

# A Preliminary Report on *Drosera intermedia* X *D. capillaris*

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While botanizing Pender County, North Carolina in November 1984, Jim Darlack and I discovered a colony of robust *Drosera* with prominent winter hibernacula.\* These unusual *Drosera* were interspersed between colonies of *D. intermedia* and *D. capillaris* in a sand seep off route 17. Some individuals were more than sixty-two millimeters in diameter, larger than many *D. intermedia* or *D. capillaris* in the vicinity. Additional noteworthy characteristics of the *Drosera* were wide glabrous petioles with a blade intermediate between *D. intermedia* and *D. capillaris*. The hibernaculum was similar to a winter bud of *D. intermedia* and measured six to seven millimeters in diameter. The growth habit was a prostrate rosette. Several specimens of this unusual *Drosera* were collected and brought into the Sheridan and Darlack collections for further study. The Darlack plants were grown through the winter of 1984 producing small white flowers.

Upon learning of the discovery of this unusual *Drosera*, Dave Butler and Bill Scholl expressed an interest in seeing the plant in its native habitat. Mr. Butler has been studying *Drosera* hybridization and the possibility of a new hybrid was something to be investigated. On May 12, 1985 the sand seep was revisited and a note was made of some of the interesting flora and habitat. The bog was observed to slope eastward from route 17 into an area cleared and fenced by a landowner. The unusual *Drosera* were growing in a site moderately pastured by horses. Shrubs were few, small and widely scattered. *Sarracenia flava*, *S. rubra*, *D. intermedia*, *Utricularia cornuta* and *Lycopodium sp.* occupied the wet depressions while *D. capillaris*, *D. brevifolia*, *Pinguicula caerulea*, *Dionaea muscipula* and *Polygala lutea* preferred the moist areas and pastured hummocks. Several species could be found throughout the bog in both wet and moist areas. The unusual *Drosera* were found in the areas where water oozed over the exposed white sand and peat. Adventitious plantlets were noted on at least one unusual *Drosera* and have previously been reported on other *Drosera* hybrids. (Wood, 1955; Butler, 1985). The growth habit of the unusual *Drosera* was noticed to be quite different from what had been seen in the fall of 1984. The plants now displayed an upright rosette yet lacked the characteristic long stem of *D. intermedia*. Several specimens of the unusual *Drosera* were collected by Butler and Scholl at this site. An additional colony of unusual *Drosera* was located later in the day off route 130 in Brunswick County. Collections were made from this site and specimens eventually given to John Hummer and Larry Mellichamp.

Variability in *Drosera* hybrids is not unknown. Kutt, Schnell and Sivertsen (1974) have noted that the punative hybrid *D. intermedia* X *D. filiformis* in the New Jersey Pine Barrens is somewhat variable. Wood states that the hybrid *D. linearis* X *D. rotundifolia* is "morphologically intermediate between the two species, but in a few characteristics resemble one or the other species more strongly."<sup>1</sup> In the case of the unusual *Drosera* the petiole is reminiscent of *D. capillaris* while the blade is intermediate between *D. intermedia* and *D. capillaris*. The summer growth habit of an upright rosette mimics *D. intermedia* yet the short stem shows traits of *D. capillaris*. The prostrate rosette in fall reflects *D. capillaris* with the winter hibernaculum being a characteristic of *D. intermedia*.

These unusual *Drosera* have now been grown for several years by Butler, Darlack, Hummer, Scholl and Sheridan. After discussion by all, it is agreed that this unusual plant is an unreported *Drosera* hybrid, *D. intermedia* X *D. capillaris*. The characteristics of hibernaculum, wide glabrous petioles, intermediate blades, growth habit and small white flowers all suggest that hybridization has indeed occurred between *D. intermedia* and *D. capillaris* in coastal North Carolina. The only other possibilities to explain these unusual

*Drosera* would be a new species, growth form or another *Drosera* hybrid. The large number of *D. intermedia* and *D. capillaris* all growing normally in the same habitat is not suggestive of a growth form. *Drosera* species were found growing in habitats ranging from full sun to partial shade. Although etiolation does take place in the shade, species are easily recognized. Moreover, the hybrids were growing in full sun which would rule out etiolation as a factor. The small number of specimens and intermediate characteristics would argue against a new species. The only other sundews in North Carolina that could be regarded as possible parents are *D. brevifolia*, *D. rotundifolia* and *D. filiformis*. Aside from the morphologic differences and the absence of two of these sundews from the bog, examination of the flowers of the *Drosera* hybrid disclosed features possessed by only *D. intermedia* and *D. capillaris*. Wynne states the seeds of sundews "are beautifully distinct and offer a great aid in identification ... by means of stipules and seeds the species of *Drosera* in eastern North America are easily separated."<sup>2</sup> Therefore intermediate seeds would mean a hybrid between *D. intermedia* and *D. capillaris*.

In the fall of 1986 a fruiting specimen of the sundew hybrid was brought to me by Bill Scholl for analysis. These plants were taken to the George Mason University Herbarium where the curator, Dr. Ted Bradley, kindly allowed me to use the dissecting and compound microscope. My friend Mark Strong assisted in the examination. The scape measured 10cm tall with six flowers. The inflorescence was noted to emerge horizontally before curving upward as in *D. intermedia*. The capsules measured 4-5mm and surpassed the calyx like *D. capillaris*. Seeds were brown as in both parent species with the oblong shape of *D. intermedia* and the corrugated ridges of *D. capillaris*. The seeds measured .3-.4mm long with undeveloped papillae. I believe the small size and withered nature of the seeds reflects their possible sterility. Whether the seeds are actually sterile or not will be reported at a future date along with a more detailed study of the sundew hybrid.

When the data provided by flowers and seeds is added to the intermediate characteristics of the leaves, I believe the case for *D. intermedia* X *D. capillaris* is quite convincing. Additional taxonomic and cytologic work is still needed on this hybrid sundew and I would welcome requests for specimens for serious scientific study.

## Acknowledgements

I would like to thank Dave Butler for his comments and suggestions and Brian Kahn for obtaining copies of the Wood and Wynne articles.

### Footnotes:

1. Carroll E. Wood: Evidence for the hybrid origin of *Drosera anglica*. *Rhodora*, 57; 110 (1955).
2. Francis E. Wynne: *Drosera* in eastern North America, *Bull. Torrey Bot. Club*, 71; 170 (1944).

\*The first specimen was noticed by Mr. Darlack

## Literature Cited

- Butler, B. 1985. *Drosera* hybrid found in Pine Barrens. *Carnivorous Plant Newsletter*. 14: 16-18.
- Kutt, D and Schnell, D and Sivertsen, R. 1974. *Carnivorous Plant Newsletter*. 3:34
- Wood, Carroll E. 1985. Evidence for the hybrid origin of *Drosera anglica*. *Rhodora*, 57: 105-130
- Wynne, Francis E. 1944. *Drosera* in eastern North America. *Bull. Torrey Bot Club*. 71: 166-174

## *Drosera intermedia* x *D. capillaris*



Pender Co. - May 1985

Note the upright rosette, wide glabrous petioles and intermediate nature of the *Drosera* hybrid. *D. intermedia* is to the left for comparison.



Pender Co. - Nov. 1984

The *Drosera* hybrid now displays a prostrate rosette with the winter hibernacula almost completely formed. The leaves of this specimen are green compared to the dull dark red of the May plant.