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Annals and Magazine of Natural History: Series 2
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/tnah08

XXXII.—On the discovery of Cnicus tuberosus at Avebury, Wilts

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Published online: 26 Oct 2009.

To cite this article: Professor Buckman F.L.S. F.G.S. F.A.S. (1857) XXXII.—On the discovery of Cnicus tuberosus at Avebury, Wilts , Annals and Magazine of Natural History: Series 2, 20:119, 337-339, DOI: 10.1080/00222935709487932

To link to this article: http://dx.doi.org/10.1080/00222935709487932

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XXXII.—*On the discovery of* Cnicus tuberosus *at Avebury, Wilts**. By Professor Buckman, F.L.S., F.G.S., F.A.S. &c.

In reporting upon our meeting at Avebury, Wilts, on July 15, 1856, I took occasion to remark upon some interesting plants which I had obtained from the Druidical Circle; and amongst notes upon others, will be found the following:—

"*Cnicus acaulis*, Stemless Thistle, with—anomalous as it appears—stems several inches high. This is one of the forms which has given rise to the many synonyms by which the true species is surrounded†."

In July of the present year I found myself at the Avebury Circle in company with my friend Edwin Lees, Esq., F.L.S., F.G.S., when this Thistle was more minutely examined by us; and upon carefully getting some specimens up by the roots, we were pleased to find that it agreed in this and other respects with the *Cnicus tuberosus*, Willd., Tuberous Plume Thistle,—a specimen of which appears to have been sent by A. B. Lambert, Esq., to Sir J. E. Smith, and is figured in 'English Botany,' t. 2562, to the description of which is appended the following *habitat*:—"A copse-wood, called Great Ridge, on the Wiltshire Downs, between Boyton House and Fonthill, abundantly;" and Smith states that he there gathered it in 1819‡.

For many years, however, this form appears to have become extinct in this its original habitat; and it was thought to have been entirely lost to our flora until within the last few months, when my friend Mr. W. Cunnington of Devizes fortunately discovered that a nurseryman in his neighbourhood had propagated the plant from its original stock presented to the nurseryman by Lambert himself; the two or three specimens thus handed down are now in Mr. Cunnington's possession; and upon paying him a visit at Devizes, on our way from Avebury to Stonehenge, I was gratified to see a specimen in full flower in his garden, as well as two dried examples in his herbarium; from an examination of these, I am enabled to declare their complete identity with those I had so recently gathered at Avebury.

Here, then, we have a curious example of a plant having been lost for many years in one locality, and subsequently occurring in another; and yet, though the collecting botanist may perhaps felicitate us upon restoring this to the British flora, I have myself great hesitation in receiving it as a true and un-

* Read to the Cotteswold Club, Oct. 6, 1857.

† Address to the Cotteswold Naturalists' Club, by Prof. Buckman, Jan. 27, 1857, p. viii.

‡ English Flora, vol. iii. p. 393.

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doubted species, the grounds for which I would shortly sum up as follows:—

It occurs sparingly at Avebury, surrounded by the true *Cnicus acaulis* and *Cnicus acanthoides* in great abundance.

Its most important distinctive character will be found in the radical tubers, which, in full-grown examples, are somewhat large and fleshy, and unilaterally placed on the rhizome. In smaller specimens the roots are long and flexile, but not expanded into tubers,—which is just the state in which they occur in the *Cnicus acaulis*.

It is true that it cannot be described as *acauline*, as the stem is more than a foot in height, but this is also often the case with the true *acaulis*, as we have now before us examples of this species several inches high.

From these circumstances, in connexion with the rarity of the tuberous form in a plant that seeds so abundantly, each head of flowers being capable of perfecting as many as 150 seeds,—taking also into consideration the well-known sporting propensity of this genus,—I cannot help thinking this to be a *hybrid*; and from the fact of the abundance of the two forms before indicated in its immediate vicinity, we may not unreasonably look upon them as the origin of our tuberous type.

There is perhaps no genus of plants more perplexing to the botanist than that of *Carduus*, which is now made to include *Cnicus*; hence the variation in the number of species in our different floras; and thus Babington heads his descriptions of them with the following significant note—"many hybrids occur in this genus*;" and my friend Lees has kindly furnished me with the following note upon another disputed species, which bears directly upon this question:—

"In August 1856, I found the *Cnicus Forsteri* of Smith, in a field near Crowle, Worcestershire. In the same marshy field was a considerable quantity of *Cnicus pratensis* and a very numerous growth of *C. palustris*. The position of Forster's Thistle was between the *C. pratensis* and *C. palustris*, so as to give rise to an immediate suspicion of its hybridity; and, upon examination, the characters shown by *C. Forsteri* were exactly intermediate also. The leaves were much like those of *C. palustris*, while the stem and flowers were in small clusters, instead of being single as in the latter. Indeed, the result of my examination convinced me that *C. Forsteri* could be only a hybrid; and this I stated in an account I sent to the 'Phytologist,' and which appeared in the September Number of that Journal for 1856."

For the present, then, I must content myself with having

* Manual of British Botany, 3rd edition.

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offered presumptive evidence of the non-specific character of what is, after all, a decidedly distinctive form; and as I have brought home some specimens and planted them in my botanical garden, where I shall also introduce the *acaulis* and *acanthoides*, I shall look forward to the result of experiments with these with no little degree of interest, as in all probability, like so many other experiments which I have been enabled to perform in the same direction, these may serve still more to perplex the question "What is a species?"

Cirencester, July 1857.

XXXIII.—*On the* Amphioxus lanceolatus.

By Alexander Lindsay, M.D.

The *Amphioxus lanceolatus* is said to inhabit most, if not all, the European seas. It was first discovered on the coast of Cornwall. Since that time it has occasionally, and at distant intervals, been found on various other parts of the British coasts. The late Mr. Yarrell, to whom we are indebted for its first accurate description, had, when he wrote, only one specimen for his guidance. Mr. Goodsir, who ably investigated the anatomy of this interesting fish, had, while making his researches, only two at his disposal. Hitherto it has been reckoned among the rarest of our fishes,—the securing a specimen a something worthy of note.

The object of this communication is to show that in some localities the *Amphioxus* is neither so rare nor so difficult to obtain as is generally supposed, and that in localities supplying the necessary conditions for its existence, it may be sought for with every hope of success. We think it due to naturalists to make them aware of this fact. To the zoologist this little creature is full of interest, to the anatomist and physiologist equally so. From the transparency of its tissues, and from its being, like all animals low in the scale of organization, tenacious of life, it affords great facilities for microscopic observation.

The writer was desirous of procuring an *Amphioxus* for anatomical purposes. Aware that it had been obtained within recent years on the west coast of Scotland, he concluded that by a diligent search others might be secured. His own opportunities for researches of this kind being few, he solicited the aid of an intimate friend and industrious naturalist, Mr. David Robertson of this city. He is engaged in preparing a list of the Crustaceans procurable in the Frith of Clyde, for the Natural History Society of Glasgow. Much of his spare time being

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