

EXAMINATION OF SPECIMENS AND USE OF KEYS

Generally the fructifications of *Monochaetia* and *Pestalotia* are acervuli. Sometimes they show more or less stroma formation. The 4- and 5-celled conical forms show the least stroma, or none of it, and the 6-celled conical forms the most. The stroma in the 6-celled conical forms can be extensive, underlying and enveloping the base and sides of the sporogenous layer as to resemble an apothecoid structure. There is considerable uniformity among the fructifications *in vivo* and considerable variation *in vitro*. The fructifications show variations in form according to the character of the matrix. In general, the fructifications are not considered significant in the definition of species. There are exceptions.

The fructifications are usually borne in the matrix and are freed by the rupture of the epidermis or covering tissue. They are black, carbonaceous, scattered or confluent, and sometimes densely aggregated. The contents are arranged in black coils or masses, leaving a black sooty deposit over the area. The black pustules can be observed with the naked eye, or better with a hand lens or binocular, and they appear in spots or dead areas on leaves, bark, wood, paper, and other plant materials. Their distribution is usually irregular and without order. A punctiform arrangement in leaf spots appears frequently, but the arrangement, number, distribution, and even size of fructing pustules are not significant in the definition of species.

The fruiting area is treated with a speck of water which is allowed to soak into the matrix. The pedicels, exterior hyaline cells, and crest of setulae are essential to the identification of the species, and a smear of water applied to the fructifications aids in the removal of the conidia without the loss of their attachments. A bit of fungus or conidial material is placed in a drop of water on a glass slide and covered for examination under the microscope. The position of the specimen in the author's scheme of classification should be promptly recognized. Are the conidia provided with one, or more than one, apical setulae? Does the specimen belong to *Monochaetia* or *Pestalotia*? [Fig. 1a,c; Fig. 2e,f]. Then determine the number of cells comprising the conidia. The exterior or extreme hyaline cells added to the number of colored cells will total 4, 5, or 6 cells, thus placing the specimen in either the *Quadrifida*, *Quinquefida*, or *Sexiloculatae* section of the genus [Fig. 2b,c]. From here on, the color of the conidial cells, number and peculiarities of the setulae, and biometric measurements are used to key out the species. Aber-

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