

VICARIOUS GRASSES, AS DEMONSTRATED BY
A NEW SPECIES OF PHALARIS FROM SOUTH AMERICA

by

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Among the grasses, preserved at the Rijksherbarium, one of the most valuable collections is certainly that of the well-known agrostologist and collector, B. BALANSA. It contains not only the types of the grasses, described by himself, but also very beautiful material, received by him from his contemporaries. All his European and Oriental grasses, those collected by him in New Caledonia, Tonkin and Java, besides a rich material from his travels in Paraguay and Argentina, are represented in this collection together with a beautiful set of ARECHAVALETA'S grasses from Uruguay. The material is in extraordinarily good condition and was very completely collected by him. I could already describe many novelties from this collection. One of these is particularly interesting on account of questions of geographical distribution.

Various botanists have called attention to the fact that there is a rather striking concurrence in the floras of Argentina and some of the southern States of North America and it was STANDLEY who pointed this out, giving a list of analogous species from both countries. It is true that in some cases grasses of the southern States of North America occur in Argentina too. I have already had the opportunity to emphasize this, but generally speaking the coincidence of grasses of both parts of the earth mentioned here, is not so very large if we study the plants more intensively. What I mean is this: in many cases and at first sight, or studying the principal features, a resemblance is very striking, especially also as to the habit and the more prominent characters. But on comparing such plants from North America with the corresponding plants from Argentina, it appears in most of the cases that the two species are not identical. Argentina species of the so very difficult genus of *Setaria* certainly closely resemble some species from Mexico or

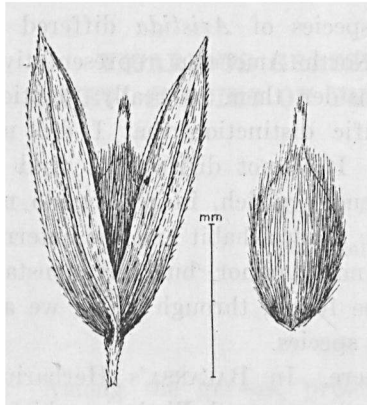
the southern United States, but in my opinion, they do not belong to the same species. It was especially the genus *Aristida* which, after an exhaustive study, gave me a better idea of these so-called "sucedaneous" species. As, however, such Argentina species of *Aristida* differed in a great many minor points from the North American representatives of this group, it was impossible to consider them as really identical and I was so convinced of their specific distinction that I did not hesitate to accept them as new species. It is not difficult to find in other genera of grasses similar convergencies which, in reality, do not exist. Resemblance is only relating to the general habit and the external or easily visible characters, but a great many minor, but very constant and not less striking characters are to be found, through which we are justified to consider them as different species.

Such a species I wish to treat here. In BALANSA's Herbarium Platense (1874—1875) I found years ago an annual *Phalaris*, which I recognized as a new species and which I named *Phalaris platensis*. I had the intention to publish this species in the future. Meanwhile in the Netherlands there was found on ballast at Vlaardingen near Rotterdam, an annual species of *Phalaris* which, submitted to the late Prof. A. THELLUNG, the well-known specialist for adventitious plants, was identified by him as the *Phalaris Lemmoni* VASEY from California. This species is figured in VASEY's work: *Grasses of the Pacific Slope. Illustrations of North American Grasses. Vol. II (1893) pl. V.*

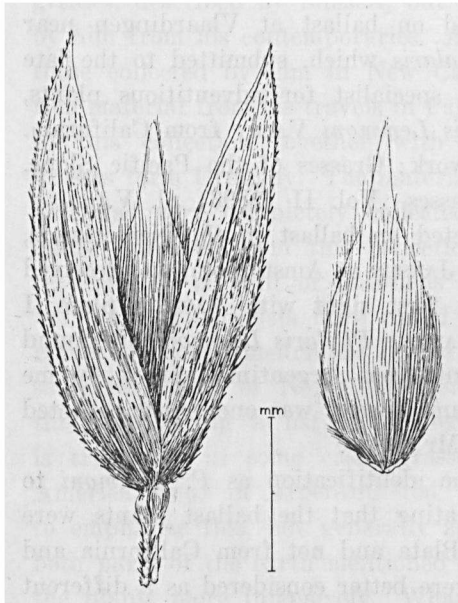
A fragment of the plant, collected on ballast in the Netherlands, preserved in the herbarium of Mr P. JANSEN at Amsterdam, was received from him and although agreeing at first sight with VASEY's plate, I could not accept it as belonging to VASEY's *Phalaris Lemmoni* but found that it better agreed with the plant from Argentina, named by me *Phalaris platensis*. Afterwards the same species was once more collected near Nijmegen, also on ballast, by Mr KERN.

I expressed my doubts as to the identification as *P. Lemmoni* to Mr JANSEN, at the same time indicating that the ballast plants were in my opinion introduced from La Plata and not from California and that our plants of the Netherlands were better considered as a different species, viz. *P. platensis*. Meanwhile I could study very good material of VASEY's species from California and always found the same differences with the Argentine plants of BALANSA. Mr JANSEN, who is responsible for the treatment of the grasses in our manuals of the flora of the Netherlands, accepted my ideas, after having seen my drawings and now my unpublished name found its way in a new edition of our "School-

flora" of the Netherlands by H. HEUKELS, where in a key this species was very shortly memorated in the Dutch language. This may be the reason why my species was not inserted in the Index Kewensis.



Phalaris platensis HENR., from type specimen; whole spikelet and fruit.



Phalaris Lemmonii VASEY, from type locality; whole spikelet and fruit.

Afterwards I received from Dr PARODI the same grass under the name of *Phalaris Lemmonii* VASEY from Buenos Aires and very recently more material from Uruguay collected by Mr ROSENGURTT and his fellow botanists. All the South American material is very uniform and at the same time different from the material from California.

VASEY's species is always more robust, with larger spikelets, up to 5 mm long, and especially characterized by the fruits enclosed by the lemmata, which are very gradually narrowed into a naked point.

If both plants were growing together, without a distinct geographical distribution, we could be inclined to accept the differences as being not specific and to place our Argentine plant as a variety under *P. Lemmonii* VASEY. However, now that the striking differences are supported by a totally different geographical distribution, both plants are better considered as two different, vicarious species.

The material of *P. Lemmonii* VASEY, seen by me, was mainly received from my late friend A. S. HITCHCOCK. I studied the following material from California: Butte County, near Nelson, A. A. HELLER no. 5447; Santa Clara County, near Saratoga, R. L. PENDLETON no. 355 (various specimens, also Amer. Gr. Nat. Herb. no. 629). These localities are in the foothills of the

Santa Cruz Mountains, at an altitude of 150 m, VASEY's type being collected at "Santa Cruz, California". The species grows in wet places in heavy clay soil; San Diego County, near San Diego, in depressions in clay soil. T. S. BRANDEGEE no. 3425.

The two figures, given in this paper, enlarged on the same scale, demonstrate the differences. I give here a short description of the type of *Phalaris platensis* in BALANSA's herbarium.

Phalaris platensis HENRARD, nov. spec. — Annuæ, erecta vel subgeniculato-adscendens, circa 3.5 dm alta, vulgo minor. Culmi striati, paucinodes, nodis glabris. Vaginae arctae, internodiis multo breviores, multinervosae, albo-marginatae, glabrae, ligula albida, elongata, interdum ad 4 mm longa, glabra, laminae ad basin distincte auriculatae, auriculis flavescens distincte cartilagineis, inferiores ad 10 cm longae, superiores vulgo breviores, sensim angustatae, multinervosae, utrinque subscaberulae; pedunculus inflorescentiae vulgo longe exsertus, si breviter exsertus pedunculo vagina subinflata circumdato. Panicula spiciformis, densa vel a basi breviter interrupta, spiculis glomeratis, pedicellis brevibus scaberulis. Spiculae circa 4 mm longae, lanceolatae, glumae inferiores scabrae, basi breviter connatae, 3-nerviae, nervis scabris, superne sensim, apice subabrupte acuminatae, glumae duae superiores rudimentariae, squamiformis, aequales, minutae, penicillatae, glumae fertiles coriaceae, subcompressae, longe adpresse pubescentes, subabrupte in rostro cylindrico glabro, lateraliter apicemque ciliolato, productae, circa 3 mm longae.

Argentina: La Plata, station de San Vicente, près de Buenos-Aires, dans les prairies naturelles, 5 Déc. 1875; leg. B. BALANSA. *Typus* in Herb. Lugd. Bat. sub no. 909.74—456 — Buenos Aires, Villa Ortugar, 20 Nov. 1929; leg. L. R. PARODI no. 8968.

Uruguay: Dép. Soriano, Juan Jackson, Sta Elena, Déc. 1937; HB. ROSENGURTT no. 534; Dép. Cerro Largo, Rio Negro, Palleros, Déc. 1937; HB. ROSENGURTT no. 1277 et 1937.

Netherlands: on ballast, Vlaardingen near Rotterdam, in the year 1902 leg. P. JANSEN et W. H. WACHTER; Nijmegen, leg. KERN.

That it is correct to accept such allied forms as distinct species is proved by another example in the genus *Phalaris*. We know that *P. canariensis* L. and *P. brachystachys* LINK differ only in one single character, which is only detected by opening the spikelet and by looking for the little scales at the base of the fertile glumes. Notwithstanding this apparently futile character, we all agree with THELLUNG's treatment of the genus *Phalaris* in his classic work on the flora of Montpellier, where *P. canariensis* and *P. brachystachys* are distinguished as two dif-

ferent species. On account of these species THELLUNG says: "il faut cependant faire remarquer que les deux espèces, quoique extrêmement semblables par le port, sont pourtant très distinctes par les caractères tirés de la grandeur relative des glumes supérieures, et qu'on n'a pas encore trouvé les moindres formes intermédiaires."