

microns thick, striate, and unevenly papillate. No hypodermis corresponding to that of Buchu (HD) is found. The palisade layer (P) is made up of cells 90 microns long, and is followed by a layer of palisade-like mesophyll cells (MP) somewhat shorter than the first layer, and then by a mesophyll of spongy parenchyma (M). The lower epidermis (LE) is made up of comparatively small cells with moderately thickened walls. To this layer, long tubular and

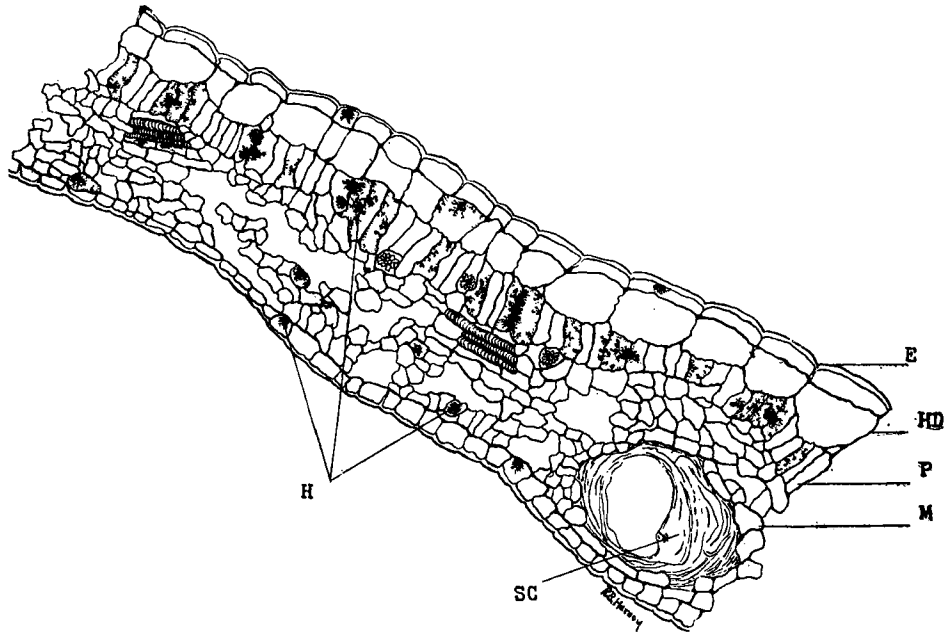


FIG. 2.

unicellular trichomes (T) are attached. These are intertwined and matted together and average 6 microns in diameter by about $\frac{1}{2}$ mm. long. A few brown secretion cells (SC) are found in the cross section but no hesperidin crystals (H) are shown. In powdered form the adulterant may be detected by the upper epidermis which has much thicker walls than those of Buchu, and by the unicellular trichomes which are everywhere in evidence.

BOTANICAL DEPARTMENT, ELI LILLEY & Co., August 5, 1913.

PHYTOCHEMISTRY IN AMERICA.*

III. WILLIAM THEODORE WENZEL.

NELLIE WAKEMAN.

It is so unusual to find a man who has not only lived his allotted three score years and ten, but has rounded out and passed a full four score and is still doing productive work, especially along scientific lines, that the mere existence of

*Nos. one and two under this caption have likewise emanated from the pen of Miss Wakeman, both sketches having appeared in the *Pharmaceutical Review* in 1908:

I—Helen Cecilia De Silver Abbott, *Ph. Rev.*, 26, p. 151.

II—Henry Trimble, *Ph. Rev.*, 26, p. 338.

such a man is worthy of more than passing notice. In the case of the subject of this sketch, however, not only his length of days but the scope and character of his whole life's work deserves consideration.

William Theodore Wenzell was born in Muehldorf, Germany, on the nineteenth of January, 1829. He came to America at an early age and was graduated from the Philadelphia College of Pharmacy in 1855. After graduation he removed to La Crosse, Wisconsin, where he practiced pharmacy and studied medicine, receiving the degree M. D. from the La Crosse Medical College in 1864. In 1872 he was appointed Professor of Chemistry in the Pharmacy Department of the University of California, and, in 1875, Professor of Chemistry and Toxicology in the Medical College of the Pacific, which institution conferred upon him, in 1876, the degree M. D. The University of California, in 1890, granted him the degree of Pharm. M., and made him, in 1898, Emeritus Professor of Chemistry of the Department of Pharmacy. In 1897 he became Professor of Chemistry and Toxicology in Cooper Medical College, and, in 1904, Emeritus Professor in the same institution. In 1899 Dr. Wenzell was appointed Chemist in the United States Appraiser's Department in the Customs House at San Francisco, where he was yet at work when the writer visited him last winter.

Professor Wenzell early became interested in plant chemistry and has retained this interest throughout his long and busy life. How great an attraction this line of chemical study has had for him is shown by a survey of the list of his published articles. Out of twenty-five original papers nine are upon plant chemical subjects while several others are upon closely related topics, such as the chemistry of individual alkaloids, the estimation of tannic acid, etc. Nor are these articles confined to any one period of his life, but are alternated with papers of a more purely medical or pharmaceutical character throughout a period of over fifty years, thus showing the continuity of phytochemical interest and research.

His first work, conducted at the Philadelphia College of Pharmacy and published in the American Journal of Pharmacy, in 1855, was A Proximate Analysis of the Tubers of *Corydalis Formosa*. This was followed by the Proximate Analysis of the Bark of the Root of *Euonymus Atropurpureus*. Then came, in 1864, an article to which he reverts with perhaps more of satisfaction than to any other of his published work. This is his paper on the Active Constituents of Ergot of Rye, announcing the discovery of two new alkaloids and naming them *ecboline* and *ergotine*. Nearly fifty years later, in 1910, when more than eighty years old, he published another paper on Ergot: *Ergoxanthin*, A New Active Principle Found in Ergot.

Besides this work in the proximate analysis of plants and the investigation of alkaloids and related compounds, Dr. Wenzell has conducted researches upon the volatile oils of the cone bearing trees of the Pacific Coast. He has also long been interested in plant pigments and has made some valuable contributions to the knowledge of the colored constituents of plants. A complete list of his phytochemical papers is appended.

1855. Proximate chemical analysis of the tubers of *Corydalis formosa*. *Am. Journ. Pharm.*, 27, p. 205.

1862. Proximate chemical analysis of the bark of the root of *Euonymus atropurpureus*. *Am. Journ. Pharm.*, 34, p. 385.
1864. On the active constituents of ergot of rye. *Am. Journ. Pharm.*, 36, p. 194.
1872. On Abietene, a new hydrocarbon. *Proc. Cal. Pharm., Soc.*
1884. On the volatile oils of *Chamaecyparis lawsoniana* (Oregon Cypress), *Proc. Cal. Pharm. Soc.*, 1884, p. 31.
1889. A contribution to the knowledge of the coloring matters of flowers. *Proc. Am. Pharm. Assoc.*, 37, p. 244.
1894. On a chemical and spectroscopical analysis of the coloring principles in the leaves of the red cabbage. *Pacific Druggist*.
1908. A contribution to the knowledge of the coloring matters of flowers. *Pacific Pharmacist*, 1, p. 446.
1910. On ergo-xanthein. A new active principle found in ergot, with a brief historical summary of the discovery of the alkaloids of ergot. *Am. Journ. Pharm.*, 82, p. 410.

CONTRIBUTED FROM THE PHYTOCHEMICAL LABORATORY OF EDWARD KREMERS,
Madison, Wis.

FIFTY YEARS IN PHARMACY.

May 1, 1913. Today fifty years ago I was sworn in as an apprentice in Bremerhaven and have kept it up ever since. I believe I am the only one in Chicago who has continuously kept at it as long as that. I could write pages on the changes in pharmacy. When I discovered Milwaukee, in 1867, we had no fluid-extracts. Now they're almost extinct again; then we had no ready-made pills, now, more than too many. Then we all made most of our own galenicals; now——? Well, the less the average druggist makes, the better, taking into consideration the stupidity and cupidity of a great many of our men who make iodine tincture of 0.01% strength. Heavens! What might their tincture of nuxvomica and digitalis be? I am ready to be burned as a heretic, but give me a preparation made on a large scale from assayed or examined crude drugs by any of the reputable large manufacturers. That may not be good propaganda music, but them's my sentiments. And so the changes in other ways have worked wonders. Debates and arguments in journals are more decorous than half a century ago, when the Chinese methods of making faces and throwing stink bombs were yet in vogue, but mud is a poor substitute for argument, according to my old school-mate Bismark.—*W. Bodemann.*