standard work on the carnivorous plants. We normally include it in the itineraries of visiting botanists—either individuals or those attending symposia in this part of the world.

The Reserve consists of two low, sandy ridges separated by swampy flats; the ridges are probably remnants of old sand dunes formed some 100,000—300,000 years ago. The vegetation is a complex mosaic of plant communities in which, according to Dr. N.H. Speck, changes in structure and species composition usually reflects small changes in ground level. The floristic importance and interest in the Reserve and its environs is further illustrated by the fact that the current species list contains 459 species, of which 20 are from the carnivorous group.

Since the Department acquired the land, the Reserve has provided material and data for numerous undergraduate student projects in various aspects of botany, and first year students are taken on excursions to the area. Currently it is used in several Honours, MSc and PhD projects involving, for example, investigations into the flowering times and periodicity of the ridge species, relationships between leaf characteristics and environment, pollination, water relations of selected species and changes in population structure of tuberous species.

Our main problems have been maintaining fences; localized weed invasion [especially *Gladiolus, Romulea* and *Watsonia*] particularly along the firebreaks; dumping of rubbish on the boundries; and occasional instances of trespassing and vandalism. The developments which have taken place on adjoining land will presumably alter the groundwater table in the Reserve to some extent, but at this stage we are not able to disentangle any such changes from those due, for example, to the unpredictable nature of our climate. We expect in the future to have to face the difficulties of more intensive management of a reserve in an urban area, but we do hope that for many years to come Cannington Swamp and its interesting flora will be available through the Botany Department for inspection by visiting botanists, and for use in teaching and research work at this University.

On the Names of the Venus's Fly Trap

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The scientific name *Dionaea muscipula* and apparently also the common English name Venus's fly-trap were coined by the English amateur naturalist John Ellis, and were used by him in a letter he sent to the famous Swedish botanist, Carl Linnaeus, on September 23, 1768. This letter, translated into Latin [perhaps by Linnaeus], was published in the Nova Acta Regiae Societatis Scientiarum Upsaliensis, Vol. I, pp. 98-101, either in 1770 or 1773 [authorities differ]. In the published version of the letter, the names were set out thus: "Dionaea,*Muscipula.* Anglice [i.e., in English],*Venus's Flytrap"*

A few years earlier, when the plant was known only as a dried specimen, Daniel Solander, a botanist and friend of Ellis's, had suggested the name *Dione* for it, but Ellis told Linnaeus that he had thought *Dionaea* to be more correct, since he had given the name of Venus to it in the English name. The goddess Dione, according to one myth, was the mother of Venus [Aphrodite] by Jove [Zeus], but both the Greeks and the Romans gradually came to apply the name Dione more frequently to the daughter [Venus] than to the mother. The adjective "Dionaeus", originally meaning "of or belonging to Dione [the mother]", likewise came more commonly to mean "of or belonging to Venus". In using *Dionaea*—the feminine form of the word—as a generic name, Ellis apparently intended it to mean "daughter of Dione" [literally, "a female related or belonging to Dione"], therefore "Venus".

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ON THE NAMES...

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Since Ellis coined the English epithet "fly-trap" for the plant, and since the Latin word for fly is "musca", one might assume that the Latin epithet *muscipula* meant "fly-trap". In actuality, *muscipula* means "mouse-trap", being derived from "mus" [mouse] and the verb "capere" [to capture]. If there were an analogous Latin word meaning "fly-trap", it probably would be spelled *muscicipula*. However, it seems unlikely that Ellis—and even more unlikely that Linnaeus—did not appreciate the true meaning of the word, and we must assume that they used it deliberately.

As it turned out, the publication of *Dionaea muscipula* in the Nova Acta turned out not to be the *first* publication of the name. Ellis had given Linnaeus the impression that he did not intend to have it published elsewhere, and so Linnaeus arranged to have it published in the Nova Acta. Shortly before it appeared in print there, however, Ellis published [1770] the name, with description and illustration, in a work of his own: "Directions for bringing over Seeds and Plants from the East Indies and other distant countries...To which is added the figure and botanical description of a new sensitive plant, called *Dionaea muscipula*..." This is a thin little book, only 44 pages long, and is quite rare; I have not seen it, myself.

CP ON TV

On May 19, 1980, Monday night, a TV program called **THAT'S INCREDIBLE** had a ten minute segment of CP. The film shots were probably from years ago. Henry Rehder [of *S.* x *rehderi*] was one who brought some plants and described how they worked. He is an old nurseryman from Wilmington, North Carolina who knows his plants, especially the *Sarracenia*. He was instrumental in exploring the Green Swamp area and guiding several researchers to many CP in the area. He made a good presentation of CP and we wish him many good years.

HOW VFT CATCH...

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the trigger hairs where it is free to stimulate them and literally seal its doom. Continued stimulation of trigger hairs by an insect, nylon bristles or anything else for a number of hours will cause secretion of a fluid with an acid pH of about 2. This fluid kills the insect shortly after secretion begins.

At this point the stimulation of trigger hairs stops and the decomposition of the insect begins. Insect hemolymph [a fancy name for blood] leaks from the prey. This fluid is high in sodium ion [salt] and amino acids. Frank Lichtner and I have shown that traps are stimulated to close by these substances. Release of more amino acids and perhaps ammonium ion would occur once the prey's muscles begin to decompose. This chemical stimulation serves to keep the trap closed until digestion is complete.

Darwin tested a number of proteinaceous substance such as meat and egg white on *Dionaea* and claimed they stimulated closure. Most of the substances he tested would not have been salt free. Salt free egg albumin does not stimulate closure so it appears that salt in proteins and breakdown products from proteins such as ammonium ion and amino acids stimulate closure but that proteins themselves may be ineffective.

How the chemical stimuli act on the trap is not clear but a good guess would be that they are taken up by the digestive glands and cause the production of a plant hormone. Electrical signals are not produced once the insect stops struggling so the continued action on the trap must be due to stimulation by chemicals. When there are no more mechanical or chemical stimuli the trap reopens and awaits its next capture.

(to be continued)

COMING IN DECEMBER

—MORE *Dionea*

—GROWING CP UNDER LIGHTS

—CP GROWING IN CENTRAL FLORIDA