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Natural History Notes



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The Ladyslipper



Showy Lady Slipper



Moccasin Flower

The ladyslipper is a member of the orchid family which is the largest and most diverse of all plant families. The approximately 20,000 species of this family include almost one-tenth of all the flowering plant species. Orchids are found from Alaska to southern South America. They occur very near the limits of vegetation, from sea level to almost three miles above. There is one species that grows completely underground. The individual plants may be as small as a dime or up to one hundred feet tall.

One characteristic of the *Orchidaceae* (orchid family) is the large number and small size of seeds. Some species of orchids produce seeds so small you would need about 1-1/2 billion to make up a pound. One orchid plant produced over three million seeds in one seed pod. With orchids being so prolific and widespread, it's a wonder they haven't overrun the earth. One problem is the seed itself. An orchid seed carries no nutrients and cannot start to grow on its own. To get started, the seed needs a certain fungus. If contact with this fungus is not made, the seed is wasted.

The second problem is the production of fertilized seed. The orchid seems to avoid self-fertilization at all costs. This means pollen from one plant must be carried to another. An insect is generally the means for this cross-pollination.

The flower uses a wide variety of ways to attract an insect. One orchid blossoms each year just as the males of a certain species of insects emerge from underground. The orchid flowers closely resemble the female of this particular insect species, both visually and by smell. The male insects are attracted to the flowers and as they attempt to mate with them the insects pick up pollen. The insect is frustrated in his attempt so he goes on to another orchid flower and tries again. He deposits the pollen from the first and picks up more pollen which ends up at another orchid. The orchids get pollinated and the insect gets frustrated. When the female insects emerge from underground the males avoid the orchids. You can see this process requires a precise sense of timing. If the flowers bloom one week too late, the number pollinated is considerably reduced.

This is just one example of the reproductive adaptations of the orchid. Others include mimicking the smell of carrion to attract insects, "shooting" pollen at an insect, plus various hinges, flaps and obstacle courses for the insect to traverse. These adaptations all aid on cross-pollination.

Here in Wisconsin we have several types of orchids. One found in this area is the Pink Ladyslipper or Moccasin flower. It is found in cool bogs, sandy plains and moist grasslands. The ladyslipper seems to prefer a rich moist soil with a neutral pH and partial to full sun.

The plant itself is a perennial, about 10" - 30" tall. The leaves are broad and many-veined. There is a single pink flower. The labellum, or lower petal, is a large inflated slipper-like sac. Hence the name "lady-slipper." The flower is a trap flower, meaning there is only one way out of the blossom. The insect deposits the pollen from a previous flower before picking up more pollen.

The ladyslipper is a slow-growing plant that is easily eradicated by overpicking. It is also extremely difficult to transplant. For these reasons enjoy the ladyslipper in its natural habitat and leave it there for others.