

# BIBLIOGRAPHY OF PHARMACEUTICAL RESEARCH

Conducted by H. V. Army, Reporter on the Progress of Pharmacy, Chairman of the Committee on Research.

On these pages, each month, will be found a list of articles on pharmaceutical research that appear in the pharmaceutical and other scientific journals of the world. Whenever possible, the list appearing a certain month will record articles appearing in American journals of the preceding month and articles appearing in foreign journals will be recorded as quickly as possible after the journals reach the Reporter.

All articles appearing in these lists will be presented in abstract form in the bound volumes of the YEAR BOOK, which will be issued as soon after the end of the year represented as editing and printing conditions permit. Those desiring abstracts immediately can obtain same for a fee of one dollar each by communicating with H. V. Army, 115 West 68th St., New York, and arrangements can also be made for securing photographic reproduction of entire articles at moderate prices when such are desired.

## APPARATUS AND MANIPULATIONS.

Connell, V. B.

Simple hydrogen sulphide generator

*Pharm. J.*, 106 (Jan. 8, 1921), 17

Fresenius and Grünhut

Preparing red litmus paper

*Z. anal. Chem.*; through *Drug. Circ.*, 65 (Feb. 1921), 61

Noble, John

Incompatible hydrocyanic acid, iodine mixture

*Chem. & Drug.*, Jan. 29, 1921, 151

Watson, H. E.

Automatic separator in volatile oil distillation

*J. Indian. Inst. Sci.*, 40 (Jan. 15, 1921), 26A

## PHARMACEUTICAL PREPARATIONS.

Anon

A stable cerate base

*Schweiz. Apoth.-Ztg.*, 59 (Jan. 6, 1921), 14

Chataigner

Assay of kermes mineral in tablets

*Bull. soc. pharm. Bordeaux*; through *Drug. Circ.*, 65 (Feb. 1921), 61

Knight, W. A.

Aspirin tablets

*Chem. & Drug.*, 94 (Jan. 8, 1921), 55

Marie and Bouttier

Extract of suprarenal glands

*Bull. gen. Therap.*; through *Pharm. J.*, 106 (Jan. 29, 1921), 70

Power, F. B.

Detecting methyl anthranilate in fruit juices

*J. Am. Chem. Soc.*, 43 (Feb. 1921), 377

## GENERAL BOTANY AND BACTERIOLOGY.

Galippe, V.

Living organisms from fossils

*Comptes rend.*; through *Pharm. J.*, 106 (Jan. 29, 1921), 70

## THERAPEUTICS AND NEW REMEDIES.

Bedall, A. J.

Numoquin in eye troubles

*J. Am. Med. Assoc.*; through *Merck's Rept.*, 30 (Jan. 1921), 15

Buerge, E.

Phyllosan

*Merck's Rept.*, 30 (Jan. 1921), 5

Malgoyre, J.

Salivary alkalinity

*Bull. soc. pharm. Bordeaux*; through *J. pharm. chim.*, 22 (Dec. 16, 1920), 467

## VEGETABLE AND ANIMAL MATERIA MEDICA.

Anon

Detecting abnormal milk

*Merck's Rept.*, 30 (Jan. 1921), 6

Faust, E.

Properties of cobra venom

*Australasian J. Pharm.*; through *Pharm. Era*, 54 (Feb. 1921), 45.

Fowler, G. J., and co-workers

Biochemistry of the mahua flower

*J. Indian. Inst. Sci.*; through *J. Soc. Chem. Ind.*, 40 (Jan. 15, 1921), 22A

Greenish, H. G., and Pearson, C. E.

Santonin in *Artemisia brevifolia*

*Pharm. J.*, 106 (Jan. 1, 1921), 2

Holmes, E. M.  
Mexican drugs  
*Chem. & Drug.*, 94 (Jan. 8, 1921), 40

Lloyd, J. U.  
Spiders in medicine  
*Am. J. Pharm.*, 93 (Jan. 1921), 19

Lloyd, J. U.  
Eldrin from sambucus  
*Eclectic Med. J.*; through *Am. J. Pharm.*, 92 (Jan. 1921), 40

McCutcheon, A.  
Cascara sagrada grown in Scotland  
*Chem. & Drug.*, 94 (Jan. 29, 1921), 151

Maldomardo,  
"Peru benzoin"  
*Boletin Farm. Lima*; through *Pharm. Era*, 54 (Feb. 1921), 66

Newcomb, E. L., and Smithe, C. E.  
Revising standards for hydrastis  
*N. W. Drug.*, 29 (Feb. 1921), 60

Perrot  
Egyptian drugs  
*Chem. & Drug.*, 94 (Jan. 8, 1921), 37

Rosenthaler, L.  
Hydrocyanic acid content of cherry laurel leaves  
*Schweiz. Apoth.-Ztg.*, 59 (Jan. 6, 1921), 10; (Jan. 13, 1921), 22

Sluijters, A.  
The Hatcher cat method of digitalis assay  
*Pharm. Weekbl.*, 58 (Jan. 29, 1921), 140

Zellner, J.  
Latex of *Lactarius vellereus*  
*Z. physiol. Chem.*; through *J. Soc. Chem. Ind.*, 40 (Jan. 31, 1921), 60A

## GENERAL AND PHYSICAL CHEMISTRY.

Bruhns  
Influence of air in alkalimetry  
*Z. Zuckerind. Czecho-Slov*; through *Drug. Circ.*, 65 (Feb. 1921), 62

Kolthoff, I. M.  
Adsorption of alkali and alkaloidal salts by filter paper  
*Pharm. Weekbl.*, 58 (Jan. 22, 1921), 94

Kolthoff, I. M.  
Adsorption of alkalies by cellulose  
*Pharm. Weekbl.*, 58 (Jan. 15, 1921), 46

## INORGANIC CHEMICALS.

Éwe, G. E., and Gloor, F.  
Practical assay of zinc salts  
*J. AM. PHARM. Assoc.*, 10 (Feb. 1921), 101

Fleury, P.  
Decomposition of alkaline sodium hydrobromite by copper sulphate  
*J. pharm. chim.*, 22 (Dec. 16, 1920), 449

Klein, F.  
High-valent oxygen  
*Pract. Drug.*, 39 (Feb. 1, 1921), 38

Renneboog, V.  
Therapeutic value of radium  
*J. Pharm. Belg.*; through *Pharm. Era*, 54 (Feb. 1921), 40

Schoorl, N., and Kolthoff, N.  
Assay of alkali metals as sulphates  
*Chem. Weekbl.*; through *J. Soc. Chem. Ind.*, 40 (Jan. 15, 1921), 29A

Stout, H.  
Bismuth subcarbonate  
*Chem. & Drug.*, 94 (Jan. 29, 1921), 151

## ORGANIC CHEMICALS.

Anon  
Formic acid in industry  
*Chem. Age*; through *Merck's Rept.*, 30 (Jan. 1921), 8

Anon  
Methyl heptanone as insecticide  
*Schimmel's Rept.*; through *Merck's Rept.*, 30 (Jan. 1921), 9

Anderson, R. J.  
Inositol-phosphoric acid of plants  
*J. Biol. Chem.*; through *J. Soc. Chem. Ind.*, 40 (Jan. 15, 1921), 24A

Davis and Swartz  
Sodium oleate as a germicide  
*J. Urology*; through *Am. J. Pharm.*, 93 (Jan. 1921), 58

Fahrion  
Bottlenose oil  
*Chem. Rundschau*; through *Drug. Circ.*, 65 (Feb. 1921), 61

Feulgen, R.  
Preparation of nucleic acids  
*Z. physiol. Chem.*; through *J. Soc. Chem. Ind.*, 40 (Jan. 31, 1921), 60A

Goldschmidt and Kuhn  
Death from methyl bromide fumes  
*Zent. Gewerbehygiene*; through *Am. J. Pharm.*, 93 (Jan. 1921), 59

Hammarsten, O.  
Preparation of pure stomach enzymes  
*Z. physiol. Chem.*; through *J. Soc. Chem. Ind.*, 40 (Jan. 31, 1921), 57A

Henry, T. A.  
Chaulmoogra oil  
*J. Trop. Med. and Hygiene*; through *J. Soc. Chem. Ind.*, 40 (Jan. 15, 1921), 13R

Johnson, T. B., and Lane, F. W.  
Alkyl derivatives of resorcinol and their antiseptic value  
*J. Am. Chem. Soc.*, 43 (Feb. 1921), 348

- Jones, D. B., and Johns, C. O.  
Hydrolysis of the globulin of coconut  
*J. Biol. Chem.*; through *J. Frank. Inst.*, 191  
(Feb. 1921), 284
- Kamm, Oliver  
Structure and pharmacology of alcohols  
*J. AM. PHARM. ASSOC.*, 10 (Feb. 1921), 87
- Macht, D. I.  
Benzyl alcohol for toothache  
*J. Am. Med. Assoc.*; through *Am. J. Pharm.*,  
93 (Jan. 1921), 52
- Niviere, J.  
Extraction of the volatile oil from jasmine  
flowers  
*Bull. soc. chim.*; through *J. Soc. Chem. Ind.*,  
40 (Jan. 31, 1921), 61A
- Paul, T.  
Sweetness of saccharin  
*Schweiz. Chem.-Ztg.*; through *J. Soc. Chem.  
Ind.*, 40 (Jan. 31, 1921), 33R
- Pitini, A.  
Decomposition products of atractylin  
*Arch. Farm. Sper.*; through *J. Soc. Chem.  
Ind.*, 40 (Jan. 15, 1921), 24A
- Pittarelli, E.  
Assay of acetone and aldehyde in the same solu-  
tion  
*Arch. Farm. Sper.*; through *J. Soc. Chem. Ind.*,  
40 (Jan. 15, 1921), 25A
- Pittarelli, E.  
Detection of lactic acid  
*Rept. Pharm.*; through *Drug. Circ.*, 65 (Feb.  
1921), 50
- Post, P.  
Mustard oil as milk preservative  
*Pharm. Weekbl.*, 58 (Jan. 29, 1921), 131
- Puxeddu, E., and Vodret, F.  
Volatile Oil of *Juniperus phoenicea*  
*Gaz. chim. ital.*; through *J. Soc. Chem. Ind.*,  
40 (Jan. 31, 1921), 61A
- Reisenfeld, G.  
Lactic acid assay  
*Biochem. Zschr.*; through *J. Soc. Chem. Ind.*,  
40 (Jan. 15, 1921), 25A
- Sherk, D. C. L.  
Monarda oils of 1918 and 1919  
*J. AM. PHARM. ASSOC.*, 10 (Feb. 1921), 97
- Sherk, D. C. L.  
Thymol and carvacrol problems  
*Am. J. Pharm.*, 93 (Jan. 1921), 8
- Shoule, H. H., and Row, P. L.  
Benzyl esters with anti-spasmodic action  
*J. Am. Chem. Soc.*, 43 (Feb. 1921), 361
- Spaeth, E.  
Constitution of laudanine  
*Monatsh. Chem.*; through *J. Soc. Chem. Ind.*,  
40 (Jan. 15, 1921), 24A
- Spaeth, E., and Gohring, R.  
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*Monatsh. Chem.*; through *J. Soc. Chem. Ind.*,  
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Synthesis of sinapine  
*Monatsh. Chem.*; through *J. Soc. Chem. Ind.*,  
40 (Jan. 15, 1921), 24A
- Stepp, W., and Engelhardt, W.  
Assay of acetone and aldehyde in the same  
solution  
*Biochem. Zschr.*; through *J. Soc. Chem. Ind.*,  
40 (Jan. 15, 1921), 25A
- Steudel, H., and Peiser, E.  
Cleavage of nucleic acids  
*Z. physiol. Chem.*; through *J. Soc. Chem. Ind.*,  
40 (Jan. 31, 1921), 60A
- Steudel, H., and Peiser, E.  
Nucleic acid of yeast  
*Z. physiol. Chem.*; through *J. Soc. Chem. Ind.*,  
40 (Jan. 31, 1921), 60A
- Sudborough, J. J., and Vridhachalam, P. N.  
Tartaric acid from tamarinds  
*J. Indian. Inst. Sci.*; through *J. Soc. Chem.  
Ind.*, 40 (Jan. 15, 1921), 25A
- Van Os, D.  
Hexamethylenamine and its preparation  
*Pharm. Weekbl.*, 57 (Nov. 13, 1920), 1406
- Von Lippmann, E. O.  
Phytochemical notes  
*Ber.*; through *J. Soc. Chem. Ind.*, 40 (Jan. 15,  
1921), 24A
- White, Paul  
Salicylates in rheumatic affections  
*Med. Rec.*; through *Pract. Drug.*, 39 (Feb.  
1921), 36

#### CLINICAL AND DIAGNOSTIC METHODS.

- Arreguino and Garcia  
Detecting diacetic acid in urine  
*Ann. soc. quim. Argentina*; through *Drug.  
Circ.*, 65 (Feb. 1921), 62
- Haas  
Indican content of serum as index of kidney  
functioning  
*Nederland Tijds. Geneeskunde*; through *Am. J.  
Pharm.*, 93 (Jan. 1921), 60
- Jameson, G. S.  
Assay of saccharin in urine  
*J. Biol. Chem.*; through *Pharm. Weekbl.*, 58  
(Jan. 8, 1921), 35
- Kramer, B.  
Assay of potassium and sodium in small  
quantities of blood  
*J. Biol. Chem.*; through *Pharm. Weekbl.*, 58  
(Jan. 22, 1921), 102

Terry, B. T.

Polychrome methylene-blue stain

*J. Am. Med. Assoc.*; through *Merck's Rept.*, 30  
(Jan. 1921), 15

Thieulin, R.

Urinary elimination of novocaine and similar  
synthetics

*J. pharm. chim.*, 22 (Dec. 16, 1920), 463

#### MISCELLANEOUS.

Guillaumi

Elinvar, a new alloy

*Chem. Age*; through *Merck's Rept.*, 30 (Jan.  
1921), 7

#### BRITISH PHARMACEUTICAL CONFERENCE RESEARCH LIST FOR 1919-1920.

The following list is from the British Year Book of 1920. Some of the subjects will, undoubtedly, be suggestive for research work. The Year Book references are to those of the British Pharmaceutical Conference, and titles of the British Pharmacopoeia.

*Acetylsalicylates*.—Which is the most suitable salt for pharmaceutical purposes? Do the salts possess any advantages over acetylsalicylic acid? (See *Y. B.*, 1908, 237; 1909, 109; 1911, 215; 1912, 227, 230; 1917, 117.)

*Apiol*.—A formula for the preparation of a standard product is required (see *Gen. Index* and *Y. B.*, 1905, 23; 1907, 187; 1909, 100; 1910, 142; 1913, 285; 1914, 125).

*Assay Processes (Pharmacopoeial)*.—Improved methods for the assay of several B. P. chemical products are needed. *Examples*: Liquor Formaldehydi, Sodii Arsenas Anhydrosus, Hexamine.

*Belladonna Root (Indian)*.—Parcels of this drug have given abnormal figures on analysis, indicating the presence of some base of a lower molecular weight than atropine. An investigation of this drug is required (see *Y. B.*, 1913, 267; 1915, 217; 1917, 195; 1919, 210).

*Bismuth Phenate*.—An examination of commercial samples would be of interest (see *Gen. Index*).

*Calx Sulphurata*.—An examination of the processes of manufacture and the purity of commercial samples is needed.

*Cannabis Indica*.—The physical characters and therapeutic value of the official preparations are stated to be liable to considerable variation. An investigation is required to determine whether any chemical standard is possible, and, if not, whether physiological tests should be introduced. A report on the comparative values of the official Indian drug and those varieties produced in Goa, Africa, America, and Greece, is desirable (see *Gen. Index* and *Y. B.*, 1908, 40, 229; 1909, 43, 110, 240; 1910, 143; 1911, 163; 1912, 247, 266; 1913, 263, 264; 1915, 227; 1917, 218, 271; 1918, 229; 1919, 212).

*Casein Foods*.—A comparative examination of the so-called "Foods" or "Nerve Tonics" of the type represented by the combination of soluble casein and glycerophos-

phates, etc., would be useful (see *Gen. Index* and *Y. B.*, 1915, 241; 1918, 369).

*Casein (Soluble)*.—Details of improved processes for the preparation of soluble casein are required.

*Coloring Agents*.—An investigation with a view to determining the most suitable coloring agents for syrups, such as *Syrup. Glycerophosph. Co.*, and other galenicals, is needed.

*Cinchona, Liquid Extract of*.—The B. P. process does not fully extract the total alkaloids from cinchona bark. An improved process is required and experiments are needed to ascertain the best solvent for the purpose (see *Y. B.*, 1917, 387).

*Deterioration*.—Some drugs, chemicals, and preparations are subject to deterioration upon storage. An investigation should be undertaken with the view to recording the extent to which such articles can be kept in a pharmacy in normal conditions and for a reasonable length of time and yet comply with the B. P. requirements (e. g., magnesia, ammonium carbonate).

*Drugs*.—The following drugs require further systematic chemical investigation: *Adonis vernalis* and *Adonis aestivalis* (see *Gen. Index* and *Y. B.*, 1913, 132, 295; 1916, 3; 1918, 227), *Cereus Cactus grandiflorus* (see *Gen. Index* and *Y. B.*, 1910, 209; 1911, 240; 1916, 287), *Cassia fistula*, *Serenoa serrulata* (see *Gen. Index* and *Y. B.*, 1917, 160, 344), *Arnica montana* (see *Gen. Index* and *Y. B.*, 1904, 27), *Monsonia ovata*, *Monsonia biflora* (see *Gen. Index*), *Thuja occidentalis* (see *Gen. Index* and *Y. B.*, 1911, 117; 1914, 45, 367), *Tanacetum vulgare* (see *Gen. Index* and *Y. B.*, 1910, 173), *Senecio Jacobea* (see *Gen. Index* and *Y. B.*, 1912, 279; 1916, 226; 1918, 238), *Achillea millefolium* (see *Gen. Index* and *Y. B.*, 1908, 5; 1918, 62), *Aletris farinosa* (see *Gen. Index* and *Y. B.*, 1911, 220; 1915, 225; 1918, 228), *Rhamnus purshianus* (see *Gen. Index* and *Y. B.*, 1916, 204, 270; 1917, 206, 208, 212; 1918, 190),

*Polygala Senega* (see *Gen. Index* and *Y. B.*, 1906, 217; 1909, 123; 1916, 381), *Tussilago Farfara*, *Chondodendron tomentosum* (see *Gen. Index* and *Y. B.*, 1907, 120; 1912, 32; 1913, 27; 1916, 367; 1918, 231).

*Ergot*.—A reinvestigation of the pharmacy of this drug in the light of recent chemical work is required, and a method of determining the activity of the galenical preparations (see *Gen. Index* and *Y. B.*, 1914, 8; 1915, 234).

*Ferments*.—The action of ferments in inducing changes in galenical preparations might be studied.

*Formulae*.—Improved formulae are required for the administration of nauseous drugs (e. g., Paraldehyde, Male Fern).

*Galenicals*.—Investigation is required of the changes in the strength of galenicals, etc., during preparation and on keeping, which may render the original formula an unfair criterion of the finished product, e. g., loss of ammonia in filtering Tinct. Quininae Ammoniatæ; loss of formaldehyde from the tablets; loss of iodine in making Syrup. Ferri Iodidi.

*Galenicals*.—The B. P. 1914 has introduced in a few cases tests for galenical preparations (e. g., *Acetum Scilla*). An investigation is needed with a view to ascertaining how far the specific gravity and other physical constants may be considered to be a fair criterion that a galenical has been made in accordance with the B. P. directions.

*Hydrargyrum c. Creta*.—The conditions under which the volatilization of mercury from wrapped powders of *Hydrarg. c. Creta* is liable to take place.

*Iron, Determination of*.—A quick method is wanted for the determination of iron in Syrup. Ferri Phosph., Syrup. Ferri Phosph. Co., Syrup. Ferri Phosph. c. Quinin. et Strych., and Syrup. Hypophosph. Co. (see *Y. B.*, 1914, 393).

*Jalap, Brazilian*.—A microscopical investigation of this root is required, with the object of enabling the admixture of it with powdered jalap to be detected. A test is also required for detecting the addition of its resin to true jalap resin (see *Y. B.*, 1916, 255; 1919, 217).

*Morphine*.—Can the process described in *Y. B.*, 1907, 107, for the determination of morphine be applied to opium and its preparations?

*Oil of Soya Bean*.—Can this be utilized more widely in pharmacy? (See *Y. B.*, 1910, 104; 1912, 120.)

*Opium, Extract of*.—To what is the loss of morphine due in making this extract? Is it constant with different lots of opium? (See

*Y. B.*, 1910, 28; 1913, 359, 360; 1914, 17; 1917, 11.)

*Opium, Assay of Extract of*.—The B. P. process for the estimation of morphine in Extract. Opii Sicc., B. P. 1914, which may contain calcium phosphate, is not very satisfactory. An improved process would be useful.

*Phenol, Liquefied*.—The pharmacy of this substance requires further investigation (see *Gen. Index* and *Y. B.*, 1910, 233; 1917, 263). (Already undertaken.)

*Santonin*.—Analyses are required showing the percentage of santonin in Colonial and Indian species of *Artemisia* allied to *Artemisia maritima* (see *Gen. Index* and *Y. B.*, 1913, 293, 294; 1914, 138, 139).

*Saponins*.—A simple and accurate method of determining saponins in drugs is required (see *Gen. Index* and *Y. B.*, 1904, 78, 87; 1906, 71; 1909, 5, 71, 80; 1910, 115; 1911, 117, 124, 126; 1912, 131; 1913, 142, 145, 146, 147; 1914, 99; 1915, 115; 1916, 152; 1917, 90, 91).

*Solvents*.—Experiments are needed with a view to extending the use of solvents such as acetone, carbon tetrachloride, dichlorethylene, petroleum ether, amyl acetate, etc., in pharmacy (see *Y. B.*, 1919, 278).

*Strophanthus*.—An examination of the published methods of separating the different active principles obtained from the official seeds is needed with a view to recommending a standard process. The seeds in commerce are frequently mixed. Further information is required as to the active principles they severally contain (see *Gen. Index* and *Y. B.*, 1904, 244; 1905, 202, 370; 1906, 74, 110, 249; 1910, 220; 1911, 125; 1912, 131, 280, 337; 1913, 134, 147; 1915, 107; 1917, 284; 1919, 226, 228, 334).

*Tannin*.—A ready and tolerably accurate method for the determination of the tannin in various astringent drugs is required (see *Gen. Index* and *Y. B.*, 1906, 86; 1907, 158; 1912, 312, 314; 1913, 122, 187, 214; 1916, 208).

*Taraxacum Root*.—The investigation of fresh drugs such as this by Bourquelot's method for the detection and isolation of easily hydrolyzed glucosides is required (see *Y. B.*, 1907, 58; 1914, 319).

*Tinctures*.—Experiments are needed to determine the best method for the prevention of the occasional gelatinization of tinctures, with special reference to *Tinct. Card. Co.* P. B. 1914.

*Valerian Root*.—Chemical investigation of the fresh root by Bourquelot's method is required (see *Y. B.*, 1907, 58; 1914, 319).