

NOTES ON AMERICAN MUSCI

BY

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***Papillaria nigrescens*** (Hedw.) Jaeg. and ***P. appressa*** (Hornsch.) Jaeg.

The variability of *Papillaria nigrescens* has already been emphasized by STEERE (1934) and BARTRAM (1949). Even in the type specimen (S-PA) I found form and areolation of the leaves to be variable (fig. 1).



Fig. 1. *Papillaria nigrescens* (Hedw.) Jaeg. Branchleaves of one plant of the type material.

This type material, moreover, proved to be provided with some filiform microphyllous branchlets, which is all the more noteworthy as the presence of microphyllous branchlets has sometimes been regarded as a diagnostic character of *P. appressa*. I examined a specimen sent to me on loan by the Munich Herbarium; it has been labelled in an old handwriting: "Hypn. appressum Hrsch. Minas Geraes" and in pencil was added: "Neckera appressa CM v. Muell. II, 136"; some distance apart from this was written: "An C. Müller". I suppose that this must be the type material, or at least part of it, as this species was as far as I know only once again, and at a much later date, collected in Minas Geraes (Wainio, BROTHERUS, 1891). I choose this specimen as lectotype. The material consists of a few stems with some branches and a very small number of microphyllous branchlets. In the original description by HORNSCHUCH (1840) nothing is said on these branchlets. MUELLER (1851) does not mention their presence either. He states that *P. (Neckera) appressa* is very similar to *P. nigrescens* but that the stems are thicker and of a different colour and that the leaves are wider. In a note he writes: "Sterilis nota quidem, sed a N. nigrescente foliis certe distans". He saw only the type specimen of MARTIUS from Minas Geraes, probably the material cited above. MITTEN (1869) is the first who mentions: "apicibus ramusculis filiferis". He cites several specimens, including that of MARTIUS and states at the end of the description: "A M(eteorium) nigrescente foliis latioribus acumine brevioribus dorso minus distincte plicatis recedit". There is indeed a rather striking difference in shape between typical leaves of the two type specimens (fig. 2 and 3).

The leaf cells of *P. appressa* are said to be shorter than those of *P. nigrescens*. HORNSCHUCH describes the cells as: "parallelogrammis versus margines folii oblongis minimis". I fail to see any difference between the cells of *P. nigrescens* and *P. appressa* (Fig. 2).

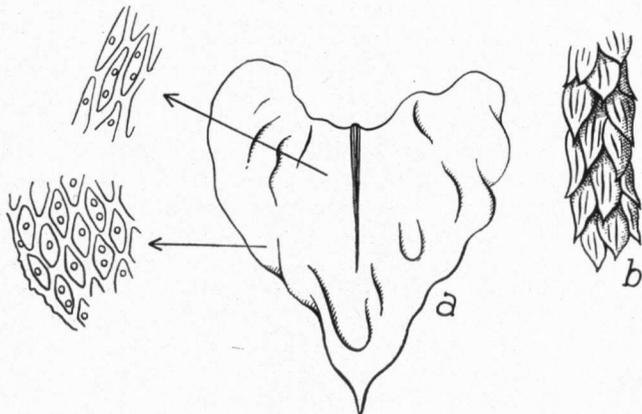


Fig. 2. *Papillaria appressa* (Hornsch.) Jaeg. (type material). a. Branch leaf with cells of different parts enlarged. b. part of dry branch.

The shape of the cells is very variable. In many Suriname specimens of *P. nigrescens* examined by me, the variation in leaf outline, in cell shape and in the number of microphyllous branchlets is nearly un-

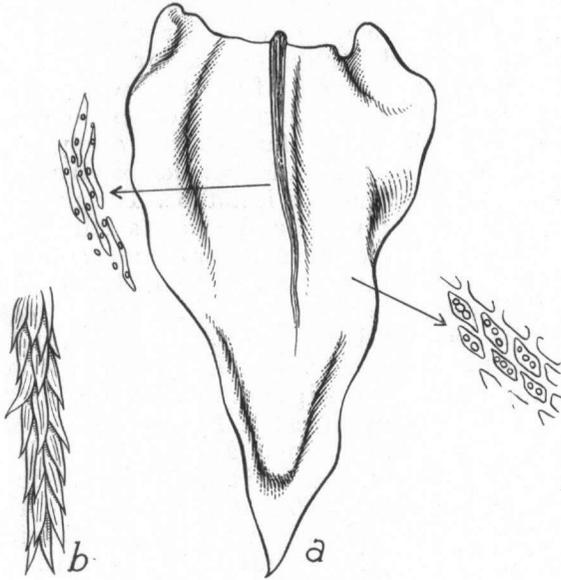


Fig. 3. *Papillaria nigrescens* (Hedw.) Jaeg. (type material). *a.* Typical branchleaf with cells of different parts enlarged. *b.* part of dry branch.

limited. I have little doubt that critical examination of a larger number of specimens collected in different countries will show the presence of transitional forms between the two species. However, it seems premature to reduce *P. appressa* to synonymy; the decision is better left to a monographer. Nevertheless, if one wants to retain the name *P. appressa*, it would be wise to disregard characters like the presence of microphyllous branchlets and the shorter leaf cells and to restrict the name to specimens with the typical leaf form.

It should be noted here that the type material of *P. nigrescens* is a mixture. As is shown in fig. 4 (a photograph taken from the type specimen) the sterile plant at the right is separated by a pencil line from the left ones, which are fruiting. The plant at the right belongs to another species which is now usually called *P. imponderosa* (Tayl.) Broth. It is not known who drew the pencil line, and I could not find anything on this topic in the literature. The description of HEDWIG (1801) is very short, and he does not mention the capsules. He cites the short description by SWARTZ (1788), who afterwards (1806) gave a long description including the capsule. Although one could defend the opinion that the figure and description given by HEDWIG fit *P. imponderosa* better than *P. nigrescens*, I rejected the specimen of *P.*

*imponderosa* and choose the plants on the left as lectotype of *P. nigrescens*. In this way continuity in the use of the name is safeguarded and confusion avoided.

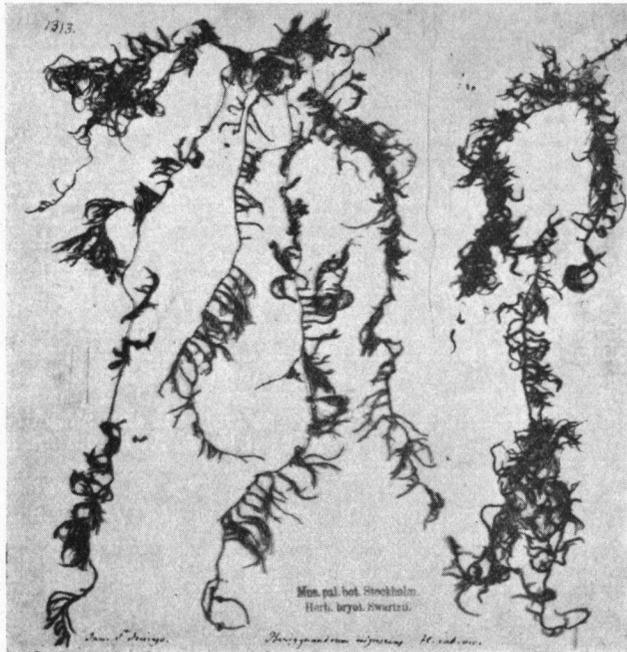


Fig. 4. *Papillaria nigrescens* (Hedw.) Jaeg. Photograph of the type specimen (S-PA).

#### ***Leucodontopsis floridana* (Aust.) E. G. Britt.**

A paper by THÉRIOT (1925) on this species, in which he gives a description and a figure of a capsule with peristome, has apparently been overlooked for "sporophyte unknown" has remained part of all descriptions published afterwards. THÉRIOT also describes two varieties, one of which replaces *L. horeana* R. et C. These varieties and the capsule, which are preserved in Paris (PC), interested me very much. However the capsule was a great disappointment for a re-examination showed that the branch with the capsule does not belong to *Leucodontopsis floridana* but to *Sematophyllum caespitosum*!

Among several Suriname collections of *Leucodontopsis floridana* I found an old capsule without peristome. I shall give a description here, although nothing can be said with regard to the peristome, operculum and calyptra.

*Perichaetial leaves lanceolate, plane; inner ones filiform. Seta 4 mm long; theca ovoid cylindric, 1,7 mm long. (fig. 5).*

Here, as in many other species with vegetative propagation, the development of the gemmae seems to suppress sexual reproduction. The same holds true for *Papillaria nigrescens*, which is seldom found with capsules but very often with microphyllous branchlets (compare European mosses like *Isopterygium elegans*, *Aulacomnium androgynum*, etc.).



Fig. 5. *Leucodontopsis floridana* (Aust.)  
E. G. Britt. Perichaetium and old, deperculate capsule.

I cannot agree with THÉRIOT on the status of his varieties. He himself already states that the variations on which they are based may occur on the same plant. And indeed, several of the leaves found on a branch of the type of his *var. latifolia* prove to be of normal shape. I did not see the type specimen of *L. floridana*, but I examined several specimens collected and identified by Miss BRITTON, who discovered the identity of *L. plicata* R. et C. and *Neckera (Pilotrichum) floridana* Aust.

When we measure leaves of the normal form of *L. floridana* the ratio between length and width proves to vary from 5 : 2 to 5 : 1. In typical *latifolia* leaves this ratio is 2 : 1, but a ratio of 5 : 2 and intermediate ones are also met with. I found some *latifolia* plants among a larger number of Suriname specimens, but on these plants normal leaves too occur. It seems better to withdraw this variety as well as the *var. gracilis* Thér. (syn. *L. horeana*). *L. horeana* indeed is identical with *L. floridana*; the description by RENAULD and CARDOT (1895) already suggests this reduction. The type material (PC) shows leaves with very narrowly recurved margins. In my opinion this will be due to ecological circumstances, especially a greater humidity. The normal plants of *L. floridana* occur in relatively dry habitats (savanna bush, plantations, etc.).

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