4. PHAEOPHYTA

- 1) R.E.Moore, J.A.Pettus, Jr., M.S.Doty: Tetrahedron Letters 1968, 4748

Dictyopteris plagiogramma VICKERS (スジワズ) ---- Dictyopteris A was isolated.¹⁾

- 1) R.E.Moore, J.A.Pettus, Jr., M.S.Doty: Tetrahedron Letters 1968, 4748

Heterogeneratae [異形世代類]

Desmarestiaceae [ウルシグサ科]

•• Desmarestia aculeata ---- 3-(Methylmercapto)propylamine was isolated and identified.¹⁾

- 1) T.Hartmann: Naturwissenschaften 55, 391 (1968)

Ishigeaceae [イシゲ科]

Ishige Okamura YENDO (イシゲ) ---- Isolation and chemical study of the laminaran.¹⁾

- 1) M.Maeda, K.Nishizawa: Sci.Rept.Saitama Univ.Ser.B 5, 101 (1968)

Laminariaceae [コンブ科]

Laminaria digitata and L. faeroensis ---- Fucosterol, 24-methylencholesterol, cholesterol, saringosterol and desmosterol (tentative) were identified.¹⁾

- 1) G.W.Patterson: C.A. 68, 66349 (1968); Comp.Biochem.Physiol. 24, 501 (1968)

Cyclosporae [円孢子類]

Fucaceae [ヒバマタ科]

Fucus vesiculosus ---- Mono- and di-galactosyl diglycerides were isolated.¹⁾

- 1) A.Radunz: C.A. 69, 103788 (1968); Z.physiol.Chem. 349, 1091 (1968)

Fucus virsoides ---- Alginic acid.

- 1) E.Cerma, P.Baradel, M.Chimenti: C.A. 71, 57546 (1969); Boll.Soc.Adriat.Sci. Trieste 56, 226 (1968)

Sargassaceae [ホンダワラ科]

Sargassum confusum AGAR. ---- Free amino acid components.¹⁾

- 1) M.Takagi, K.Oishi, A.Okumura: C.A. 71, 19535 (1969); Nippon Suisan Gakkaishi 33, 669 (1967)

Sargassum natans ---- Sarganin complex, sarganan and sarganol, were isolated.¹⁾

- 1) N.G.de Martinez Nadal: C.A. 70, 80837 (1969); U.S. 3,415,928 (Cl.424-195) 10 Dec.1968, Appl. 24 Jul.1964

Alariaceae [ワカメ科]

Ecklonia cava ---- L-Glutaminyl-L-glutaminyl-L-alanine was detected.¹⁾

- 1) S.Konagaza: C.A. 71, 19531 (1969); Nippon Suisan Gakkaishi 33, 417 (1967)

Undaria pinnatifida (ワカメ) ---- Free amino acid components.¹⁾

- 1) M.Takagi, K.Oishi, A.Okumura: C.A. 71, 19535 (1969); Nippon Suisan Gakkaishi 33, 669 (1967)

RHODOPHYTA [紅藻植物]

Rhodophyceae ---- The structure and properties of phycocyanobilin, mol.wt. 614, $[\alpha]_D^{660^\circ}(\text{CHCl}_3)$, were discussed.¹⁾ Biosynthesis of floridin starch using red algae.²⁾ Trypsin inhibitor was detected in the algae.³⁾

- 1) W.J.Cole, D.J.Chapman, H.W.Siegelman: C.A. 69, 74013 (1968); Biochemistry 7, 2929 (1968)
 2) H.Nagashima, S.Nakamura, K.Nishizawa: Bot.Mag.Tokyo 81, 411 (1968)
 3) T.Ishihara, M.Yasuda, M.Tsuchimoto: C.A. 70, 93926 (1969); Eiyo to Shokuryo 21, 199 (1968)

Bangiophyceae [ウシケノリ類]

Bangiaceae [ウシケノリ科]

Porphyra tenera KJELM. (アサケノリ) ---- Lipid contains tri-glyceride (25%) and phospholipin (35%). Main constituent fatty acid is $\text{C}_{20}(\text{F}_5)$ -acid. Phospholipin consists of mainly phosphatidyl-ethanolamine and lecithine.¹⁾ The nucleotides content.²⁾

- 1) H.Ando, T.Kaneda: Eiyo to Shokuryo 21, 245 (1968)
 2) S.Ooyama, K.Kobayashi, T.Tomiya: C.A. 71, 19533 (1969); Nippon Suisan Gakkaishi 33, 57 (1968)

Porphyra sp. ---- High carbohydrate (39.46%) content of the algae was considered to be feasible as a food.¹⁾

- 1) A.Tewari, M.P.Rao, V.Krishnamurthy: C.A. 68, 93479 (1968); Cur.Sci. 37, 138 (1968)

Florideae [真正紅藻類]

Batrachospermaceae [カワモズク科]

Batrachospermum moniliforme ---- Mono- and di-galactosyl diglycerides were isolated.¹⁾

- 1) A.Radunz: C.A. 69, 103788 (1968); Z.physiol.Chem. 349, 1091 (1968)

Gelidiaceae [テンゲリ科]

Gelidium spp. ---- Cellulose and holocellulose were studied.¹⁾ Separation of agarose and agaropectin from agar.²⁾

- 1) T.Akabane, T.Fuse: Nôgeishi 42, 740 (1968)
 2) S.Tagawa: Suisan-dai.Kenkyû Hôkoku 17, 35 (1968)

6 RHODOPHYTA

Sebdeniaceae [オカムラクサ科]

Eucheuma muricatum W.V.BOSSE (キリンサイ) ---- Chemical constituents of the mucilage polysaccharide were elucidated. By the hydrolysis D-galactose, its sulfate, 3,6-anhydro-D-galactose, glucurone, xylose and D-galactosylsulfate-Ca-salt were obtained.¹⁾

- 1) T.Nakamura: Miyazaki-dai.Nô. 14, 1 (1967)

Gigartinaceae [スギノリ科]

Chondrus crispus (carrageen; ハスノリノマタ) ---- Cholesterol was isolated.¹⁾

- 1) A.Alcaide, M.Devys, M.Barbier: Phytochem. 7, 329 (1968)

Chondrus ocellatus HOLMES (ツノマタ) ---- Seasonal variation of free amino acid composition.¹⁾

- 1) M.Takagi, K.Oishi, A.Okumura: C.A. 71, 19532 (1969); Nippon Suisan Gakkaishi 33, 834 (1967)

Iridaea cornucopiae POSTELS et RUPR. (クロハギナンソウ, イソツノマタ) ---- Mucilage substances afford D-galactose, xylose, 5-hydroxymethylfurfural by hydrolysis and D-galactose, 3,6-anhydro-D-galactose-dimethylmercaptal by mercaptolysis.¹⁾

- 1) I.Tsujino: Hokkaidô-dai.Suisan 18, 365 (1968)

Gracilariaceae [オゴノリ科]

Gracilaria lichenoides ---- Antheraxanthin was found.¹⁾

- 1) M.S.Aihara, H.Y.Yamamoto: Phytochem. 7, 497 (1968)

Rhodymeniaceae [タリス科]

Phodysmenia palmata GREV. (dulce; タリス) ---- Cholesterol was isolated.¹⁾

- 1) A.Alcaide, M.Devys, M.Barbier: Phytochem. 7, 329 (1968)

Rhodomelaceae [フジマツモ科]

Aqanthophora spicifera ---- Antheraxanthin was found.¹⁾

- 1) M.S.Aihara, H.Y.Yamamoto: Phytochem. 7, 497 (1968)

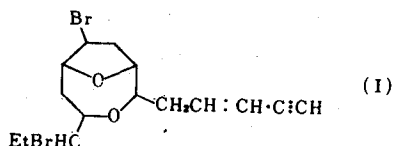
Chondria crassicaulis HARVEY (リヂ) ---- Free amino acid components.¹⁾

- 1) M.Takagi, K.Oishi, A.Okumura: C.A. 71, 19535 (1969); Nippon Suisan Gakkaishi 33, 669 (1967)

Chondria littoralis ---- Sarganin complex, sarganan and sarganol, was isolated.¹⁾

- 1) N.G. de Martinez Nadal: C.A. 70, 80837 (1969); U.S. 3,415,928 (Cl.424-195) 10 Dec.1968, Appl. 24 Jul.1964

Laurencia nipponica ---- Isolaureatin (I), mp 83-84°, $[\alpha]_D$ 40° (CCl₄), was isolated.¹⁾



- 1) T.Irie, M.Izawa, E.Kurosawa: *Tetrahedron Letters* 1968, 2735

Rhodomela conferoides ---- Cholesterol was isolated.¹⁾

- 1) A.Alcaide, M.Devys, M.Barbier: *Phytochem.* 7, 329 (1968)

Dumontiaceae [リュウモンソウ科]

Neodilsea yendoana TOKIDA (ツカハ) ---- Free amino acid components.¹⁾

- 1) M.Takagi, K.Oishi, A.Okumura: *C.A.* 71, 19535 (1969); *Nippon Suisan Gakkaishi* 33, 669 (1967)

Grateloupiaceae [ムカデノリ科]

Grateloupiaceae algae ---- Structural study of aeodan.¹⁾

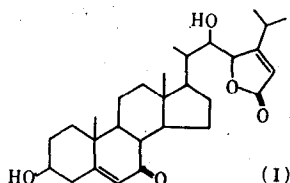
- 1) J.R.Nunn, H.Parolis: *C.A.* 70, 47741 (1969); *Carbohyd.Res.* 8, 361 (1968)

FUNGI 真菌植物

Phycomycetes [藻菌類]

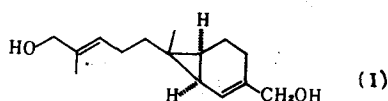
Saprolegniaceae [ミスガビ科]

Ackyla bisexualis ---- The structure of antheridiol, a sex hormone, was deduced as (I).¹⁾



- 1) G.P.Arsenault, K.Biemann, A.W.Barksdale, T.C.McMorris: *J.A.C.S.* 90, 5635 (1968)

Allomyces sp. ---- The structure of sirenin (I).¹⁾



- 1) W.H.Nutting, H.Rapoport, L.Machlis: *J.A.C.S.* 90, 6434 (1968)

8 FUNGI

Ascomycetes [子囊菌類]

Yeast ---- Production activities of citric acid in several yeasts.¹⁾ Production of rhamnoic acid and 1,2-propandiol in several yeasts.²⁾

- 1) T.Tabuchik, M.Tanaka, M.Abe: Nogeishi 42, 440 (1968)
- 2) T.Suzuki, H.Onishi: Agr.Biol.Chem.Japan 32, 888 (1968)

Fodder yeast ---- Carbohydrate, amino acid, lipid, enzyme, vitamin and minor element contents.¹⁾

- 1) D.R.Negoita: C.A. 69, 57542 (1968); Celul.Hirtle 17, 164 (1968)

Saccharomycetaceae [コウボキン科]

Hansenula anomala SYDOW. ---- Volatile components of metabolites consist of ethyl acetate mainly.¹⁾ Volatile components were identified as ethyl acetate (main), isobutanol, amyl alcohol, isobutyl acetate, amyl acetate, isoamyl valerate and ethyl valerate.²⁾

- 1) T.Kobayashi: Nippon Jôzô Kyôkai-shi 63, 446 (1968)
- 2) T.Ohara: Nippon Jôzô Kyôkai-shi 63, 1187 (1968)

Pichia quercibus ---- Production of xylitol and D-xyloic acid in high yield.¹⁾

- 1) T.Suzuki, H.Onishi: Rept. Noda Inst.Sci.Res. 1968, 30

Saccharomyces carlsbergensis, S. cerevisiae and S. fermentati ---- Ergosterol was produced.¹⁾

- 1) A.E.M.H.El-Refai, I.A.El-Kady: C.A. 70, 112564 (1969); Z.Allg.Mikrobiol. 8, 355 (1968)

Saccharomyces cerevisiae HANSEN (baker's yeast; ビールコウボ) ---- Diphosphoinositide and triphosphoinositide were found.¹⁾ Phosphatidylinositol was isolated from autolyzed baker's yeast.²⁾ Pyridoxal derivatives are produced from pyridoxin in the medium.³⁾ Existence of diphosphoinositide and triphosphoinositide.⁴⁾ Biosynthesis of lanosterol.⁵⁾

- 1) R.L.Lester: J.Biol.Chem. 243, 4889 (1968)
- 2) W.E.Trevelyan: C.A. 69, 65279 (1968); J.Inst.Brew. 74, 365 (1968)
- 3) K.Ogata, T.Tochikura, S.Kawata, S.Yamamoto, H.Kawai: Agr.Biol.Chem.Japan 32, 1479 (1968)
- 4) S.Nakamura, K.Narukami, K.Miura: Eiyô to Shokuryô 21, 257 (1968)
- 5) D.H.R.Barton, A.F.Gosden, G.Mellows, D.A.Widdowson: Chem.Comm. 1968, 1067

Saccharomyces cerevisiae and S. carlsbergensis ---- Production of (-)-citramalic acid and its condition were studied.¹⁾

- 1) T.Sai: Bull.Brewing Sci. 14, 61 (1968)

Saccharomyces fragilis Iz and S. lactis ---- The amino acid components and biological value of proteins of yeast.¹⁾

- 1) A.Surazynski, S.Poznanski, W.Andrzejewski: C.A. 69, 75750 (1968); Milchwissenschaft 23, 484 (1968)

Saccharomyces sake YABE (サケコウボ) ---- Production of esters was studied.¹⁾

- 1) T.Koizumi, S.Yamada: Nippon Jôzô Kyôkaishi 63, 1190 (1968)

Cryptococcaceae [クリプトコックス科]

Candida albicans ---- Ergosterol, triglycerides of palmitic, stearic, oleic, linolic, linoleic, C₁₅ and C₁₇ and palmitooleic acids were found in the mycelia.¹⁾ Hydrolysates of the mannan were elucidated; oligosaccharide has 1→2 juncture (in dimer and trimer) and α-1→3 juncture (tetramer, pentamer and hexamer).²⁾ Toxicity of candidotoxin.³⁾

- 1) Y.Sato, S.Inomata, S.Haneda, Y.Oka, H.Homma: Shinkin to Shinkinshô 9, 125 (1968)
- 2) S.Suzuki, H.Sunayama: Japan J.Microbiol. 12, 413 (1968)
- 3) K.Iwata, K.Uchida, M.Okudaira: Igaku to Seibutsugaku 77, 151 (1968)

Candida Krusei ---- The strain producing cytochrome C in high yield, was found.¹⁾ Amino acids chain of cytochrome C of the fungus was elucidated.²⁾

- 1) M.Shirasaka, N.Nakayama, A.Endo, T.Haneishi, H.Okazaki: J.Biochem. 63, 417 (1968)
- 2) K.Narita, K.Titani: J.Biochem. 63, 226 (1968)

Candida lepolytica ---- Production of α-ketoglutaric acid in the culture containing n-paraffin.¹⁾

- 1) T.Togawa, T.Nakase, T.Kobayashi, K.Yamashita, S.Okumura: Amino Acid, Nucleic Acid 1968, 41

Candida polymorpha ---- Production of rhamnoic acid and 1,2-propandiol in high yield.¹⁾

- 1) T.Suzuki, H.Onishi: Rept.Noda Inst.Sci.Res. 1968, 34

Candida pseudotropicalis ---- The amino acid components and biological value of proteins of the yeast.¹⁾

- 1) A.Surazynski, S.Pozanski, W.Andrzejewski: C.A. 69, 75750 (1968); Milchwissenschaft 23, 484 (1968)

Candida tropicalis ---- Accumulation of orotic acid in the mutant.¹⁾

- 1) A.Watanabe, Y.Tani, Y.Sasaki: Amino Acid, Nucleic Acid 1968, 9

Candida spp. ---- High yield production of UDP-glucose.¹⁾

- 1) T.Tochikura, H.Kawai, S.Tobe, Y.Kawaguchi, M.Osugi: Hakkô Kôgaku 46, 957 (1968)

Pullularia pullulans ---- Lipids of the organism were investigated, and C₁₈ mono-unsaturated acid and C₁₆ saturated acid was identified as main constitutional acids. Ergosterol, stigmasterol and possibly squalene, hydrocarbons and trehalose were detected.¹⁾

- 1) E.Merdinger, P.Kohn, R.McClain: C.A. 69, 93811 (1968); Can.J.Microbiol. 14, 1021 (1968)

Rhodotorula sp. ---- Study on glucose metabolism.¹⁾

- 1) S.Nakagawa, C.Tatsumi: Nôgeishi 42, 330, 337 (1968)

Torulopsis candida ---- Production of UDP-glucose¹⁾ and galactoside²⁾ from 5'-UMP in high yield.

- 1) T.Tochikura, H.Kawai, S.Tobe, Y.Kawaguchi, M.Osugi: Hakkô Kôgaku 46, 57 (1968)

- 2) T.Tochikura, Y.Kawaguchi, H.Kawai, Y.Mugibayashi, K.Ogata: *ibid.* 46, 970 (1968)

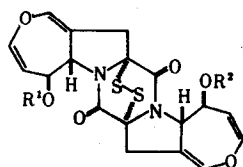
Taphrinaceae [外生子菌科]

Taphrina wiesneri (サクラ天狗薬菌) ---- From the cultures, brassicasterol, stearic acid and p-hydroxyphenylacetic acid were isolated and p-hydroxybenzoic acid and vanillic acid and palmitic acid were detected.¹⁾ Above all, p-hydroxyphenylacetic acid exhibits plant hormone actions.¹⁾ Leaves of Japanese cherry or sakura tree infected by this fungus contain large amount of melilotic acid, together with coumarin, 3,4-dihydrocoumarin, o- and p-coumaric, p-hydroxybenzoic, ferulic, vanillic and caffeic acids.²⁾

- 1) S.Fujii, H.Aoki, M.Komoto, K.Munakata, T.Tamura: *Agr.Biol.Chem.Japan* 32, 810 (1968)
2) *Idem.*: *ibid.* 32, 816 (1968)

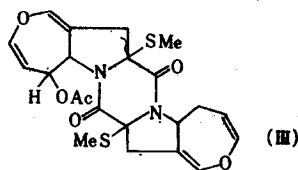
Gymnoascaceae [ギムノアスクス科]

Arachniotus aureus ---- Aranotin (I), mp 198-200°(dec.), acetylaranotin (II), mp 201-215°(dec.) and bis[dethiobis(methylthio)acetylaranotin] (III), mp 213-217°(dec.) were isolated and their structures were assigned on chemical and spectroscopic evidence.¹⁾ Stereostructure of aranotin was established by chemical²⁾ and X-ray analytical³⁾ studies.



(I) $R^1 = \text{Ac}, R^2 = \text{H}$

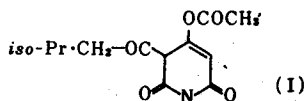
(II) $R^1 = R^2 = \text{Ac}$



- 1) R.Nagarajan, L.L.Huckstep, D.H.Lively, D.C.Delong, M.M.Marsh, N.Neuss: *J.A.C.S.* 90, 2980 (1968)
2) R.Nagarajan, N.Neuss, M.M.Marsh: *ibid.* 90, 6518 (1968)
3) D.B.Cosulick, N.R.Nelson, J.H.van den Hende: *ibid.* 90, 6519 (1968)

Aspergillaceae [コウシカビ科]

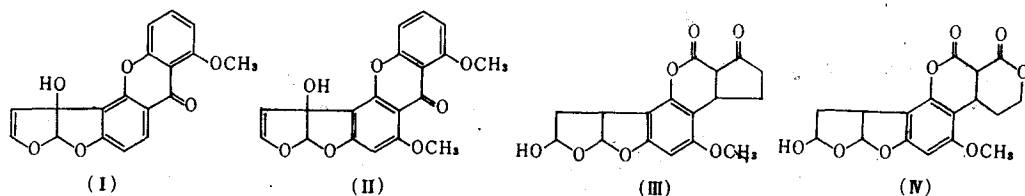
Aspergillus flavipes ---- A new antibiotic (I), mp 130-131°, $[\alpha]_D^{21} -71.8^\circ$, was isolated.¹⁾



- 1) C.G.Casinovi, G.Grandoline, R.Mercantini, N.Oddo, R.Olivieri, A.Tonolo: *Tetrahedron Letters* 1968, 3175

Aspergillus flavus LINK. ---- A new toxin, aspertoxin, $\text{C}_{19}\text{H}_{14}\text{O}_7$ was isolated.¹⁾ Aspertoxin was shown to have the structure (I).²⁾ New metabolite, 3-hydroxy-6,7-dimethoxydifuroxanthone (II), mp 325-327°, $[\alpha]_D^{27} -140^\circ$, was isolated from cultures.³⁾ The structures of aflatoxin B2a (III), mp 240°, and G2a (IV), mp 190°, were

proposed.⁴⁾

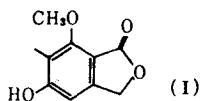


- 1) J.V.Rodricks, K.R.Henry-Logan, A.D.Campbell, L.Stoloff, M.J.Verrett: *Nature* **217**, 668 (1968)
- 2) J.V.Rodricks, E.Lustig, A.D.Campbell, L.Stoloff, K.R.Henry-Logan: *Tetrahedron Letters* **1968**, 2975
- 3) A.C.Waiss, Jr., M.Wiley, D.R.Black, R.E.Lundin: *Tetrahedron Letters* **1968**, 3207
- 4) M.F.Dutton, J.G.Heathcote: *Chem. & Ind.* **1968**, 418

Aspergillus fumigatus FRES. ---- 2-Chloro-1,3,8-trihydroxy-6-methylanthrone (9), 2-chloro-1,3,8-trihydroxy-6-methylanthraquinone, 2-chloro-1,3,8-trihydroxy-6-hydroxymethylanthraquinone and emodin were isolated from the culture containing Cl^- .¹⁾ Trypacidin was isolated from surface culture.²⁾ Separation of glucans³⁾ and toxin.⁴⁾

- 1) Y.Yamamoto, T.Kiriyama, S.Arahata: *Chem.Pharm.Bull.Japan* **16**, 304 (1968)
- 2) G.F.Parker, D.C.Jenner: *C.A.* **69**, 57534 (1968); *Appl.Microbiol.* **16**, 1251 (1968)
- 3) M.Suzuki, Y.Hosoya: *Tôhoku-yaku-dai Nempô* **1968**, 15
- 4) K.Yokota, T.Sakaguchi: *ibid.* **1968**, 23

Aspergillus nidulans FISCH. ---- Structure (I) was assigned to nidulol.¹⁾



- 1) P.J.Aucamp, C.W.Holzappel: *C.A.* **69**, 106158 (1968); *J.S.Afr.Chem.Inst.* **21**, 26 (1968)

Aspergillus niger ---- From the strain F-172, an antibiotic thlestatin, mp 160-165° (dec.), was isolated.¹⁾

- 1) N.Miyairi, M.Takashima, K.Shimizu, H.Sakai: *Fujisawa Yakuhin Chuwo Ken. Hokoku* **1968**, 106

Aspergillus orizae COH. ---- Fluorescent substances of the fungus were identified as deoxyaspergillilic acid, deoxymutaaspergillilic acid and 2-hydroxy-6-(1-hydroxy-1-

methylpropyl)-3-sec-butyropyrazine.¹⁾ Production of aflatoxins could not be found in thirteen strains²⁾ and 212 strains.³⁾

- 1) M.Sasaki, Y.Asao, T.Yokozuka: Nôgeishi 42, 288 (1968)
- 2) H.Murakami, S.Takase, K.Kuwabara: J.Gen.Appl.Microbiol. 14, 97 (1968)
- 3) M.Manabe, S.Matsuura, M.Nakano: Nippon Shokuhin Kagaku Kaishi 15, 341 (1968)

Aspergillus sojae ---- From the strain X-1, 2-hydroxy-3,6-di-sec-butyropyrazine-1-oxide and aspergillic acid were isolated.¹⁾ 2-Hydroxy-3-isobutyl-6-isopropylpyrazine-1-oxide, 2-hydroxy-6-(1-hydroxy-1-methylpropyl)-3-sec-butyropyrazine-1-oxide and hydroxyaspergillic acid in the same strain.²⁾ Deoxyaspergillic acid, deoxymuta-aspergillic acid, and 2-hydroxy-6-(1-hydroxy-1-methylpropyl)-3-sec-butyropyrazine, mp 120-120.5°, and aflatoxin-B-like compounds were isolated from the same strain.³⁾

- 1) T.Yokozuka, Y.Asao, M.Sasaki: Nôgeishi 42, 346 (1968)
- 2) M.Sasaki, Y.Asao, T.Yokozuka: *ibid.* 42, 351 (1968)
- 3) Y.Asao, T.Yokotsuka: Kashi 42, 288 (1968)

Aspergillus terreus THOM. ---- The strain 82-A produces 3,5-dihydroxy-2,2-dimethylbenzene, mp 133-134°, and two phenolic compounds.¹⁾ Itaconic acid is produced by strain EUU-417.²⁾

- 1) S.Naito, Y.Kaneko, S.Doi: Agr.Biol.Chem.Japan 32, 782 (1968)
- 2) R.Karklins, V.E.Agafonova, B.Tirgenson, A.Lurins: C.A. 69, 50984 (1968); USSR 216, 579, 26 Apr. 1968, Appl. 24 May 1967; From Izobret., Prom.Obratsty, Tovarny Znaki 45, 6 (1968)

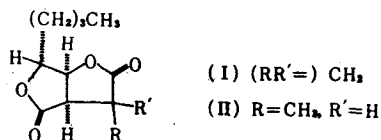
Aspergillus versicolor TIR. ---- A new antibiotics of C₇H₈O₅, mp 125°, was isolated.¹⁾ 5-Methoxysterigmatocystin, a metabolite from wild strain, was also isolated from a mutant strain produced by irradiation of wild strain spores.²⁾ Biosynthesis of sterigmatocystin.³⁾

- 1) A.K.Dhar, S.K.Bose: J.Antibiotics Ser.A 21, 156 (1968)
- 2) J.S.E.Holker, S.A.Kagal: Chem.Comm. 1968, 1574
- 3) J.S.E.Holker, L.J.Mulheim: Chem.Comm. 1968, 1576

Aspergillus sp. ---- New antibiotics possessing antiviral activity¹⁾ were isolated and were assigned as xanthocillin mono- and di-methyl ethers and methoxy-xanthocillin dimethyl ether.²⁾

- 1) A.Takatsuki, S.Suzuki, K.Ando, G.Tamura, K.Arima: J.Antibiotics 21, 671 (1968)
- 2) A.Takatsuki, G.Tamura, K.Arima: *ibid.* 21, 676 (1968)

Penicillium canadense ---- Canadensolide (I), mp 46.0-47.5°, and dihydrocanadensolide (II), mp 94.0-94.5°, [α]_D -31°, were isolated from culture filtrates. The structures were determined.



- 1) J.L.C.Wright, P.W.Brian, S.M.Clarke, S.A.Hutchinson: Tetrahedron Letters 1968, 1326

Penicillium charlesii ---- (-)-γ-Methyltetronic acid, (+)-carolinic acid, and (+)-carolic acid were shown to have the R-configuration.¹⁾

- 1) P.M.Boll, E.Sørensen, E.Balieu: Acta Chem.Scand. 22, 3251 (1968)

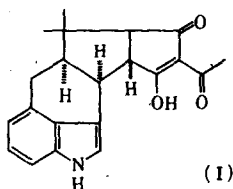
Penicillium chrysogenum ---- From the mycelia, water soluble polysaccharide was isolated.¹⁾

- 1) T.Miyazaki, T.Shukumae: Chem.Pharm.Bull. 16, 1721 (1968)

Penicillium crustosum and P. tardum ---- Antitumor agents were isolated and were identified as long chain fatty acids probably linolic (mainly), palmitic and octadecenoic acids.¹⁾

- 1) K.Ando, S.Suzuki, K.Suzuki, K.Kodama, A.Kato: J.Antibiotics 21, 690 (1968)

Penicillium cyclopium ---- Structure (I) was established for cyclopiazonic acid (I), the main toxic principle.¹⁾

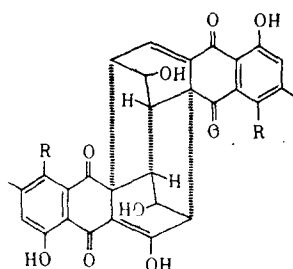


- 1) C.W.Holzappel: Tetrahedron 24, 2101 (1968)

Penicillium duclauxi DELAC. ---- Absolute configuration of duclauxin was established by X-ray analysis.¹⁾

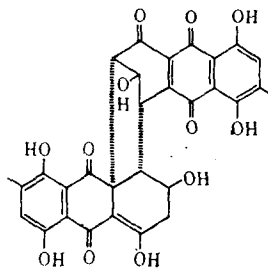
- 1) Y.Ogihara, Y.Iitaka, S.Shibata: C.A. 69, 55199 (1968); Acta Crystallogr.Sect. B 24, 1037 (1968)

Penicillium islandicum SOPP. ---- Revised structures were proposed for luteoskyrin (I), rubroskyrin (II) and rugulosin (III).¹⁾ Two new pigments, 1,2,3,4-tetrahydro-1,3,5,8-tetrahydroxy-6-methylanthraquinone (IV), mp 130°, and 1,2-dihydro-2,4,5,8-tetrahydroxy-7-methylanthraquinone (V), mp 95-105°, were isolated.²⁾ The structure of dehydrochloro derivative of the toxic metabolite, cyclochlorotine, was deduced as (VI) and synthesized.³⁾

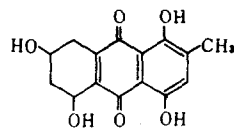


(I) R=OH

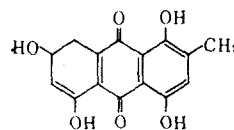
(III) R=H



(II)



(IV)



(V)

