

ENTYLOMA SEROTINUM CAUSING SMUT DISEASE OF BORAGE IN BRITAIN

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There has been an extraordinary revival of interest in growing herbs in Britain in recent years. Popular magazines urge the "green" person to "have a go" with herbs and there are now innumerable small herb gardens, patio-pots full of herbs, as well as herbs growing in pots on kitchen window-sills! Churches and abbeys (influenced by the flow of Ellis Peters books based on the Abbey Church at Shrewsbury and the remarkable herbalist monk Brother Cadfael) have quite elaborate herb gardens. New reconstructions of old gardens and open air museums must have herb gardens "as they used to be".

Most readers will recognise some fungi on herbs, such as mint rust caused by *Puccinia menthae*. It is likely that other fungi on herbs, about which we know very little, can now be recorded and new ones discovered in herb gardens.

In the summer of 1991 a herb garden was visited near Chichester in Sussex, and *Borago officinalis* growing there seen to have small round dark spots on the lower leaves. Microscopy revealed masses of globose spores in the parenchymatous tissue under the spots. The spores were almost colourless, 10 to 15 microns in diameter with an inner and outer wall. Consultation of CMI Description No.962 confirmed that these were the ustilospores of a smut fungus-*Entyloma serotinum* Schröter. Dr. Elizabeth Mordue of IMI confirmed this and passed on much useful information.

Recorded on Comfrey, *Symphytum* sp. in 1961 (IMI 186951) this smut has not been seen before in Britain on Borage. There are accessions at IMI from Germany (IMI 329907) and from "Lusitania" (IMI 267289) on Borage. *Entyloma serotinum* causes smut diseases of a number of genera such as *Symphytum*, *Borago*, *Mertensia*, *Pulmonaria* and *Myosotis* across the world but it is likely that each genus is affected by a biologically different form of the fungus, so the smut cannot spread from one genus to another. By analogy with other smuts, that on borage is likely to survive in plant remains through the winter. During the growing season conidia will be produced in large numbers from the spots and spread to other leaves and plants by air currents or water splash.

As well as Dr. Mordue, we would like to thank Christopher Zeuner O.B.E., Director of the Weald & Downland Open Air Museum, for providing us with more material. The affected plants were destroyed, but herbarium material has been deposited at IMI.

Have you examined your herb garden lately?

REFERENCE

MORDUE, J.E.M. (1988) *Entyloma serotinum*. CMI Descriptions of Pathogenic Fungi and Bacteria No. 962. International Mycological Institute, Bakeham Lane, Egham, Surrey TW20 9TY.