

Perhaps the most remarkable instance of a flower varying to white is that of *Lobelia cardinalis*; but the white variety is certainly no improvement on the primary color. The glory of the Cardinal flower is in its intense flaming scarlet that oftentimes lights up the dark ravines as with torches of fire, and this glory vanishes just in proportion as the color changes into rose, white, or as I once found it, variegated white and red. The white variety is interesting as a novelty, and retains its color on being pressed. The stems, too, are not so dark and purple as the stems in the other, and the whole plant is much lighter colored.

Blue, pink and purple colors frequently vary to white; yellows seldom. But Mr. Faxon mentioned finding a white variety of *Impatiens pallida*, which on being pressed, returned to the pale yellow color of the species.

These notes might be extended to considerable length, but I have already, I fear, trespassed too much on your space.—GEO. E. DAVENPORT, *Boston, September, 1877*.

NOTE.—Since writing these notes, a lady who has found a white variety of *Mimulus ringens*, tells me that she has also found the white variety of *Gerardia tenuifolia*.

✓ NOTES BY C. F. AUSTIN.—*ERPODIUM BISERIATUM* (?) *Lejeunia biseriata*, AUST. in *Proc. Phila Acad. for March, 1869, p. 225*. Stems (so far as is known) less than $\frac{3}{4}$ of an inch long and simple, sub-julaceous when dry, resembling short simple stems of *Frullania squarrosa*. Dorsal (or lateral) stem-leaves broadly ovate-oval, convex, very obtuse, imbricated, succubous, convolute-appressed when dry, widely spreading when moist, reddish or fuscous brown, entire, minutely and closely papillose, the whole lower margin strongly recurved; areolation composed of small opaque roundish or oval cells, which are enlarged in the centre towards the base of the leaf, while those on its margin are somewhat translucent. Ventral leaves much smaller (about $\frac{1}{3}$ as wide and $\frac{2}{3}$ as long) and stipule-like, linear-oblong, plane, attached diagonally to the stem opposite the base of the dorsal leaves, erect-divaricate. Flowers and fruit unknown. Rootlets stout, brown, simple, jointless, proceeding from the base of the ventral leaves (always?). (Georgia, SULLIVANT.)

In *E. Domingense*, BRID. (Cuba, WRIGHT), the ventral leaves are nearly as large as the dorsal ones, which latter have a somewhat lingulate apex. Perichæatial leaves not 4-ranked. Calyptra conic-campanulate, covering about $\frac{1}{2}$ of the capsule. Peristome of a few imperfect ciliæ-like teeth, inserted within the mouth of the capsule. Monœcious male; flower eparaphysate.

HYPNUM (*HARPIDIUM*) *JAMESII*, *n. sp.*—Compacte cæspitosum; caule fragili erecto subflexuoso remote innovandi ramoso vel simplici, foliis subhomomallo-uncinatis valde concavis lanceolatis attenuato-acuminatis basi sensim angustatis margine integerrimis (nonnullis obscure serratis), costa basi lata crassiuscula in medio sensim defluente cellulis mediocriter magnis lineari-fusiformibus rectis vel subflexuosis, basilaribus infimis multum brevioribus vix latioribus, auricularibus perpaucis subinflatis demum badiis; flores et fructus ignoti. White Mountains, New Hampshire, *James*.

Having diligently compared this moss with all the species of *Harpidium* known to me without being able to identify it, I have reluctantly concluded to describe it as new. It resembles in size and somewhat in appearance *Hypnum fluitans* var. *turfaceum*, while in its subsimple stems it is much like *H. revolvens*; but the former has the leaf of a totally different texture, serrate at the apex, etc., and the latter has a longer more circinnate leaf with narrower cells (but a somewhat similar costa). *H. vernicosum* is a much branched species with a similarly shaped leaf, but the cells, as in *H. revolvens*, are closer, those at the base not at all inflated, costa narrower and thinner, etc.

A form of *H. uncinatum*, with leaves perfectly estriate, occurs in great abundance in the Alpine region of the White Mountains. The inflorescence of this species is polygamous. Mr. Peck has collected a form of this species in the Adirondack (without

fruit) of a dull green color, and with *estriate erectish* only slightly curved leaves. (*Hypnum Peckii*, AUST. in litt. olim.)

Hypnum fluitans occurs near Closter, with an abortive female flower on the distinctly pedicelled male flower, in the axil of a lower perigonal leaf. These (female flowers) are composed of a few minute leaves enclosing from 1-3 pistils and several short paraphyses. This species is readily distinguished when fertile by the broad, very abruptly pointed peri-chætal leaves. It sometimes roots from the apex of the stem leaves. Slender forms often have the leaves obtuse.

HYPNUM EXANNULATUM, GUMB. var. COCHLEÆ. Caule stricto rigido parce diviso interrupte valde ramoso, foliis erectis purpureo variegatis apice pro more integerrimis in siccis parte superiore spiraliter tortis, basi sensim paulo angustata distincte serrata, cellulis infimis plerumque serie singula transversa inflatis.—*Dichelyma Swartzii*, S. & L. *Exsic. Ed. 2., n. 344*, planta Californica. Var. IMMERSUM.—Caule tenui debili, foliis circinnato-falcatis tenuis perangustis, basi ut in præcedente, apice distinctius remote serrato.—*Dichelyma Swartzii*, S. & L. l. c., planta Novæ Cæsarensis. Var. SWARTZII.—Foliis hamato-incurvis rigidis (subserratis) basi solidioribus, cæteroquin ut in præcedente.—*Dichelyma Swartzii*, LINDB!

Hypnum exannulatum is nearest to *H. fluitans*, from which it may always be distinguished by the narrower, much less abruptly pointed perichætal leaves, by the stem leaves gradually more or less narrowed toward the base, more or less distinctly serrate on the margin throughout (only serrate at the apex in *H. fluitans*), with much enlarged and inflated cells at the basal angles or extending across the base. Sometimes these inflated cells occur only at the basal angles, where they form a distinct large patch, and sometimes they extend across the whole base of the leaf in the same example. The plant is also dioecious; but I have always found the male and female plants mixed in fertile examples.

HYPNUM VACILLANS, SULLIV., *Icon. Suppl.*, is a form of *Hypnum riparium*, HEDW., (no doubt), with the leaves often obtuse. I have found a large form (sterile) in running water, and resembling a *Fontinalis*, with the leaves all obtuse.

Hypnum fluviatile, SWARTZ, is certainly only a form of *H. oligorrhizon*, GUMB., which is a form of *H. orthocladon*, BEAUV., which is a form of *H. serpens*, Linn. These forms clearly depend upon external causes—as matrix and climate—for the development of their peculiarities. The same may affirmed of all the other forms of *H. serpens*, as *H. radicale*, BRID., *H. irriguum*, WILS., *H. noterophilum*, S. & L., etc. In fact, so far as I have observed, there is no such thing as variety among any of the cryptogams, in the sense in which the term *variety* is applied to phænogams; none of them having the power to reproduce their peculiarities under a change of matrix or of climatic influence.

AN EXPLANATION.—A remark made by Mr. N. Coleman in the July number of the GAZETTE, really calls for an explanation on my part. He says “there must be some mistake!” We admit it, and a very unfortunate mistake for the credit of our State Flora, on the part of the authors of our Catalogue, who report only 979 plants, while our whole number must be twice as many! This came from not consulting Drs. C. C. Parry, Davenport; G. E. Ehinger, Keokuk; P. J. Farnsworth (Medical Professor at Iowa University, residence Clinton), and other older botanists. Many plants reported by me were collected from five to eleven years ago, and only now reported to rectify the deficit in said Catalogue. Nebraska reports 2,022 plants, and surely our good state, after all due allowance for the drift by long rivers from far western mountains of a host of their rarest flowers, ought not to fall behind by the thousand! I would, therefore, request that Mr. N. Coleman, Dr. C. C. Parry, and those above named, would send to the author of our Catalogue, Mr. J. C. Arthur, Ames, for copies and fill up the deficiencies in the



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