

Insect Powders.

Insect powders are obtained from two plants—*Chrysanthemum roseum*, Adam (*Pyrethrum roseum*, Bieb.), with rosy flowers, a native of the Caucasus, and *Chrysanthemum cinerariifolium*, Visiani (*Pyrethrum cinerariifolium*, Trev.), with white flowers, a native of the Caucasus, and *Chrysanthemum cinerariifolium*, Visiani (*Pyrethrum cinerariifolium*, Trev.), with white flowers, a native of Dalmatia. The inhabitants of Asiatic countries south of the Caucasus kept secret all details connected with the production and source of this drug until, early in this century, an Armenian merchant learned that the powder was obtained from the dried and pulverized flower heads of certain species of *Pyrethrum* growing in the mountain region of what is now known as the Russian province of Transcaucasia. The history of the Dalmatian species of *Pyrethrum* still remains a mystery. There is reason to believe that the Caucasian species is not cultivated, though no definite information can be obtained on this point, owing to the jealous watch which the inhabitants keep in order to guard their valuable monopoly. The fourth report of the United States Entomological Commission, 1885, pp. 164-180, gives some particulars of the manufacture of the powder. The flower-heads should be gathered during fine weather, when they are about to open, or when fertilization takes place, as the essential oil that gives the insecticide properties reaches at this time its greatest development. When the blossoming has ceased the stalks may be cut within four inches of the ground and utilized, being ground and mixed with the flowers in the proportion of one-third of their weight. Care must be taken not to expose the flowers to the moisture or the sun's rays, or still less to artificial heat. They should be dried under cover and pulverized. The efficacy of the product is proportional to the degree of comminution to which it has been brought. The powder should be kept in perfectly tight glass vessels or tin boxes. It is a specific, according to the *Botanical Magazine*, p. 6781, in the case of aphides, house flies, and misquitos (or gnats), and if used with bellows is effectual in killing the common insects that infest plants in houses. The powder may be burnt in the treatment of rooms, wardrobes and greenhouses. The alcoholic extract diluted with water, the simple aqueous

solution or decoction are other forms in which it may be used. The disadvantages of insect powder are chiefly its transient effect and the necessity for actual contact with insects when used in the open air. Further, it has no effect on insects' eggs or hard chrysalises, on beetles with hard elytra, and on the vast class of hemiptera (true bugs), while hairy caterpillars and spiders of all kinds are proof against it.—*Kew Bulletin*.

Some Incompatibilities.

M. Mausier, writing in the *Centre Medical et Pharmaceutique*, of Gannat, says: The ever-increasing number of illogical prescriptions, or prescriptions written off without that care and deliberation that is to be desired, induces me to draw attention to certain incompatibilities of more or less frequent recurrence.

First and foremost, I would mention mixtures of tinctures. This class, being the product of the action of alcohol on vegetable principles, would at first seem to be peculiarly adapted to mixtures of the most complicated description, yet, as an actual fact, the opposite is the result. Thus we see, every day, tincture of calumbo associated with tincture of cola, or cinchona, or canella, tinctures gorged with tannin, which at once precipitate the active principle of calumbo (menispermine) and leave the mixture almost inert, on account of the loss, on the one side, of astringent and, on the other, of active principles.

Cocaine hydrochlorate should never be added to saturated chloroform water. Chloroform being much less soluble in water containing the cocaine salt than in pure water, the result of the addition of cocaine to the chloroform water is the precipitation of chloroform in very minute drops, which find their way to the bottom of the container. When it becomes necessary or desirable to use the combination, the chloroform water of 58 per cent. (or saturation) should be employed—or, if one *must* prescribe the saturated water, he should add either 1 per cent. of citric acid or 5 per cent. of alcohol to the mixture—both of which augment the solubility of chloroform in water.

I would add that saturated chloroform water, on account of this reaction, may serve as a reagent in the identification of cocaine. Of over a dozen of the alkaloids in common use tested by me, the salts of cocaine alone caused the precipitation of chloroform from its saturated aqueous solution.

Physicians and dentists are fond of prescribing a certain mixture of potassium chlorate and alum, or aluminum sulphate. Each substance has long enjoyed a certain popularity in the hygiene and therapeutics of the mouth and throat, but in the combination of the two, one risks the loss of a large amount of the effect which either of them, employed by itself, would achieve. In a mixture of their solutions, while no change, visible to the eye occurs, yet there is a chemical modification, in which chloride is set free, a fact easily demonstrated by any of the tests for free chlorine (amidonated potassium iodide, indigo sulphate, ammonium sulphocyanide and a proto-salt of iron, etc.).

This change is due, it is believed, to the action of the alum, or the aluminum sulphate, on the potassium chlorate (which is identical with that of a weak solution of sulphuric acid), and in which the liberated chlorine is converted into hydrochloric acid, gradually and continuously, as long as it is liberated. While it is possible, in spite of this, that the association of the medicaments may present certain therapeutical advantages, it is nevertheless important that the physician should be aware of the fact of the chemical change which takes place.

I would like to call especial attention to the following mixture, because there is nothing in the nature of the ingredients that would suggest an incompatibility between them, or, in fact, any inconvenience in combining them. I have had to put up, quite a number of times, a pomade containing, among other things, potassium iodide and mercurial ointment. Every time that this ointment is applied it produces an erythema, finishing with blisters.

Now, while, *a priori*, there would seem to be no counter indication to the mixture of potassium iodide, and mercurial ointment, nevertheless I have determined the existence in the unguent thus prepared, of mercurous and mercuric iodides, the two haloidal salts being formed simultaneously during the trituration of the substances, and not subsequently, as one would naturally imagine. Of this I shall have something more to say in a subsequent communication.—*National Druggist*.

A correspondent of the *Pharm. Centralh.* draws attention to the existence of vanilline in cork, and this opinion is confirmed by previous experiences of a Dresden chemist some ten years ago.