

The reagent must be made up freshly for each test.

*Sapo Mollis*, Test for "limit of free alkali" in.—A suggested improvement is as follows: Dissolve the soap in absolute alcohol with the aid of heat, filter, and reserve the filter and contents for the determination of potassium carbonate. Titrate the filtrate with N/10 oxalic acid using phenolphthalein as indicator, and calculate the alkalinity as potassium hydroxide (KOH).

Then place the filter and contents in a flask, add a little water, shake to dissolve the potassium carbonate, if any, and titrate with N/10 sulphuric acid, using methyl-orange as indicator. Calculate as  $K_2CO_3$ . Limits should be specified. We have seen many soaps which did not give an alkaline reaction with phenolphthalein, but did so with litmus.

In conclusion, we beg to state that if methods for the determination of alcohol in galenicals are to be adopted, we would be glad to submit a description of the methods used by us and the modifications which we have found necessary in applying them to different preparations.

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#### NOTE ON TRUE SCAMMONY AND MEXICAN SCAMMONY ROOT.

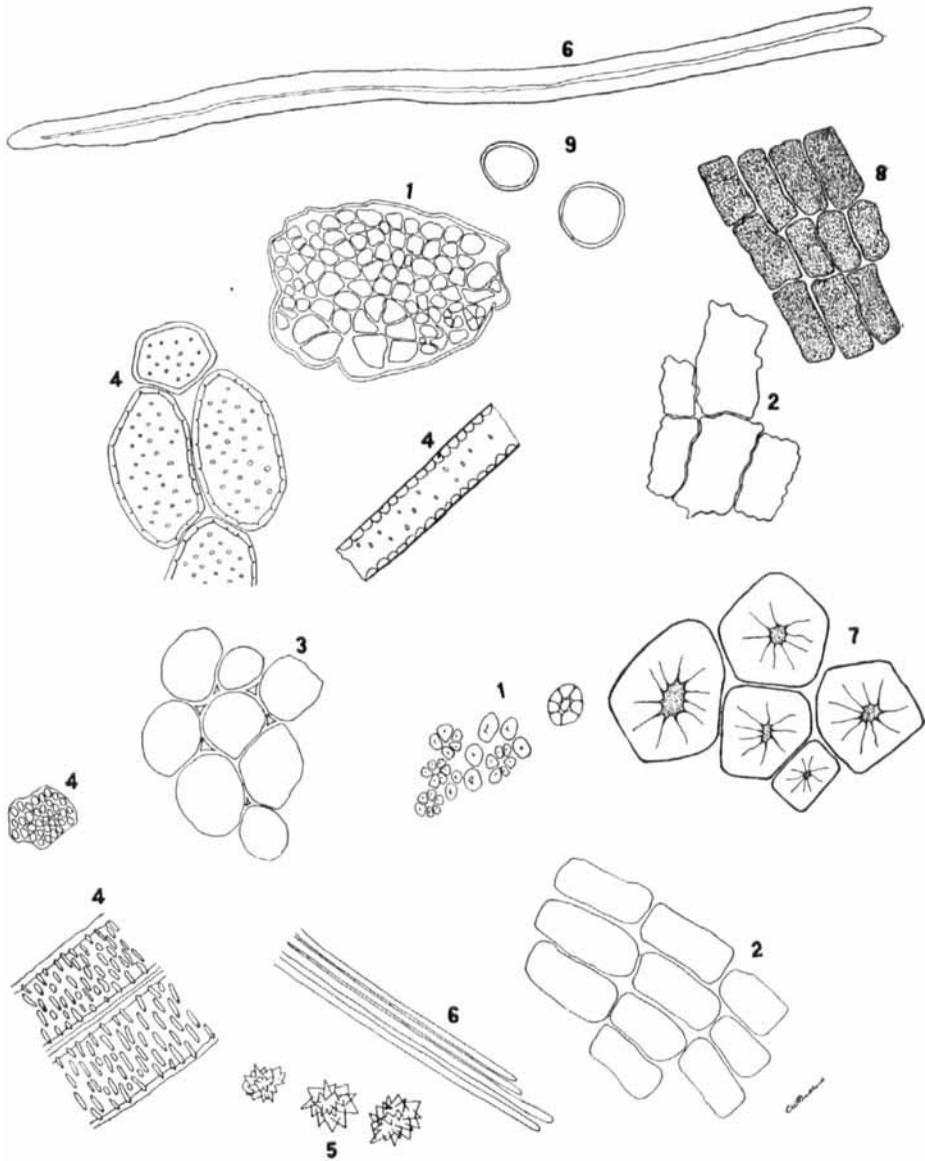
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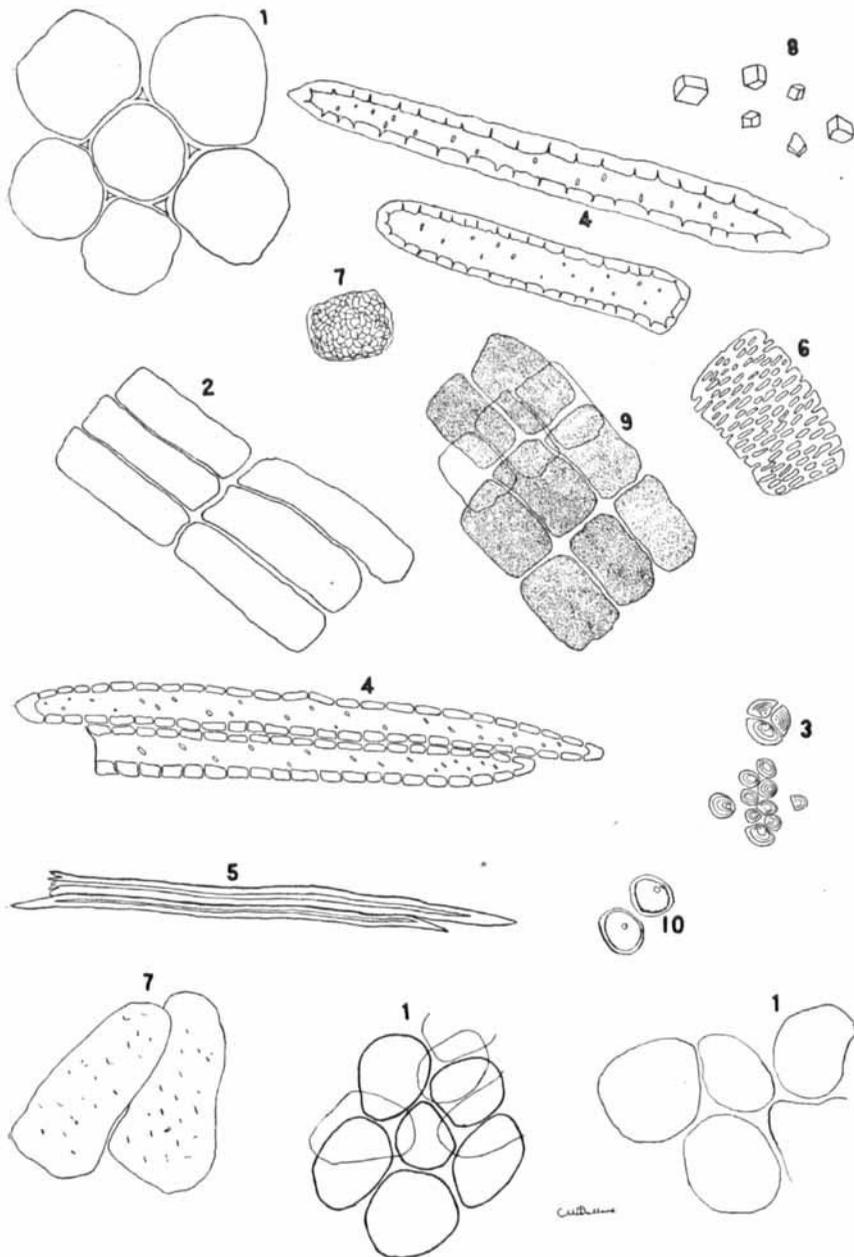
For the past year or two the root of *Ipomoeia Orizabensis* has been imported in large quantities under the name of Mexican Scammony root. The reason for this lies in the fact that the genuine scammony root is becoming scarcer and therefore higher in price than heretofore. Whether this root of *Ipomoeia Orizabensis* is identical with the genuine scammony in therapeutic effects and yields a resin having similar properties is a subject for pharmacologists to determine. There can be little doubt, however, that pending such determination it is hardly an ethical proceeding to market the Mexican scammony as the genuine article. It may be as good therapeutically but it sets a bad precedent and there is always the tendency to apply the same rule in the case of inferior substitutes. This results in the physician condemning the drug as unreliable or uncertain in action and such drugs ultimately drop into disuse not through any fault of their own but as the result of wide latitude in the use of other species supposedly as active as the official.

The subject of scammony is scarcely treated in text-books dealing with the subjects of powdered drugs and the Mexican variety is not even mentioned in most. This is not surprising because most of these volumes deal with the more common drugs and one can refer to any of them and find good descriptions of these. But when one tries to obtain references on drugs not in everyday use, he finds that they are lightly passed over in most cases and in many more are not mentioned. There seems to be great need of an abstract or index dealing with subjects of pharmacognosy, as at present one may spend days in search of light upon a certain subject and it is often more expeditious to work the problem out rather than search for material.



MEXICAN SCAMMONY.

- |   |                      |
|---|----------------------|
| 1. Parenchyma containing single and compound starch grains. | 5. Rosette crystals. |
| 1'. Separate starch grains.                                 | 6. Fibers.           |
| 2. Longitudinal parenchyma.                                 | 7. Stone cells.      |
| 3. Transverse parenchyma.                                   | 8. Epidermal tissue. |
| 4. Ducts and tracheids.                                     | 9. Oil globules.     |



TRUE SCAMMONY.

- |                             |                      |
|-----------------------------|----------------------|
| 1. Transverse parenchyma.   | 6. Section of duct.  |
| 2. Longitudinal parenchyma. | 7. Resin masses.     |
| 3. Starch grains.           | 8. Cubical crystals. |
| 4. Tracheids.               | 9. Epidermal tissue. |
| 5. Fibers.                  | 10. Oil globules.    |

Even in microscopic appearance there is considerable difference in the two roots, the Mexican being much darker and larger, usually transversely sliced to facilitate drying. The Mexican is also deeply ridged and furrowed externally. Upon breaking genuine scammony root we obtain a peculiar cheese-like odor which is entirely wanting in the Mexican, the latter having an odor somewhat resembling licorice root. Examining the broken or cut ends, a further difference is seen; the Mexican having well defined concentric rings of wood, the genuine has bundles isolated from one another. Then there is the difference in color; Mexican being dark dull brown, while the genuine is of a grayish white.

#### MICROSCOPIC APPEARANCE OF POWDERED MEXICAN SCAMMONY.

One of the most noticeable features of the powdered Mexican scammony root is the presence of a rather large number of rosette crystals. The fibers are long with comparatively thin walls. Few stone cells may be found, these being large and thick walled, with small cavity, having lines radiating from it. The starch which is plentiful has a cleft or dot hilum and in many cases the grains appear to be compound consisting of five or six granules. The parenchyma is of well defined cells usually filled with starch. Upon examination of several specimens of Mexican scammony root the oil globules were found to be fewer than in the genuine. The epidermal tissue presents nothing very noteworthy. The ducts and tracheids are all of the pitted or reticulate variety. Just beneath the epidermis there sometimes occurs a parenchyma with wavy walled cells.

#### MICROSCOPIC APPEARANCE OF POWDERED GENUINE SCAMMONY.

The genuine scammony root in powder may at once be distinguished from the Mexican variety by the presence of cubical crystals in fairly large numbers. The parenchyma is of the loose type having very few cells filled with starch. The starch is much less in amount than in the Mexican and smaller. The grains are single and compound, the latter consisting of two to four granules. A large number of thick walled tracheids are found, separate or in conjunction with fibers smaller and thinner walled than in Mexican. Oil and resin masses are present in large number. The ducts are not as numerous as in the Mexican variety but are of the same types. The epidermal tissue as might be expected is much lighter in color than in Mexican and the cells are smaller and more regular in shape. The resin masses and oil globules are yellowish in color.

#### ACTION OF REAGENTS ON THE TWO RESINS.

Upon trituration of the resins with water a milky fluid is obtained. The product appears to be identical in physical properties. There may be minor differences in composition as the following tests show.

Addition of potassium dichromate solution to the emulsion of the true resin gives an orange reaction. With the Mexican resin the same reaction is obtained at first, but the mixture rapidly darkens into a brown shade.

Upon addition of ammonia water the Mexican resin slowly precipitates; the genuine gives a yellow mixture.

Upon addition of ferric chloride solution followed by Lugol's solution a chocolate brown is obtained in the case of Mexican resin, and a black in the genuine resin.