about close-up photography, a fine book to read is Basic Guide to Close-up PhotographY (HP Books). There is also a good article on inexpensive lighting tricks, even for use in the field, called Low-Tech Macro Lighting in the April 1990 issue of PHOTOgraphic Magazine (a U.S. based magazine that may be archived at your local library). I am also willing to discuss further macrophotography hints and troubleshooting with other growers—my address is in the 1989 ICPS directory.

More On The Evolution Of Drosera

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Professor S.E. Williams has kindly drawn my attention to a pollen study by TAKAHASHI & SOHMA (1982), which contains valuable information on the evolution of the genus *Drosera* . Results can be summarized as follows:

1. The primitive sections **Psychophila** (*D. uniflora, D. arcturi, D. stenopetala*) and *Drosera* are closely related.
2. Some sections still clearly show that they derive from these:
   -the African section **Ptycnostigma** (*D. cistiflora* e.a.)
   -the sundews from the mildest regions of Australia: *d. hamiltonii,* section **Arachnopus** (*D. indica, D. adelae...*), and to a certain extent, *D. banksii*. The link between section **Drosera** and *D. hamiltonii* is rather surprising condidering the floral differences. Yet the presence of the naphtoquinone plumbagin in this now appears less strange. The fact that a primitive member of the subgenus Ergaleium, *D. banksii* has pollen resembling that of section **Drosera,** is extremely important information. It confirms that the modern tropical or subtropical tuberous sundews can indeed be descendants of Antarctic immigrants.
3. There are definite links between the advanced Australian *Drosera*:
   -the close relation between the tuber-producing sections **Erythrorrhiza** and **Ergaleium** is confirmed.
   -these two are relatives of section **Phycopsis** (*D. binata*), section **Lamprolepis** (pygmies), *D. pygmaea*, and quite surprisingly, *D. petiolaris*. Until now the latter was considered as a very close reeelative of section **Drosera**, not as intermediate between this group and subgenus Ergaleium!
4. There were faint indications that *D. glanduligera* was related to the tuberous sundews. This study shows an affinity with section **Thelocalyx** (*D. burmanni*) instead! This section does not appear to be close to section **Drosera**. *D. glanduligera* is much more different from the South American member of this group, *D sessilifolia*, than *D. burmanni*. So we have to allow for a much longer evolution, and the migration of these plants to Australia need not be as recent as hypothesized earlier.
5. *D. regia* appears not to be related to any known section. Its pollen somewhat resembles that of... *Dionaea*! This is very important information, for we may have found the last palynological link between the modern *Drosera* and the archaic Fischeripollis, from which the sundews (and the Venus' Flytrap) may descend! The rather primitive flower of *D. regia* does not oppose this interpretation.
6. There are may abnormal pollen grains in some plants of *D. binata*. This confirms the heteroploid nature of this species.

Source:

TAKAHISHI, Hideki & SOHMA, Kankichi. (1982). Pollen morphology of the **Droseraceae** and its related taxa. Sci. Rep. Tohoku Univ., 4th ser., Biology Vol. 38:81-156.