THE HOP AND ITS CONSTITUENTS: A MONOGRAPH ON THE HOP PLANT

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The Hop and Its Constituents: A Monograph on the Hop Plant by Alfred C. Chapman

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ALFRED C. CHAPMAN

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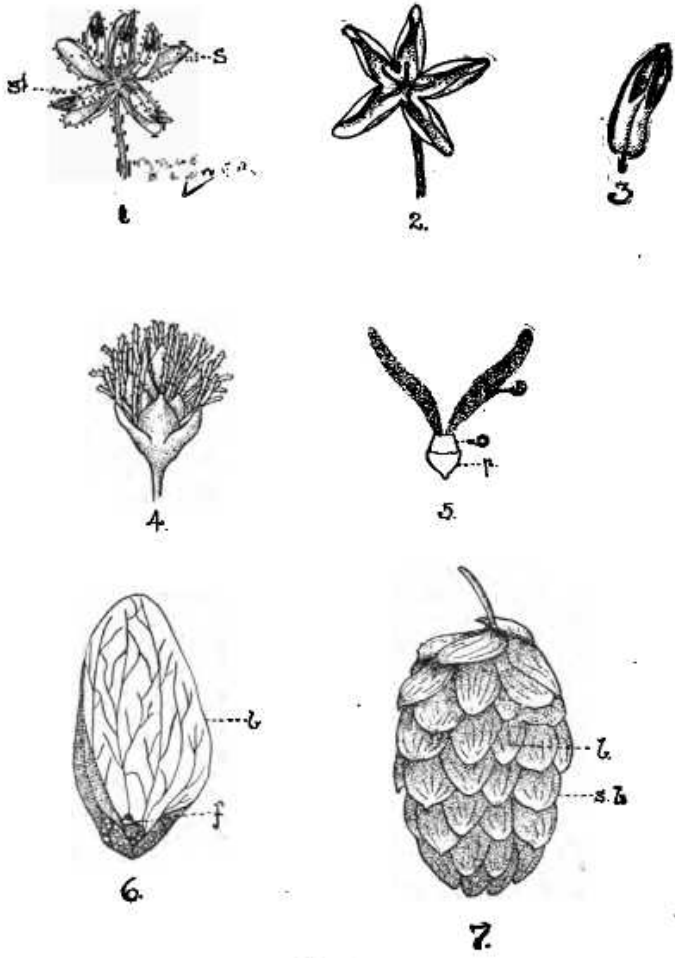

FIG. 1.

1.—A male hop flower. *s* Perianth (sepal) *st* stamen.
2.—Perianth of male flower with anthers removed; the fine short filaments are visible.
3.—A stamen showing the dehiscence of the anther.
4.—A young female inflorescence (a hop "in burr") showing the stigmas ("brush").
5.—A complete female flower. *p* The cup-shaped perianth; *o* ovary; *s* stigma.
6.—A bracteole (*b*) surrounding the ripe fruit ("seed") *f*.
7.—A ripe hop showing the stipular bracts (*s b*) and bracteoles (*b*).
(1—6 × 3, 7 natural size.)

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A MONOGRAPH ON THE HOP PLANT

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INTRODUCTORY.

NEARLY a century has elapsed since the constituents of the hop cone first attracted the attention of Chemists, and the fact that we are only now beginning to understand the principal chemical characters of some of those constituents and the rôles they play in the brewing process, is in itself the strongest evidence of the magnitude of the difficulties which have been encountered. Seeing that the constituents in question (resins, bitter principles, essential oil, tannin, &c.) are among the most complicated substances with which the Chemist has to deal, it is not surprising that the older investigators were, as a rule, very wide of the mark, and that many of the earlier statements were hopelessly incorrect. During the past decade a number of Chemists have devoted attention to the investigation of the more important hop constituents, with the result that a great deal of definite information has been gained and many of the old errors cleared away. Nor has the knowledge thus acquired been merely of scientific interest, for it has thrown much light on the part played by the hop in the manufacture of our national beverage, and has already found industrial application to the great advantage both of the hop-growing and of the brewing industries. That there is much that is still doubtful and obscure is unfortunately true, but the rapid progress which has been made during recent years justifies the hope that before very long the existing gaps in our knowledge will be filled. About a year ago the Management of the *Brewing Trade Review* conceived the idea of publishing a series of articles dealing with the Chemistry and Natural History of the Hop Plant, each article to be written as far as possible by someone possessing special knowledge of the particular

portion of the subject entrusted to him. These articles having duly appeared in the pages of the *Brewing Trade Review*, it was suggested that it would be an advantage to many who are directly or indirectly interested in the hop plant if a more permanent and more easily accessible form were given to them. This little monograph—the outcome of the above suggestion—is therefore primarily intended to indicate to those who may be interested in the subject the present state of our knowledge in regard to the more important constituents of hops; the articles coming, with one or two exceptions, from the pens of the investigators themselves. Whilst, therefore, it does not aspire to be regarded as a text-book it is hoped that this little work may have a sphere of usefulness as an appendix or supplement to more systematic treatises.

ALFRED C. CHAPMAN.

LONDON, *October, 1905.*

TABLE OF CONTENTS.