

very well in any good garden soil. Clay soils are the least suitable, because of the risk of their perishing during the winter. Moreover, the roots are unable to penetrate far below the surface, and they are consequently more readily affected by dry weather during the summer season. As regards the preparation of the soil, I would suggest that a liberal dressing of leaf-mould or well-decayed manure be applied, and the bed then turned up to a depth of about eighteen inches. If the soil is of a heavy character, the addition of a liberal quantity of gritty matter, such as road scrapings or river sand, will be highly advantageous. Plant them out at a distance of about twelve inches apart, and water them when necessary during dry weather until they are properly established. Two or three small pieces of stake may be put round each plant to keep it steady, in case of rough winds. Beyond this, no further attention will be required.

In heavy soils it may be necessary to afford them the shelter of a cold frame during the winter, and in this case it will be desirable to grow them in small pots, and then plant out in February, instead of planting them in three-inch pots; and use a mixture of turfy loam and leaf-mould. The frame will require ventilating during the winter, and in dry, mild weather the lights may be removed altogether. Sometimes pansies, when in pots, are attacked with mildew; but this may be kept in check by dusting the foliage with sulphur as soon as it makes its appearance. In case growing them in pots would entail more trouble than could well be afforded, it is a good plan to plant them on a bed raised about twelve or fifteen inches above the general level, and then put on each side a brick raised on edge, to break the force of the wind; or, what is better still, they may be protected with one of the portable ground vinerias now manufactured.

The undermentioned will form a very good collection to commence with, as it comprises varieties representative of all the shades of colours found in this section:—*Agnes Laing, Alexander Crombie, Alexander Forbes, Buttercup, David Syme, Lady Ross, Lady Coutts Lindsay, Miss Hope Johnstone, Pandora, William Baird, Amy, Duncan Clark, Miss Minnie Mather, Miss C. Arbuthnot, Mrs. T. Scott, Mrs. Laird, Major Mackay, Medora, Orange Boven, Mrs. Shirley Hibberd, Striped Queen, William Hay, Wonderful.*

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## PRESERVING AND MOUNTING FERNS.



HAVING been requested by a correspondent to offer some advice on drying and mounting ferns, we shall proceed to deal with the subject rather fully, for the assistance of other readers also, who may be in need of similar information.

Drying and mounting fern fronds is most easy of accomplishment by any one with an ordinary degree of intelligence, yet a certain amount of care is essential to preserve the fronds in good

condition and colour. First of all, a sufficient quantity of paper, rather larger than the fronds to be dried, must be procured; for fronds rather hard in texture, newspapers printed on paper equal in quality to that of the *Times*, *Field*, or *Illustrated London News*, will answer admirably, consequently, a large number of the smaller species may be dried in books which possess no particular value. Of course it will not be desirable to put them between the leaves of valuable books, as they will stain the leaves more or less. The more soft and fragile kinds will require a greater degree of care and a more absorbent paper. The best paper is unquestionably the "botanical paper" manufactured and sold by Mr. Edward Newman, of Bishopsgate Street Without, London, which is also most valuable for drying botanical specimens of all kinds. To admit of the fronds being more evenly pressed than would otherwise be possible, provide two stout pieces of board, which of necessity must be quite flat.

Fully developed and perfect fronds must be selected, and gathered when quite dry. Commence by laying a few sheets of paper upon the board. Upon these spread out one of the fronds; cover this with a few more sheets of paper; lay out another frond; and repeat this until the stock of fronds is exhausted, or till the pile has reached a height of eighteen inches or two feet. The board can then be placed upon the top, and a weight put upon it to press the fronds. The weight may be a pile of books, or a box filled with sand, if no other weights are available for the purpose. In three or four days change the paper, using dry paper of the same kind as before. Some kinds might be changed a second time with advantage, but, as a rule, the fronds may be dried most satisfactorily when changed once.

In mounting the specimens, procure a scrap-book, or a sufficient supply of sheets of moderately stout white paper, of a uniform size; a supply of gum, which may be made by dissolving an ounce of gum arabic in a little hot water; and a number of slips of rather thin and tough white paper, these should vary from three-quarters of an inch long and a quarter of an inch wide, to two inches long by half an inch wide. Gumming the fronds to the paper is most objectionable, and it is much better to fix them to the paper with the bands mentioned above. To do this neatly, lay the frond out nicely on the paper and commence strapping it down. The bands should be gummed on one side only, and from four to eight, according to the size of the frond, will be required to hold it securely in its place. When the fronds are small, several may be attached to each sheet. A small portion of the fronds should be turned up, to admit of an examination of the fructification, in case it should be desired at any time.

The names should be written under each frond, and in the case of native species a note describing where each was found will also add to the interest of the dried specimens.

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