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XLVIII.—On *Epilobium angustifolium*, Linn., and species which have been confounded with it. By W. A. LEIGHTON, Esq., B.A., F.B.S.E., &c.

SINCE my last communication on this subject, Mr. Hewett C. Watson, and Mr. Kippist have most kindly taken upon themselves the trouble of comparing my descriptions of the two *Epilobiums* (see p. 247) with the single specimen of *E. angustifolium* in the Linnæan Herbarium, the result of which examination has been the identification of the plant named by Mr. H. O. Stephens *E. macrocarpum* (see p. 170), and described by me under that name (see p. 247), with the true *E. angustifolium* of Linnæus. The herbarium of Sir J. E. Smith also contains three specimens, one of which, from the Pyrenees, labelled "*persicifolium*, Pour.," proves to be the true *E. angustifolium*, Linn., also. The remaining two specimens (one marked "England," and the other, "a garden specimen,") are different from the first, though similar to each other; but as they are merely tops of stems and too imperfect and uncharacteristic, it is scarcely possible to determine anything with certainty concerning them; though, from the distinctly rounded base of a separate leaf marked as belonging to the former of the two specimens, they are both, in all probability, referable to the plant described by me, at p. 247, as *E. angustifolium*, and which consequently, if it is to be retained as a distinct species, must receive a new name. As the relative size of the capsule in the two plants forms the most prominent character, it may be advisable to adopt some term expressive of this difference. I propose therefore to name it *Epilobium brachycarpum*, which term will be available and expressive whether it remain a distinct species or be ultimately degraded to a variety of the true *angustifolium*.

Mr. Watson also communicated the particulars of specimens in his own herbarium, from a dozen or more different localities in England and Scotland. Many of these specimens appear however either too immature or imperfect to decide very con-

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clusively on their appropriation, although, upon the whole, I incline to refer them all, with the exception of three or four doubtful ones, to the true *angustifolium*. Below I have inserted their localities, with a view of directing the attention of botanists in their respective neighbourhoods to their more correct and certain appropriation by subsequent examinations. One highly interesting result however is, that as so many of these specimens are in all probability referable to the true *angustifolium*, and as their localities range from the extreme south of England far into Scotland, the right of this species to be regarded as indigenous to Britain appears to be clearly established; whilst the occurrence of *brachycarpum* generally in gardens renders it probable that its naturalization in the habitats where it occurs has been originally from the outcasts or escapes of cultivation. I have looked into all the books, British and continental, within my reach in the hope of elucidating the synonymy, but with little success. The figure of 'English Botany' is evidently our *brachycarpum*, the form of the capsule and the direction of its peduncle being very characteristic; and as the locality from whence the specimen figured was gathered bears very suspicious marks of being anything but a wild station, it seems highly probable that the other habitats of the Cheviot Hills, Teesdale, and the north of England there mentioned, are rather referable to the true *angustifolium*. The descriptions of Smith's 'English Flora' and Hooker's 'British Flora' are necessarily too uncertain for accurate appropriation. The description of *E. angustifolium*, Linn., and its variety β . *bracteatum*, in Wimm. and Grab. 'Fl. Siles.', vol. i. p. 368, leaves no doubt that these writers were acquainted with both our plants, notwithstanding they make no mention of the capsules. Their *E. angustifolium* is the true *angustifolium*, Linn., and their variety β . *bracteatum* is as certainly our *brachycarpum*, since they thus describe the former: "Folia brevissimè petiolata, lineari-lanceolata acuminata basi attenuata, . . . integerrima superne obsolete denticulata. Sepala petala æquant. Petala breviter unguiculata subrotundo-cuneiformia;" and the latter, "Corollis amplis sepala superantibus, foliis minus acuminatis basi rotundatis." Mention is also made of the bractæas being larger in their variety β . than in the species, a circumstance which likewise occurs in our *brachycarpum*, but apparently not with sufficient constancy to be applicable as a character. To our *brachycarpum* I am also disposed to quote the *E. angustifolium* of Bertoloni, 'Fl. Italica,' vol. iv. p. 291, from the apparent correspondence of the description of the capsule and the direction of its peduncle: "Pedunculi post anthesim ascendenti-

patuli. Capsula crassiuscula." From the Shropshire specimens noted in my 'Flora' of that county as having been seen by me proving to be *brachycarpum*, and from my knowledge of the situation of the other localities quoted in that work rendering it probable that the plants growing therein are not truly wild, but rather outcasts or escapes, I cannot refrain from adding the *E. angustifolium* of Fl. Shropsh. as a synonym of *brachycarpum*.

For the present, however, the characters, &c. may stand as follows:—

E. angustifolium, Linn.

Leaves linear-lanceolate, acuminate, somewhat attenuate at the base, acute, entire, obsolete callosio-denticulate; peduncles shorter than the germen; sepals as long as, or slightly longer than, the petals; pistil as long as, or slightly longer than, the stamens, segments at first erect, finally revolute; capsule very long ($2\frac{1}{2}$ inches), linear, straight, erect, nearly parallel with the stem, tetragonous, angles rounded and nearly obsolete. "Sp. Plant. 493." Linn. Herb. α . Wimm. et Grab. Fl. Siles., vol. i. p. 368.—"*E. persicifolium*, Pour.," Smith. Herb.—"*E. macrocarpum*, H. O. Stephens in Ann. Nat. Hist., vol. viii. p. 170. Leighton, *ib.* p. 247.

Wyre Forest, Shropshire! Mr. G. Jorden. Cauldron Snout! Prof. Henslow. Leigh Wood, Somersetshire. Mr. G. K. Thwaites. Sussex Forests. Wm. Borrer, Esq. Forfarshire. Dalnacardoch, Perthshire. Loch Lubnaig, Perthshire. Aberdeenshire. By a rivulet at foot of Cheviot. Singleton, Chichester? Esher, Surrey. Shirley near Southampton. Coala's Castle, Shanklin, Isle of Wight. *Watson Herbarium*. In meadows near Sheffield, and in several other places in the north. Ray. On the Cheviot Hills. Mr. Winch. Teesdale. Rev. Mr. Harriman. South of Scotland, frequent. Hooker.

E. brachycarpum, Leighton.

Leaves linear, acuminate, more or less rounded at the base, mucronate, shallowly but distinctly callosio-denticulate; peduncles about equal to the germen; sepals shorter than the petals; pistil $\frac{1}{3}$ rd longer than the stamens, segments circinato-revolute; capsule short (about 1 inch), linear-oblong, subattenuate at both ends, slightly curved, subpatulous, distinctly tetragonous.—*E. angustifolium* (non Linn.). E. Bot. t. 1947. No. 2 and 3 Smith. Herb. Bertoloni, Fl. Ital., vol. iv. p. 291. Stephens in Ann. Nat. Hist., vol. viii. p. 170 (excl. syn.). Leighton, *ib.* p. 247. Leighton, Fl. Shropsh. p. 166.— β . *bracteatum*, Wimm. et Grab. Fl. Siles., vol. i. p. 369.

Near Bewdley! Mr. G. Jorden. Trapp's Coppice, Buildwas, Shropshire! Miss Moseley. Near Preston Boats, Shrewsbury! Rev. W. R. Crotch. Red Barn near Shrewsbury! Fl. Shropsh. Between Capel Cerrig and Cernioge, North Wales! Miss Moseley. Near Esher, Surrey, possibly originating from a garden? Moffat Water? Falcon

Clints, Durham? Banks of the Swale, Richmond, Yorkshire. *Watson Herbarium*. On a rising ground beyond Robin Hood Inn in the road to Kingston-upon-Thames. *Eng. Bot.*

In conclusion, I would mention a suggestion of Mr. H. C. Watson's, which to my mind is of very primary importance, and the resolution of which by cultivators of our British plants will go far to settle the question of the real claims of *E. brachycarpum* to the rank of a species. I will quote Mr. Watson's own words: "It may be worth ascertaining whether luxuriance at root does not enlarge the leaves and shorten the capsule. Fruit is often imperfect when roots are strong and well nourished, especially in creepers." In the roots of the plants forwarded to me by Mr. Jorden, I did not observe any perceptible difference of luxuriance; but Mr. Jorden's observation, that *E. brachycarpum* never produced fertile seeds, so confirmatory of Mr. Watson's remark, must be carefully borne in mind, as it goes far to render such luxuriance under cultivation very probable.

W. A. LEIGHTON.

Dec. 21, 1811.

XLIX.—*Remarks on Lottia virginea*. By JOSH. ALDER, Esq. SOME misunderstanding has lately arisen concerning the characters and synonyms of the little mollusk whose shell has been long known to British conchologists as the *Patella parva* of Da Costa. This species was referred by Maton and Rackett, and by Montagu, to the *Patella virginea* of Muller; an opinion which was generally adopted by succeeding authors, until Dr. Johnston, in a short article published in the second volume of the 'Magazine of Zoology and Botany,' gave some reasons for supposing it to be incorrect. Audouin and Milne Edwards having stated that the animal of the "*Patelles roses*" found in the English Channel differed entirely in the structure of the branchiæ from the true *Patella*, Dr. Johnston was induced to examine the *Patella virginea* of our shores, and "I soon satisfied myself," he says, "that those found on the coast of Berwickshire at least were formed like the true *Patella*, the cloak of the animal being ciliated all round with a fringe of short equal filaments. The accuracy of this observation I have recently had occasion to confirm in company with my friend Mr. J. Alder. It follows, therefore," he adds, "that the shell usually called *Patella virginea* by British conchologists is not that so named by Muller, but is probably his *Patella tessellata*, in which the margin of the cloak is ciliated." The opinion that our species is the *Patella tessellata* of Mul-