

CANNABIS INDICA, *Indian Cannabis*, *Indian Hemp*,—is the flowering tops of the female plant of *Cannabis sativa*, grown in the East Indies; a coarse, pubescent, somewhat viscid annual of the nat. ord. Urticaceæ. Its odor is peculiar and narcotic, taste slightly acrid.

Cannabis Americana, *American Cannabis* (Unofficial),—is the same plant, *Cannabis sativa*, grown in the Southern States.

The two varieties are specifically identical with each other, differing only in the degree of their action, that grown in India being the most powerful. They contain a resin named *Cannabin*, and a *Volatile Oil*, from the latter of which are obtained *Cannabene*, a light hydrocarbon, and *Cannabene Hydride*, a crystalline body. Cannabis should not be confounded with the so-called "Indian or Canadian Hemp," APOCYNUM CANNABINUM (see *ante*, page 156).

Preparations.

Extractum Cannabis Indicæ, *Extract of Indian Cannabis*.—Dose, gr. $\frac{1}{4}$ –j, if active. Hering's English Extract is one of the best.

Extractum Cannabis Indicæ Fluidum, *Fluid Extract of Indian Cannabis*,—is an alcoholic preparation which in mixtures must be thoroughly emulsified with Acacia, otherwise the resinous drug will separate and float to the top or adhere to the sides of the bottle. The Dose is put at $\mathfrak{m}\text{j}$ –v or x, but the author has frequently administered $\mathfrak{z}\text{j}$ of a good fluid extract without untoward results. Whatever may be the reason, it is a fact which he has often verified, that if the precipitate, formed when the alcoholic preparation is added to water, be of a brownish hue, a dirty, yellow-brown, the sample will prove to be almost inert;—but if of a decided olive-green color, the preparation will be active. The activity will be found to increase almost in direct proportion to the decided green of the precipitate. Samples from the same manufacturer show this difference, often seen between two bottles in the same shipment. The active principle seems to be intimately connected with the chlorophyll or other coloring matter present, and to be destroyed therewith by whatever injures the latter.

Tincture Cannabis Indicæ, *Tincture of Indian Cannabis*,—strength 15 per cent. Dose, $\mathfrak{m}\text{xx}$ – $\mathfrak{z}\text{j}$. The above remark on mixtures containing the fluid extract applies also to the tincture of this drug.

Similar preparations of *Cannabis Americana* are prepared by the manufacturers and may be used in larger quantities. The dosage of all preparations of hemp is uncertain, as specimens of the plant vary very much in activity. The best rule is to begin with a small dose, gradually testing the activity of the drug and the susceptibility of the patient by carefully increased doses.

Cannabin Tannate (Unofficial),—is a yellowish-brown permanent powder, insoluble in water and ether, slightly soluble in alcohol, having a not unpleasant odor and a bitterish, astringent taste. No formula has been published for it, but it is claimed to be the tannate of a glucoside by Merck, of Darmstadt, who placed it on the market. Dose, as a hypnotic, gr. v–x.

Preparations used in the East.

Churrus is an impure resin, prepared by rubbing the leaves of the plant together and scraping off the adhering resin.

Gunjah is the dried leaf and tops as sold in the bazaars for smoking purposes.

Hashish, **Bhang** or **Siddhi** is a confection consisting of the leaves and small stalks coarsely broken and mixed with fruits and aromatics. It is employed in the preparation of various electuaries and beverages, and is also smoked with or without tobacco.

PHYSIOLOGICAL ACTION.

Cannabis Indica is antispasmodic, analgesic, anæsthetic and narcotic, a cerebro-spinal stimulant and a powerful aphrodisiac. Its increases intel-

lectual and motor activity, stimulates the vaso-motor nerves, raising arterial tension, depresses sensation, and strengthens the energy of the uterine muscular fibre, but has no power to initiate uterine contractions. In large doses it causes a peculiar but generally pleasant form of intoxication, during which the particular traits of the individual are exalted, and the ideas follow each other so rapidly as to produce a sense of great prolongation of time, minutes seeming as if hours or even days. With this occurs increased sexual desire, great uterine activity, and sensations of double consciousness and enormous dimensions. The sight and hearing are exalted, pupils dilated, anæsthesia sets in, the reflexes are lowered by stimulation of inhibition (Setchenow's centre?), and if the dose be a heavy one a cataleptic state is induced. Sleep or coma follows according to the size of the dose, but death has never been produced by this drug.

After-effects are dullness, heaviness, vertigo, headache, and confused thought, anæsthesia of the skin, and marked diuresis,—but no nausea, no vital depression, no constipation. Repeated use of the drug causes mental weakness and impotence, the result of over-stimulation. A ravenous appetite is usually one of its effects.

Antagonists and Incompatibles.

Strychnine and Faradism are antagonistic. Caustic Alkalies are incompatible. In poisoning by it the stomach should be evacuated, stimulants given cautiously, and respiration maintained. The effects of a large dose last over 24 hours. *Lemon-juice* is said to antagonize its effects.

THERAPEUTICS.

Cannabis Indica was formerly much employed as an anodyne and hypnotic, also as an anæsthetic during surgical operations. It is now somewhat out of fashion. In migraine it is useful to prevent recurrence of the attack, and in neuralgia it is often very efficient. Uterine affections, as—chronic metritis, subinvolution, menorrhagia, dysmenorrhœa, etc., are greatly benefited by its anodyne quality and its power over the uterine muscular fibre. It is one of the best hypnotics in delirium tremens, and in traumatic tetanus and paralysis agitans large doses of this drug will lower the reflex activity. Dysuria and retention of urine are often relieved by it, while in spasm of the bladder and other painful affections of that organ it will be found a most efficient remedy. It is useful in functional impotence, especially if combined with Ergot and Nux-vomica. In gonorrhœa it lessens the discharge, relieves the inflammation, burning pain and restlessness, and allays chordee. The tincture of *Cannabis Americana* is the most useful in this affection, being fully as efficient as Copaiba or Sandal Oil, and much more agreeable. It should, however, be prepared from the fresh plant, and be given in 3 to 5 drop doses 3 or 4 times daily after the subsidence of the acute symptoms. Full doses of the tincture of the Indian plant are extremely efficient in many cases of headache at the

menopause, but should be used cautiously until the activity of the sample and the susceptibility of the patient are tested.

Dr. Lees has recently called attention to the fact that aqueous preparations of this drug, which contain but little of the resin, are much used by the natives of India for intoxicating and stimulating purposes, which indicates that the volatile oil and not the resin is the active principle. He uses a strong aqueous extract, prepared without heat, which gives all the beneficial effects of the alcoholic preparations without the extreme exhilaration bordering on intoxication so often produced by even medium doses of the latter. He finds that, in pulmonary affections generally, this *Liquor Cannabis Indicæ* acts most favorably as an anodyne and hypnotic, while in phthisis pulmonalis it relieves the cough and aids the patient by its stimulant and exhilarating qualities to a degree which no other drug can accomplish. Dr. Lees has also used it in indigestion with constipation, and in many affections of children in which nervous symptoms are prominent it has done good service. The adult dose is ʒss-j.

Cannabin Tannate is considered by Fronmüller to be a very useful hypnotic, not in any degree dangerous and neither disturbing the secretions nor leaving unpleasant after-effects. It has been used with benefit in acute mania.