

epidermal cells, the large stomata of the lower epidermis, short palisade cells, and the presence of tracheids and numerous serial prismatic crystals.

**Tests.**—Bearberry Leaves leave from 2 to 3 p.c. of ash.

**Preparation.**

**INFUSUM UVÆ URSI.** INFUSION OF BEARBERRY.

Bearberry Leaves, bruised, 1; boiling Distilled Water, 20; infuse for 15 minutes and strain. (1 in 20)

**Dose.**— $\frac{1}{2}$  to 1 fl. oz. = 14.2 to 28.4 c.c.

In the 1864 Pharmacopœia the Leaves were not ordered to be bruised; when bruised, the infusion is stronger, but a large deposit forms in the strained fluid.

**Incompatibles.**—Iron salts, Lead salts, Silver Nitrate, vegetable alkaloids, Gelatin.

**Foreign Pharmacopœias.**—Official in Fr. (Tisane), 1 in 100; Ital., 1 in 20 Decoction; U.S. has a fluid extract.

**Not Official.**

**INFUSUM UVÆ URSI CONCENTRATUM.**—Bearberry Leaves, in No. 20 powder, 40; Alcohol, (90 p.c.), 25; Dilute Chloroform Water (1 in 1000), *q.s.* to make 100. Prepare by the repercolation.—*Farr and Wright, P.J.* '06, i. 165 and '07, i. 621; *C.D.* '06, i. 252; and *Y.B.P.* 1907, 248.

**Dose.**— $\frac{1}{3}$  to 1 fl. drm. = 1.8 to 3.6 c.c.

This appears in the *B.P.C.*

## VALERIANÆ RHIZOMA.

VALERIAN RHIZOME.

*B.P.Syn.*—VALERIAN ROOT.

FR., VALÉRIANE OFFICINALE; GER., BALDRIAN; ITAL., VALERIANA;  
SPAN., VALERIANA.

The dried erect Rhizome and Roots of *Valeriana officinalis*, L., collected in the autumn.

That from wild plants growing on dry soil is preferred. It owes its properties to a volatile Oil and a volatile Acid; the salts of the latter (Valerianates) are not prepared from the root, but synthetically from Amylic Alcohol.

The bulk of the Valerian root used in this country is of foreign growth, and should either be allowed or expressly prohibited in *B.P.*

Under the title **Valerianæ Indiæ Rhizoma**, the dried Rhizome and Rootlets of *Valeriana Wallichii*, DC., are official in the *Ind.* and *Col. Add.* for India and the Eastern Colonies.

**Medicinal Properties.**—It is a nervine stimulant and antispasmodic. Useful in hysteria, in functional nervous diseases associated with hysteria, and as an adjunct to tonics.

The difference in physiological action between the juice and the dried root of Valerian is stated (*L.* '05, i. 1396) to be due to oxidation of the active constituents during drying. The sedative and antispasmodic action of the fresh juice is very constant, and is not accompanied by any permanent stimulating action. Since the fresh juice owes its peculiar physiological properties to the undecomposed bornyl iso-valerianate contained in the volatile Oil, it would appear to be more desirable to use the volatile Oil in preference to the other preparations of Valerian.

**Official Preparation.**—Tinctura Valerianæ Ammoniata.

**Not Official.**—Tinctura Valerianæ, Tinctura Valerianæ Ætherea, Oleum Valerianæ, Valyl, Acidum Valerianicum, Fluidextractum Valerianæ, Infusum Valerianæ, Infusum Valerianæ Concentratum.

**Foreign Pharmacopœias.**—Official in all. An **Extract**, and a 1 in 20 **Infusion** are official in Ital. An **Extract** in Belg., Dutch, Fr., and Russ.; a **Fluid Extract** in Dan., Mex. and U.S.

**Descriptive Notes.**—Valerian Root varies much in quality and in price. A little is grown in this country at Chesterfield, where the form *sambucifolia*, Willd., appears to be the species cultivated; at Long Melford the more robust form *Mikanii*, Syme, is preferred, the latter yielding a rather larger and more odorous root. Valerian Root is also imported from Thuringia in Germany, Hungary, Belgium, and France, and rarely from Japan, under the name of Kesso; the Japanese plant is referred to the var. *latifolia*, Miq. The French root is generally rather paler, the Japanese is a dark brown with a scurfy surface, and is powerfully odorous; it is probably a distinct species.

Valerian Root consists of a short rootstock,  $\frac{1}{3}$  to  $\frac{1}{2}$  in. (8 to 12 mm.) in diameter and less than 1 in. (25 mm.) long, giving off numerous slender, brownish, brittle roots, 3 to 4 in. (7.5 to 10 cm.) long and about  $\frac{1}{10}$  in. (2.5 mm.) in diameter, tapering into slender rootlets at the extremity, and whitish in transverse fracture. The rhizome is hard and horny internally, but becomes hollow with transverse septa when old and occasionally exhibits a few lateral, short, horizontal branches. When fresh it is almost without smell, the valerianic odour being developed during the drying or by injury to the surface. Under the microscope the characteristic features are the hypoderm cells with undulated walls, the abundance of small rounded or muller-shaped starch grains, the oil drops in the cortical cells, and the porous sclerenchymatous cells of the rhizome.

**Tests.**—Valerian Root yields from 8 to 10 p.c. of ash. The *B.P.* states that the odour developed in the process of drying is strong, characteristic, and disagreeable; the taste unpleasant, camphoraceous, and slightly bitter; the *U.S.P.* that the odour is peculiar, becoming stronger and more unpleasant on keeping the drug; the taste is camphoraceous and somewhat bitter.

#### Preparation.

#### TINCTURA VALERIANÆ AMMONIATA. AMMONIATED TINCTURE OF VALERIAN.

Valerian Rhizome, in No. 40 powder, 4 oz.; Oil of Nutmeg, 30 minims; Oil of Lemon, 20 minims; Solution of Ammonia, 2 fl. oz.; Alcohol (60 p.c.), 18 fl. oz.; by maceration.

**Tests.**—Tinct. Valerian. Ammon. has a sp. gr. of 0.935 to 0.945; it contains about 3.5 p.c. w/v of total solids and about 53 p.c. w/v of Absolute Alcohol. When freshly prepared a measured quantity of 10 c.c. of the tincture requires about 4.3 c.c. of Normal Volumetric Sulphuric Acid Solution to neutralise the Ammonia, Methyl Orange,

or Cochineal Solution being employed as an indicator of neutrality. This corresponds to 0.72 p.c. w/v of absolute Ammonia.

Dose.— $\frac{1}{2}$  to 1 fl. drm. = 1.8 to 3.6 c.c.

**Tinctura Valerianæ Ammoniata (U.S.).**—Valerian, in No. 60 powder, 20; Aromatic Spirit of Ammonia, *q.s.* to make 100; by macero-percolation.

**Tinctura Valerianæ Indiæ Ammoniata.**—Indian Valerian, in No. 40 powder, 4 oz.; Oil of Nutmeg, 30 minims; Oil of Lemon, 20 minims; Solution of Ammonia, 2 fl. oz.; Alcohol (60 p.c.), 18 fl. oz.; by maceration. Dose.— $\frac{1}{2}$  to 1 fl. drm. = 1.8 to 3.6 c.c. It is official in the *Ind. and Col. Add.* for India and the Eastern Colonies.

#### Not Official.

**FLUIDEXTRACTUM VALERIANÆ.**—100 of Valerian, in No. 40 powder, is first moistened with 30 of a mixture of Alcohol (95 p.c.) 75 and Water 25, macerated in a percolator for 48 hours, then exhaust, reserve the first 85 of percolate and evaporate the remainder at a temperature not exceeding 50° C. (122° F.) to a soft extract, dissolve this in the reserve portion, and make up with the menstruum to 100.—*U.S.P.* Dose, 30 to 60 minims = 1.8 to 3.6 c.c.

This has been incorporated in the *B.P.C.*

This Fluid Extract evaporated to a firm extract constitutes Extractum Valerianæ.—*B.P.C.*

**INFUSUM VALERIANÆ.**—Valerian Rhizome, bruised,  $\frac{1}{4}$ ; boiling Distilled Water, 10. Infuse in a covered vessel for 1 hour and strain.—*B.P.* 1885.

This is incorporated in the *B.P.C.*, infusing 15 minutes.

**INFUSUM VALERIANÆ CONCENTRATUM.**—Valerian Rhizome, in No. 20 powder, 40; Strong Solution of Ammonia, 0.3; Alcohol (90 p.c.), 25; Dilute Chloroform Water (1 in 1000), *q.s.* to make 100. Mix the powder with the Strong Solution of Ammonia and sufficient Chloroform Water to damp it evenly, set aside for 2 hours, and then submit to re-percolation.—*Farr and Wright, P.J.* '06, i. 165 and '07, i. 622; *C.D.* '06, i. 252; and *Y.B.P.* '07, 251.

Dose.— $\frac{1}{4}$  to 1 fl. drm. = 1.8 to 3.6 c.c.

This appears in the *B.P.C.*, using 20 of Valerian Rhizome instead of 40.

**TINCTURA VALERIANÆ.**—Percolate 1 of Valerian Rhizome, in No. 40 powder, with sufficient Alcohol (60 p.c.), to yield 8.—*B.P.* 1885.

Dose.—1 to 2 fl. drm. = 3.6 to 7.1 c.c.

This was included in the *B.P.C. Formulary* 1901.

**Foreign Pharmacopœias.**—Official in Austr., Belg., Dan., Dutch, Fr., Ger., Hung., Ital., Mex., Norw., Port., Russ., Swed., Swiss and U.S., 1 in 5; Jap., 1 in 10; Mex. and U.S. have also **Fluid Extract**. All by weight, except U.S.

**Tests.**—Tincture of Valerian (*B.P.* '85) has a sp. gr. of 0.924 to 0.930; contains about 2.0 p.c. w/v of total solids and about 60.0 p.c. w/v of Absolute Alcohol.

**TINCTURA VALERIANÆ ÆTHEREA (Ger.).**—Valerian, 1; Spirit of Ether, by weight, 5.

**Foreign Pharmacopœias.**—Official in Austr., Belg., Dan., Dutch, Ger., Hung., Jap., Norw., Span. and Swiss, 1 in 5; Mex., 1 and 5, Sp. Ether (sp. gr. 0.76); Russ., Valerian 1, Alcohol (90 p.c.) 4, Ether (0.725), 2. All by weight.

**Tests.**—Ethereal Tincture of Valerian (*P.G.*) has a sp. gr. of about 0.815, and contains about 1.0 p.c. w/v of total solids.

**OLEUM VALERIANÆ.**—A yellow volatile Oil; sp. gr. 0.930 to 0.960. Dose.—2 to 5 minims = 0.12 to 0.3 c.c.

**Foreign Pharmacopœias.**—Official in Austr., Belg., Hung. and Port.

**VALYL (Diethylamide Valerianate).**—An oily liquid, possessing a nauseous odour and taste. A sedative in nervous affections. Dose.—2 to 10 grains = 0.13 to 0.65 gramme.

Best given in capsules.—*B.M.J.E.* '02, i. 3.

**ACIDUM VALERIANICUM.** Valerianic Acid, Valeric Acid.  $C_5H_{10}O_2$ , eq. 101.31.—A transparent, colourless, or nearly colourless, oily liquid, possessing a strong distinctive disagreeable odour. It is used in the preparation of the Valerianates.

It should be kept in well-stoppered glass bottles of a dark amber tint and in a cool place.

**Official in Fr.**

**Tests.**—Absolute Valeric Acid has a sp. gr. of 0.938 at 15° C. (59° F.). It boils about 175° C. (347° F.). Commercial Valeric Acid contains a varying proportion of the pure acid, it is recognised by its distinctive penetrating disagreeable odour. When warmed with a mixture of Sulphuric Acid and a little Ethyl or Amyl Alcohol it evolves a fragrant fruity odour. When neutralised with Ammonia and tested with Ferric Chloride T.S. a brownish-red precipitate is thrown down, when this precipitate is allowed to settle the supernatant liquid should be colourless; in the presence of Formic or Acetic Acid the supernatant liquid is coloured red. When concentrated Valeric Acid is agitated with Copper Acetate Solution, anhydrous Cupric Isovalerate separates in oily drops, which ultimately crystallise in greenish-blue monoclinic prisms, the reaction distinguishes Valeric Acid from Butyric Acid, the latter acid forming with a moderately concentrated Cupric Acetate Solution an immediate crystalline precipitate of Cupric Butyrate. The acid may be readily determined by direct titration with Normal Volumetric Sodium Hydroxide Solution, using Phenolphthalein Solution as an indicator of neutrality. 1 c.c. of Normal Volumetric Sodium Hydroxide Solution corresponds to 0.10131 gramme of absolute Valeric Acid.

The acid should be completely volatile, and should leave no weighable residue.

**Not Official.**

## VANILLA.

The Fruit of *Vanilla planifolia*, Andr., chiefly used as a flavouring agent. The finest quality comes from Mexico, and large quantities also come from Bourbon. It owes its fragrance to Vanillin, which on oxidation yields Vanillic Acid. Some text-books refer to them as the same substance, but this is not the case, Vanillic Acid is without odour and does not form a crystallisable compound with Sodium Bisulphite.

**Foreign Pharmacopœias.**—Official in Austr., Belg., Fr., Ger., Jap., Mex., Swiss and U.S. Swiss has Tincture 1 in 5; Fr. and U.S. 1 in 10.

**Descriptive Notes.**—Vanilla pods are the nearly ripe fruits of *Vanilla planifolia*, Andr., prepared by scalding, gradual fermentation and drying. After the curing process (*Agric. News*, vi, p. 291; *P.J.* (4) xiii., p. 640) the pods are sorted out into various lengths so as to form bundles of uniform size. Mexican Vanilla is considered to be the most aromatic; the pods are 8 to 10 inches (20 to 25 cm.) long, flattened, and about  $\frac{3}{8}$  inch (9 mm.) in diameter at the broadest part. The upper end tapers gradually to the point of attachment to the plant, and is curved and slightly twisted there. The longest pods obtain the highest price. When kept the pods become 'frosted' or covered with 'givre,' which consists of fine crystals of Vanillin. The value of Vanilla does not, however, depend upon the amount of Vanillin contained in the pods, but upon the aroma, which the artificial Vanillin cannot entirely replace.

**VANILLIN** ( $C_8H_8O_2$ , eq. 150.92).—It is the Aldehyde of Methylprotocatechuic Acid, and yields on oxidation Vanillic Acid ( $C_8H_6O_4$ ). It is official in the *U.S.P.*, and is stated to occur naturally in Vanilla, or to be made artificially from several Ortho-dihydroxybenzene derivatives. Fine white needle-shaped crystals, possessing the peculiar distinctive odour and taste of Vanilla. It has an acid reaction.

**Foreign Pharmacopœias.**—Official in Fr. and U.S., not in the others.

**Tests.**—Vanillin melts at about 80° C. (176° F.); the *U.S.P.* states between 80° and 81° C. (176° and 177.8° F.), and that at 285° C. (545° F.) it can be

distilled without decomposition in a current of Carbon Dioxide. It is sparingly soluble in Water, but dissolves readily in Alcohol, Ether and Chloroform, also in aqueous solutions of alkali Hydroxide, from which latter solution it is reprecipitated on neutralisation of the alkali Hydroxide. The aqueous solution affords with Ferric Chloride T.S. a blue colour, changing to brown when the liquid is boiled, and affording a white precipitate on the addition of Lead Acetate Solution. This precipitate is soluble in hot Water and crystallises out in scales as the solution cools. When Vanillin is warmed with concentrated Alcoholic Sodium Hydroxide Solution, a few drops of Chloroform added, and the liquid again warmed, no odour of Phenol Isocyanide should be evolved, indicating the absence of Acetanilide.

**TINCTURA VANILLÆ.**—Mix 65 of Alcohol (95 p.c.) with 35 of Water. Macerate 10 of Vanilla, cut small and bruised, in 50 of the mixture for 12 hours. Drain off the liquid and set it aside. Transfer the Vanilla to a mortar, beat it with 20 of Sugar into a uniform powder, then pack it in a percolator, and continue the percolation with more of the menstruum to make 100.—*U.S.P.*

This has been incorporated in the *B.P.C.*

Not Official.

### VERATRI VIRIDIS RHIZOMA.

GREEN HELLEBORE RHIZOME.

The Rhizome and Rootlets of *Veratrum viride*, Aiton.

Collected in autumn in U.S. and Canada.

The principal alkaloidal constituent (about half) is **Cevadine**, the same base as is found in *Cevadilla*; **Jervine** and **Pseudo-jervine**, in about equal proportions, constituting the remainder.—*P.J.* (3) ix. 986.

**Medicinal Properties.**—Sedative. Has been given to quiet spinal spasms; should be prescribed cautiously.

10 minims of the tincture with 5 grains of Chloral Hydrate given hourly, or 10 minims hypodermically, in puerperal eclampsia.—*L.* '98, i. 146; '99, i. 1430.

**Foreign Pharmacopœias.**—Official in Belg., Ger., Swed. and Swiss (*Rhizoma Veratri* (*Veratrum Album*)), Mex. (*Eleboro Blanco* and *Eleboro Verde*), U.S. (*Veratrum* (*Album* or *Viride*)).

**TINCTURA VERATRI VIRIDIS** (*B.P.* '85).—Green Hellebore Rhizome, in No. 40 powder, 1; Rectified Spirit (Alcohol 88.76 p.c.), *q.s.* to yield 5.

(1 in 5)

**Dose.**—5 to 20 minims = 0.3 to 1.2 c.c.

The best menstruum is stated to be Alcohol (70 p.c.).—*C.D.* '92, ii. 651.

**Official in Ger.**, 1 in 10; **U.S.**, 1 in 10; **B.P.C.**, 1 in 10. U.S. has also a **Fluid Extract**, 1 in 1.

**Tests.**—Tincture of Green Hellebore (*B.P.* '85) has a sp. gr. of about 0.952; it contains about 2.0 p.c. w/v of total solids and about 32.0 p.c. w/v of Absolute Alcohol.

### VERATRINA.

VERATRINE.

A white, or greyish-white, odourless, amorphous powder; possessing a very bitter acrid taste and leaving a feeling of numbness on the tongue. It is intensely irritating to the nasal mucous membrane and the smallest particle produces violent sneezing. Permanent in the air. It is officially described as an alkaloid, or mixture of alkaloids, prepared from *Cevadilla*, the dried ripe Seeds of *Schœnocaulon*

*officinale*, A. Gray; the *U.S.P.* describes Veratrine as a mixture of alkaloids obtained from the Seed of *Asagraea officinalis*, Lindley.

It should be kept in well-stoppered glass bottles of a dark amber tint and protected as far as possible from contact with the light.

Commercial Veratrine is liable to be very variable in physiological activity.

The nomenclature of the alkaloids contained in this mixture has undergone modification. Wright and Luff assign to the crystallisable portion (called by Merck 'Veratrine') the name of **Cevadine**, as it yields on saponification Cevadic Acid, the name **Veratrine** being reserved for the base described by Couerbe, which yields Veratric Acid. Another base has been called **Cevadilline**, but the bulk of the alkaloid refuses to yield any crystallisable or otherwise definable salts.

**Solubility.**—Scarcely soluble in cold Water; 1 in 1000 of boiling Water; 1 in 3 of Alcohol (90 p.c.); 1 in 6 of Ether; 1 in 3 of Chloroform; sparingly in Glycerin; about 1 in 80 of Olive Oil; and readily in diluted Acids.

**Medicinal Properties.**—A powerful irritant poison, scarcely ever given internally. Externally it acts as an analgesic in neuralgia, more particularly of the fifth nerve. It should not be used where the skin is broken.

*Ph. Ger.* maximum single dose, 0.005 gramme; maximum daily dose, 0.015 gramme.

**Official Preparation.**—Unguentum Veratrinae.

**Not Official.**—Oleatum Veratrinae.

**Antidotes.**—Emetic, stimulants, Coffee, warmth to the extremities. Recumbent position to be strictly maintained.—*Murrell*.

**Foreign Pharmacopœias.**—Official in all the Foreign Pharmacopœias, except Dan. Dutch, Cevadinum.

**Tests.**—Veratrine, *B.P.*, melts when heated to a yellow liquid; Veratrine, *U.S.P.*, softens at 145° C. (293° F.) and melts at 152° C. (305.6° F.); no m.p. is assigned to Veratrine, *P.G.* It dissolves in Nitric Acid, forming a yellow solution. When warmed with Hydrochloric Acid it dissolves, yielding a blood-red colour permanent for some days. Triturated with Sulphuric Acid it yields first a yellow and then a bright red mixture, subsequently exhibiting a yellowish-green fluorescence when viewed by reflected light, the fluorescence becoming more intense on further addition of acid. If the Sulphuric Acid mixture be warmed a violet-red coloration is produced, or if it be allowed to stand a violet-red coloration is gradually produced. A drop of Syrup added to the mixture of Sulphuric Acid and Veratrine darkens the red colour and gives it a purple coloration; by exposure to air the purple becomes blue. Sulphuric Acid with one-seventh of its volume of Water is a more useful reagent. Veratrine, *U.S.P.*, yields with Sulphuric Acid containing a trace of Selenious Acid a brownish-green colour. Veratrine dissolves readily in Alcohol (90 p.c.), the alcoholic solution being alkaline in reaction towards Litmus paper. The alcoholic solution should not yield a precipitate on the addition of Platinum Chloride Solution, indicating the absence of other alkaloids such as Brucine, Morphine and Strychnine. 0.5 of

a gramme when heated with free access of air should leave no weighable residue. A distinguishing reaction for Veratrine is its irritating effect upon the nasal mucous membrane, a tiny particle of the dust from the powdered alkaloid causing violent sneezing. The test should, however, be applied with extreme caution, and the same caution should be exercised in tasting substances or liquids presumed to contain the alkaloid.

#### UNGUENTUM VERATRINÆ. VERATRINE OINTMENT.

Dissolve 10 grains of Veratrine in 40 grains of Oleic Acid, at a gentle heat, and add 450 grains of Lard. (1 in 50)

Now 1 in 50 instead of 1 in 63, Hard and Soft Paraffins and Olive Oil replaced by Oleic Acid and Lard.

**Foreign Pharmacopœias.**—Official in U.S., 1 in 25; Port. and Russ., 1 in 50.

Not Official.

**OLEATUM VERATRINÆ (U.S.).**—Veratrine 2, Oleic Acid 50, Olive Oil, *q.s.* to make 100; by weight.

This has been incorporated in the *B.P.C.* under the title **Oleinatum Veratrinæ**. *Syn.* Oleatum Veratrinæ.

Squibb suggests that this should be made 10 p.c. as more likely to give relief in neuralgia.—*Squibb*, p. 164.

Not Official.

#### VIBURNUM.

BLACK HAW.

The Bark of *Viburnum prunifolium*, L.

It is official in the *Ind.* and *Col. Add.* for India and the Eastern and North American Colonies; also **Extractum Viburni Prunifolii Liquidum** (1 in 1). Dose, 60 to 120 minims = 3.6 to 7.1 c.c.

**Medicinal Properties.**—Strongly recommended as a preventive in cases of threatened abortion; to control menorrhagia and metrorrhagia and in all kinds of pelvic inflammation; brilliant results in dysmenorrhœa.—*M.A.* '95, 192; *B.M.J.* '95, ii. 1562; *L.* '95, ii. 1625.

**Foreign Pharmacopœias.**—Official in Austr., Dutch, Fr., Mex., Span. and U.S.

The bark of *Viburnum opulus* has also been used in similar cases.

**ELIXIR VIBURNI PRUNIFOLII.**—Fluid Extract of *Viburnum Prunifolium*, 12.5; Compound Tincture of Cardamom, 7.5; Aromatic Elixir, 80. Average dose, 1 fl. drm. = 3.6 c.c.—*U.S.N.F.*

This has been incorporated in the *B.P.C.*

**ELIXIR VIBURNI PRUNIFOLII COMPOSITUM.**—Liquid Extract of *Viburnum Prunifolium*, 50; Dry Extract of Hydrastis, 1.75; Oil of Coriander 0.50; Oil of Caraway, 0.50; Glycerin, *q.s.* to produce 100.—*B.P.C.*

**EXTRACTUM VIBURNI PRUNIFOLII LIQUIDUM.**—Percolate 20 of Black Haw, in No. 60 powder, with Alcohol (70 p.c.) until exhausted; reserve the first 17; reduce the remainder to a soft extract; dissolve this in the reserved portion, and add Alcohol (70 p.c.) *q.s.* to make 20.—*Ind.* and *Col. Add.*

**Dose.**—60 to 120 minims = 3.6 to 7.1 c.c.

This has been incorporated in the *B.P.C.*

This Fluid Extract evaporated to a firm extract constitutes **Extractum Viburni Prunifolii**.—*B.P.C.*

**FLUIDEXTRACTUM VIBURNI PRUNIFOLII (U.S.).**—Exhaust by percolation Viburnum, in No. 40 powder, 100 parts, with a mixture of Alcohol (95 p.c.), 2, and Water, 1; reserve the first 85, and evaporate the remainder to a soft extract; dissolve this in the reserved portion, and add enough menstruum to measure 100.

**Foreign Pharmacopœias.**—Official in Austr., Dutch and Fr., 1 in 1. U.S. has also Fluidextractum Viburni Opuli, 1 in 1.

## VINA.

### WINES.

Medicated wines are of very ancient date, and were admitted to our earliest Pharmacopœias. Two only remain as representatives of the old Pharmacopœias—Vinum Antimoniale and Vinum Ferri; the former was prepared by digesting 4 oz. of the Regulus of Antimony in powder with 3 lb. of 'White' Wine (Pharmacopœia Londinensis, 1655). The latter (Vinum Chalybeatum) was made with Rhenish Wine and Iron filings.

## VINUM XERICUM.

### SHERRY.

A Spanish Wine.

Unless good sound Sherry is used, the preparations are apt to spoil by keeping.

It contains about 20 p.c. Alcohol by volume.

**Official Preparations.**—Used in the preparation of Vinum Antimoniale, Vinum Colchici, Vinum Ferri, and Vinum Ipecacuanhæ.

**Not Official.**—Vinum Xericum Detannatum.

**Tests.**—Sherry of good quality has a sp. gr. of about 0.985 to 0.998. It is officially required to contain not less than 16 p.c. by volume of Ethyl Hydroxide. Good sound Sherries contain from 16 to 20 p.c. by volume of Absolute Alcohol, the Alcohol may be determined by a similar method to that given under Spiritus Frumenti. The total acid usually amounts to about 0.52 p.c. w/v calculated as Tartaric Acid, that is to say, a measured quantity of 10 c.c. of the Wine will require about 7.0 c.c. of Deci-normal Volumetric Sodium Hydroxide Solution for neutralisation, Phenolphthalein Solution being used as an indicator of neutrality. The extractive matter may vary from 2 to 5 p.c. w/v. The ash amounts to about 0.55 p.c. w/v. The Wine is officially required to be free from Salicylic Acid. The official method of testing being as follows:—A measured quantity of 50 c.c. is mixed with 50 c.c. of Water, 5 c.c. of Normal Volumetric Sulphuric Acid Solution added, and the mixture distilled. The first 10 c.c. portion of the distillate is rejected, the balance is shaken with Ether, the ethereal liquid separated and the Ether removed by evaporation. The residue is required to yield no violet coloration on the addition of Ferric Chloride T.S. Theoretically considered the test appears unsatisfactory. The first 10 c.c. portion may possibly contain Ethyl Salicylate passing



over with the spirit, the evaporation of the ethereal Solution of the Salicylic Acid is not to be recommended owing to the risk of loss by evaporation. A preferable plan would have been to have added sufficient Water to the ethereal liquid to form a separate layer, and 1 or 2 drops of Ferric Chloride T.S. and to shake vigorously, if Salicylic Acid be present the lower aqueous layer is coloured an immediate violet. A useful test for the presence of Salicylic Acid is given under *Vinum Aurantii*.

Not Official.

**VINUM XERICUM DETANNATUM** (*B.P.C.*).—Sherry, 100; Gelatin, in No. 100 powder, 0.15; macerate for 24 hours (at a temperature not exceeding 15.5° C.) with frequent agitation, and decant.

Bird has shown (*Y.B.P.* '99, 363) that by substituting Gelatin in No. 100 powder (now commercially procurable) for Gelatin cut small, as previously directed in the *B.P.C. Formulary* 1894, it is possible to completely detannate an average sample of Sherry in 24 hours. The same Wine treated with sheet Gelatin cut small required days for the completion of the process.

Not Official.

### VINCA MAJOR.

GREATER PERIWINKLE.

An infusion made of dried Herb 2, boiling Water 20, is powerfully astringent, and will often arrest menorrhagia.

Dose.—A wineglassful.

Foreign Pharmacopœias.—Official in Fr. (*Pervenche Officinale*).

Dose of the fluid extract, 1 to 2 fl. drm. = 3.6 to 7.1 c.c.

Not Official.

### VIOLA.

The flowers of *Viola odorata*, L., are official in the French, Portuguese and Spanish Pharmacopœias.

The herb *Viola tricolor*, L., is official in the Austrian, German and Swiss Pharmacopœias. That official in the Austrian is the cultivated variety; that in the German and Swiss from wild plants.

A certain amount of interest is attached to the leaves of the Violet on account of an apparent improvement following the employment of the fresh infusion of the leaves in a case (*L.* '05, i. 713) in which it was alleged that a patient might have been suffering from malignant disease. A handful of the leaves was soaked in a pint of boiling Water for 24 hours and the liquid poured off, divided into 2 parts, 1 part being taken internally during the 24 hours and the other used as a fomentation. An apparent recovery from a presumably malignant growth of the mouth resulted. An examination of the leaves of the common Violet (*Viola odorata*) in the *Lancet* laboratory (*L.* '05, i. 1085) showed the presence of two crystalline bodies, one glucosidal and the other alkaloidal in character, and also a dark green Oil. Alcohol was found a much more effective solvent than an aqueous menstruum; in view of the employment of an aqueous infusion the latter point is of interest. The alkaloid isolated behaved chemically much in the same way as Emetine, the principal alkaloid of *Ipecacuanha*. It has been stated (*Y.B.P.* '05, 467; *C.D.* '05, ii. 977; *P.J.* '05, ii. 869) that any activity which Violet leaves possess is due either to the glucoside, the product of its decomposition, or a natural ferment associated with it. Reckoned as *Viola-its* decomposition, the glucoside from Princess of Wales Violet leaves amounted to 5 p.c. of the weight of the fresh leaves. A fresh infusion was found to extract nine-

tenths of the glucoside present in the leaves. No volatile constituent was isolated, no alkaloid could be detected, no Salicylic Acid was found. The presence of a glucoside was proved, but the glucoside was not isolated. Objection has been taken to the evidence of the uses of Violet leaves having been unfortunately collected chiefly by unskilled persons, and that it has therefore been lacking in definiteness, and consequently in value. After the definite expression of the opinions mentioned in the above reference, it is disappointing to find in a paper read before the Therapeutical Society, October 30th, 1906, and reported in the *Lancet*, '06, ii. 1318, that 'all attempts to isolate and identify a glucoside from Violet leaves have failed; similarly, there was no evidence of a ferment being present; the only positive fact resulting from the experiments being that the leaves and their preparations yield under certain conditions glucose.'

It has been pointed out that the reputation of Violets for the treatment of malignant growths was founded on the use of wild Violets, at least as far back as James I., and that it is therefore desirable that in any inquiry into the subject wild Violets should be used, such as have been used for centuries, and not a recent cultivated Violet as employed at the present time. In the light of the above remarks, the varieties official in the Continental Pharmacopœias will be of interest. It will be noted that wild Violets are official in the German and Swiss Pharmacopœias, and cultivated Violets in the Austrian.

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Not Official.

YEAST.

BEER YEAST.

The ferment obtained in brewing Beer and produced by *Saccharomyces cerevisia*.

A viscid, frothy semi-fluid, possessing a sour vinous odour and a somewhat bitter taste. It is insoluble in Alcohol, practically insoluble in Water. Exposed to a moderate heat it loses its liquid portion and becomes dry, hard and brittle, and in this form may be preserved for some time, though apparently with a loss of much of its peculiar power. Yeast cakes are prepared by putting Yeast into sacks, washing with Water, submitting it to pressure, and ultimately drying it; Compressed Yeast, the undried product, is now largely used.

**Medicinal Properties.**—Antiseptic and stimulating; it has been recommended internally as a proteolytic against boils and carbuncles, and has been found useful in obstinate dysentery. In typhoid fever (*L.* '05, i. 463) 60 grammes daily, in 3 doses, commenced about the seventh day, to improve the gastrointestinal symptoms, to reduce the temperature and diminish diarrhœa. Living Yeast does not possess any directly bactericidal or phagocytic properties. Injected intravenously it causes intravascular clotting of the blood. Subcutaneous injections of pure cultures of living Yeast can be made in animals without producing any ill effects. Killed Yeast produces the same effects as living Yeast. The immediate effect of subcutaneous injections is to produce leucopenia, rapidly followed by the leucocytosis. The effects produced by the injections of Yeast are probably due to the nucleo-albumen contained in the cells of the body generally, and cause a large increase in the antiseptic and anti-bactericidal substances normally present in the blood serum.—*B.M.J. Supplement* '05, ii. 7.

In furunculosis and acne.—*F.T.* '07, 19.

Dose.— $\frac{1}{2}$  to 1 oz. alone or with Water.

Furonciline and Levurine are powdered forms of dehydrated Yeast.

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Not Official.

YOHIMBINE.

Silky white needles, or as a white inodorous amorphous powder, which has a tendency to change in colour on exposure to light; it should therefore be kept in well-closed glass bottles of a dark amber tint and protected as far as possible from