MEDICINAL PLANTS

Squill

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Squill consists of the sliced and dried scale-leaves from the bulb of Drimea maritima (L) Stearn (formerly known as Urginea Maritima) family Liliaceae, a plant indigenous to Malta and to the countries bordering on the Mediterranean, and frequently appearing in great numbers on rocky wastelands.

Early Use of Squill

The medicinal value of squill **(Drimia maritima** (L) Stearn) heas been recognised since early classic times; ancient Greek and Egyptian physicians were well acquainted with its therapeutic properties and used it to cure various ailments. Pythagoras who lived in the sixth century before Christ appears to have combined it with honey and thus pioneered the use of oxymel of squill which is still used today as a remedy for coughs (Grieve, 1959). Another indication of the early use of squill is found in a manuscript dating back to the sixth century before Christ, which shows a detailed drawing of the squill plant (Stoll, 1937); Dioscorides, who was responsible for this manuscript, goes on to describe the different varieties of the squill bulb and gives directions for producing vinegar of squill. Squill was also mentioned by Theophrastus in the third century before Christ, and another Greek physician, Epimenides, is recorded as having made frequent use of squill (Fluckiger and Hanbury, 1879). The Arabs who followed the Greeks in the utilisation of certain plants for medicinal purposes, called the squill bulg "Basal-el-unsal", which is very similar to the Maltese name of "Basal tal-(Għ)ansal". The Arabs appear to have often used squill combined with honey, and went on to introduce it into European medicine (Dymock, 1972).

Official Name

Linnaeus (1707-78) had originally named this plant as **Scilla maritima**; the generic name **Scilla** may be derived from the Greek word meaning to excite or to disturb and it is held that this name was chosen in recognition of its emetic properties (Grieve, 1959). **Maritima** is an obvious allusion to its usual habitat close to the sea. Steinheil, however, in 1834, after carefully tudying the plant in its Algerian environment, removed it from the genus **Scilla** and placed it within the genus **Urginea** which he had named after the local Algerian tribe **Ben Urgin.** Steinheil retained the word **Scilla** in lieu of **maritima** and squill became officially known as **Urginea scilla** Steinheil, until Baker replaced once again the word **Scilla** with **maritima.** For a considerable number of years, squill was officially known as **Urginea maritima** (L) Baker. This name survived until 1979 when Dr. Cutler at the Royal Botanic Gardens, Kew, reclassified it as **Drimia maritima** (L) Stearn. This new official name appeared in the Pharmaceutical Codex 1979, and in the Addendum 1981 to the British Pharmacopoeia 1980.

The name **Scilla,** as well as the term **"White Squill"** are used as secondary common names in Pharmaceutical reference books; these include the British Pharmacopoeia 1980, the Pharmaceutical Codex 1979, Martindale 1977. The term **"White Squill"** appears to have been adopted in common usage to distinguish the white bulb commonly used in medicine from the red variety of Drimia maritima which is mainly utilised as a rat poison.

Use of Squill

The wide use of squill in medicine is reflected in its inclusion in a large number of national Pharmacopoeias including those of Argentina, Britain, Chile, Czechoslovakia, Egypt, France, Federal Republic of Germany, Hungary, Portugal, Romania, Spain and Switzerland. In its long history of medicinal application, squill has been used as:

(i) an emetic
(ii) a diuretic
(iii) a cardiac tonic
(iv) an expectorant
(v) a rodenticide

Squill Glycosides

Proscillaridin seems to be the most widely used of the cardiac glycosides obtained from

squill; Martindale (1977) quotes the effective and reliable use of proscillaridin in congestive heart failure in 49 patients to whom it was given in doses of 500 to 750 ug every 8 hours. This treatment was considered safe despite the fact that 9 out of 17 patients on the lower dose, and 24 out of 32 on the higher dose developed anorexia, nausea, vomiting and diarrhoea. Proscillaridin has a rapid onset of action in cardiac failure and a short duration of action. In mild and moderate heart failure it could be given by mouth in which case about 20 to 40% of a dose are absorbed; in severe heart failure, two intravenous doses are required every day, (Martindale, 1977).

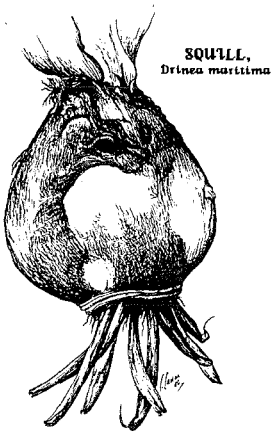
The antiviral activity of Scillarenin, one of the glycosides found in squill, was investigated in Japan by Sato and Muro (1974). It was found that scillarenin selectively inhibited the multiplication of picorna viruses, in particular rhinovirus. Since the rhinoviruses are responsible for the most frequent of human infection, the common cold, the administration of a squill expectorant in conditions precipitated by a common cold, could have the added benefit of containing the growth of the causative microbiological agent. This phenomenon appears to explain the effectiveness of squill preparations as a remedy for coughs resulting from a common cold.

Local Use of Squill

Squill has been known and used in Malta probably as early as the Arab occupation of Malta in the tenth century; the close similarity of the Maltese and Arab names, as well as the historical association of Arabs with the introduction of squill into European medicine, support the view that squill, which is indigenous to Malta was adopted for medicinal purposes during that time. According to information collected from the older inhabitants of rural districts who are familiar with some forms of herbal medicine as practiced in their yotuh, squill was formerly extensively used as a diuretic and an expectorant. The use of squill as a diuretic and an expectorant is also recorded by Borg (1927) and by Cassar (1965). The direct use of squill at present appears to be insignificant as its use has been superceded by other expectorants or by local honey.

Conclusion

Malta has always featured prominently as one of the main geographical sources for squill. This was probably due to the abundance of wild



stocks, good transport facilities between Malta and London, as well as the good reputation which the Maltese product had earned on the British markets. All the supplies are obtained from squill growing wild in various rocky wastelands in Malta.

In recent years considerable land which used to produce wild stands of squill has been taken over for afforestation, agricultural activity or urbanization. Moreover, the actual collection of squill has become exceedingly expensive considering the significant increase in the national minimum wage. As a result, the collection from the wild stands poses a serious problem; not only in collection, becoming an uneconomic proposition but the actual source is in fact decreasing in volume. The Cassar family who have enjoyed a complete unasked for monopoly over the collection of squill over the last 25 years is bitterly complianing that sooner or later export of squill from Malta will have to cease. The fact that the Indian squill is now accepted officially betrays the fact that the Maltese source is not meeting the demands for squill on the London markets.

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