

Anastatica hierochuntica

ROSE OF JERICHO is an annual. Native from Morocco to southern Iran it has tiny white flowers.

It is also known as *Garvaphul* (Hindi), Holy family's rest, *Jerikonruusu* (Finnish), *Jerikoros* (Swedish), Mary's flower, and Resurrection plant.

During drought the seeds mature, the leaves drop and the branches collapse inwards in the dry atmosphere to form a hollow, lattice-like ball. The stem snaps off at ground level permitting the wind to blow the ball across desert or arid plain. (Hundreds of these balls collect and the sight of them tumbling over and over in the wind is said to have been sufficient to frighten livestock caught in their path.) The openwork balls are only halted in their flight by muddy areas, water or the rainy season when they rapidly absorb the moisture that then opens the branches out again.

Hierochuntica means 'of or from Jericho'. *Hiericho* is a spelling of the classical name for Jericho.

Much of the interest connected with the Rose of Jericho depends upon its ability to revive as it absorbs moisture in its dried out branches. This mechanism is central to its association in Christian lore with stages in the life of Jesus Christ (c.6 BC-c.30 AD). Some Christian communities have held that the plant first bloomed in greeting at Christ's birth, closed at His Crucifixion and bloomed again at His Resurrection.

Some authorities claim that Rose of Jericho was first seen in western Europe from about the 11th Century when some of the Crusaders began to return home from their battles in the Middle East. They brought some of these dried plants back with them as symbols of resurrection. Similarly later pilgrimages to the Holy Land have often been marked by the ball-like plant which has been taken home as a memento. And to this day the dried plants can still be found on sale in the local area as tourist curiosities.

For some local people Rose of Jericho also held miraculous qualities. Just before a child was to be born the mother-to-be would be presented with the sight of the expanding plant (that had just been placed in water) to ensure an easy childbirth.

In the early 21st Century the mechanism known as anhydrobiosis which is common to relatively few plants in the world (and which enables a dead-looking rose of Jericho to regain its former glory when it absorbs moisture) has been the inspiration for a new process for producing vaccines which would avoid the need for their refrigeration from the time of their manufacture to that of their use – and the consequent need for a power supply during this period and cumbersome transportation arrangements. In late 2004 some scientists in Cambridge (England) revealed that they believed they had developed a viable technique for manufacturing heat-stable vaccines based upon this mechanism. From about the 1980s many researchers all over the world had been attempting to find such a process – and other ideas had actually been considered in the late 20th Century. Despite all efforts made to reach as many places as possible it was estimated that over a third of the world's population lived/live in villages so remote as to be completely inaccessible (let alone devoid of a power supply for refrigeration), while for those places in extremes of freezing or extremely hot temperatures which are to this date accessible much vaccine is/was wasted through contamination or the inability to maintain

refrigeration because of intermittent power. (Some authorities believed that over 2 million babies died each year because of the lack of vaccines – a figure which took no account of the number of children and adults in those areas who also faced death because of the absence of the appropriate medication.) Thus a heat-stable vaccine would not only save millions of pounds but far more importantly millions of lives. If this new manufacturing technique proved to be successful it would no longer be necessary to keep vaccines refrigerated from the point of manufacture to their destination (referred to as the ‘cold chain’) and would make them easily transportable.