XI. *On the Festuca spadicea, and Anthoxanthum paniculatum, of Linnæus.*

By James Edward Smith, M. D. F. R. S. President of the Linnean Society.

Read February 3, 1789.

IN the academical dissertation intituled *Plantæ Martino Burferianæ*, published at Upsal in the year 1745, under the auspices of Linnæus, mention is made (page 2, No. 13) of a grass with the following fynonyms:

GRAMINIS spartei species.

Anthoxanthum floribus paniculatis.

Gramen sparteum panicula flavescente. *Rudb. Elyf. 1. f. 14.*

This was copied in the *Amœnit. Academ.* and admitted into the first edition of *Species Plantarum*, anno 1753, by the name of *Anthoxanthum paniculatum*, and there said to grow in the south of Europe.

It appears that Linnæus described this grass from the specimen in Burfer's Herbarium only; it not being to be found, at least not under that name, in his own collection.

In his interleaved copy of *Species Plant.* ed. 1, I find the following MS. note upon this plant:

“Facies Anthoxanthi odorati, sed rigidius. Calyces quadriflori. Flores mutici. Forte diversi generis. Inquirenda ulterius.”

In

In the second edition of that work, the plant appears with the same synonyms, and the following note:

“Gramen in vivo ulterius examinandum iis quibus adest. Facies est Anthoxanthi odorati. Calyces quadriflori. Flores mutici.” And Linnæus adds, that it grows “in Horto Dei Monspeliensi,” which is a spot celebrated for its botanical riches ever since the days of Belleval, and which Burser visited in the tour which he made through Europe in search of plants.

No one, however, has been able to make out what Linnæus meant by his *Anthoxanthum paniculatum*. The Montpellier botanists have gone many a pilgrimage to the Hortus Dei, without finding any thing which answered to the description; insomuch that professor Gouan, in his *Illustrationes Botanicae*, page 2, has asserted that *Anthoxanthum paniculatum* ought to be struck out of the Linnæan System, nothing being to be found in the place where it is said to grow, but the common *A. odoratum*.

In my visit to Oxford last year, with Sir Joseph Banks and Mr. Dryander, one great object of my curiosity was the first volume of Rudbeck's celebrated *Campi Elysi*, which is preserved in the Sherardian library, and of which there are but three copies extant. I sought out the figure quoted for the grass in question, and immediately perceived it to be nothing else than the *Poa Gerardi* of Allioni's *Flora Pedemontana*, a plant I had gathered the preceding summer on Mount Cenis. Taking an exact copy of Rudbeck's figure, and on my return to town comparing it with my specimen, I had not a doubt remaining on the subject.

It appears likewise that professor Gouan himself has gathered the plant; for I find in the Linnæan Herbarium an imperfect specimen of it sent by him, under the name of a *Festuca*, to which genus it really belongs. But this specimen Linnæus omitted to name; nor did he recollect that he had described the plant already.

The

The accurate Gerard, in his *Flora Gallo-provincialis*, has given the first good description of this grass, accompanied with an excellent figure of its panicle of flowers, but no synonyms. Haller has likewise described it as a *Poa*, and quotes Gerard: but as it appears rather to belong to the genus of *Festuca*, I beg leave to offer a new *differentia specifica* and description of it.

FESTUCA paniculâ erectâ, spiculis ovatis quadrifloris, glumis acuminatis muticis, foliis setaceis glabris pungentibus.

POA paniculâ erectâ, spiculis trifloris glabris, corollis acuminatis, calyce duplo longioribus. *Ger. Gallo-prov.* 91, tab. 2, f. 1.

POA culmo recto, locustis trifloris glaberrimis, calycibus ar. statis. *Hall. Hist.* V. 2, 223, No. 1463.

POA Gerardi. *Allion. Flor. Pedemont.* V. 2, 245, No. 2201.

ANTHOXANTHUM (paniculatum) floribus paniculatis. *Linn. Sp. Pl.* 40, *Am. Acad.* 1. 145.

GRAMEN sparteum, paniculâ flavescente. *Rudb. Elyf.* V. 1, 40, f. 14.

Habitat in pratis et pascuis alpinis. 2

RADIX perennis, cæspitosa, fibrosa.

CULMI tripedales, erecti, stricti, teretes, striati, glaberrimi: geniculo uno alterove purpureo.

FOLIA involuto-setacea, stricta, glaberrima, striata, mucronato-pungentia, glauca; basi dilatato-membranacea, vaginantia, albida. *Stipulæ* intrafoliaceæ, brevissimæ, aut nullæ.

PANICULA erecta, ramosa, multiflora, laxa, aureo-spadicea, ramis plerumque binis.

PEDUNCULI angulati, subflexuosi, erecti.

SPICULÆ ovatæ, compressæ, plerumque quadrifloræ, glabræ.

CALYCIS valvulæ subæquales, carinatæ, acuminatæ, nec aristatæ, margine membranaceo-pellucidæ, basi fuscæ.

Q

COROLLÆ

COROLLÆ bivalves, alterâ majori carinatâ alteram amplectens, calyce longiores, acuminatæ.

STAMINA. “*Filamenta* tria, brevissima. *Antheræ* purpurascentes, inclusæ.” Gerard.

PISTILLUM. *Styli* duo, brevissimi. *Stigmata* plumosa.

SEMEN unicum, oblongum, utrinque acutum, superne fulco longitudinali notatum, fuscum.

OBS. Panicula variat magis vel minus ramosa.

Linnæus seems to have referred this plant to the genus of *Anthoxanthum*, merely from the habit and colour of its flowers, in both which respects they have a great resemblance to the *A. odoratum*. He probably could not dissect the specimen of Burser, to investigate its fructification: but Gerard as well as myself have examined the flowers living, and found them to be triandrous. Their beautiful gold or bronze-like colour is noticed by Gerard; which is a little extraordinary, as he rarely mentions colour in his descriptions.

I have lately learnt from Savoy that this grass is likely to become of considerable use in agriculture, and that large quantities of it are now cultivating for that purpose. It has vegetated in Chelsea garden, under the care of Mr. Fairbairn, from seed I brought from Mount Cenis.

A D D I-

ADDITIONAL REMARKS.

Read October 5, 1790.

WHEN the preceding observations were laid before the Linnean Society, I named the grass in question *Festuca anthoxantha*, in allusion, not only to its old generic name, but also to the yellow colour of its flowers.

At the same time I had a secret suspicion of its being the *Festuca spadicea* of Gouan's *Illustrationes Botanicae*, page 4, and Linnæus's *Systema Naturæ*, ed. 12, v. 2, p. 732. I was almost convinced that the description found in the place last quoted had been made from the very specimen above mentioned, now in the Linnean Herbarium. In order to settle this point, I sent one of my own specimens, without any remarks, to professor Gouan, and have just received for answer that it is certainly his *Festuca spadicea*. To this name that of *F. anthoxantha* must therefore give way, as the Linnean name has the right of priority, and is indeed very apt.

Since my former paper was written, I have also collected some synonyms of the above grass, from the Sherardian Herbarium, part of which I have looked over in company with professor John Sibthorp. They are the following.

Gramen paniculatum, alpinum, radice crassissimâ, foliis rigidis, striatis, et asperis, paniculâ fuscâ non aristatâ. *Michellii Hort. Pisan.* 75.

G. montanum paniculâ spadiceâ crassiore. *Tournef. Inf.* 524.

Nardus spuria Narbonensis. *C. Baub. Pin.* 13.

Nardus Gangitis spuria Norbonæ. *Lob. Adversar.* 43.

The last synonym is added on the authority of Micheli, as well as from the description and incomplete figure of Lobel. Micheli also confirms the synonym of Tournefort.

Hence we learn, that Linnæus has totally misapplied the above synonyms of Bauhin and Lobel, in quoting them as belonging to his *Nardus Gangitis*. That the latter is quite a different plant, appears from his own Herbarium; and Linnæus has committed a greater error in his quotation of Morison; for instead of section 8, t. 13, fig. ultima of that author, the figure he should have quoted is the last but one, the *figura ultima* being quite a different plant from all the above: and yet I am afraid the *differentia specifica* in *Species Plantarum* (*spicâ recurvâ*) was made from too great an attention to this misquoted figure*. At any rate, that character is very bad, as being equally applicable to the common *Nardus stricta*. What is still more unfortunate is, that the *N. Gangitis* is no *Nardus* at all, but appears to belong rather to *Rottbollia*, or at least to the same genus with *Rottbollia incurvata* (*Ægilops incurvata* Linn.), as probably does the *Nardus Thomæ* likewise.

The foregoing observations exhibit a series of errors and misconceptions, which can scarcely be paralleled in the botanical history of any other plant, and those the errors of the greatest men; owing to which, the *Anthoxanthum paniculatum* and *Nardus Gangitis* have been enveloped in more obscurity, and the labours of enqui-

* The figure of Morison is so confused, that this error could hardly be avoided. It is certain, however, that all his three spikes of flowers belong to the last figure.

ring botanists have been more frequently rendered abortive than in any similar case, except those, indeed, in which writers on the *Materia Medica*, with their sovereign power of confounding, have interfered. Such mistakes are not here pointed out with any invidious intention, but solely from a love of truth. Contemptible indeed are the critics who can triumph over the occasional inequalities of an Homer; nor less contemptible and ungrateful are those who, while they live but in the light they borrow from Linnæus, can exult over imperfections, which are avoided only by persons who have never exerted themselves in the service of science or mankind.

TAB. 10. is an exact copy of Rudbeck's figure above quoted, traced from his *Campi Elysii* in the Sherardian Library.