this view is the correct one that the bodies give the same spectrum only because they have certain properties in common, then it must be possible to learn something about these properties from the partition of energy in the spectrum. And thus we may hope that a further development of the application of the statistical method to electrical systems may tend — not to find an accurate formula for the spectrum, which would only be possible if we a priori perfectly knew the nature of the electrons — but rather to test whether a hypothesis concerning the nature of the electrons gives rise to the correct spectral formula, and so whether it is to be accepted or rejected.

Botany. — *"Some remarks on Sciaphila nana Bl."* By Prof. F. A. F. C. WENT.

While working at the *Triuridaceae*, collected by Mr. G. M. VERSTEEG during the expedition to Southern New-Guinea in 1907, I have also examined the plants of the same order, which are found in the Botanical Museum of the University of Utrecht. In so doing I came across alcoholic material of a *Sciaphila* brought from Buitenzorg by Mr. PULLE and collected at Tjiomas.

When an attempt was made to name this plant, it at once became evident, that it was not *Sciaphila tenella* BL. and it was therefore surmised that the other species described for Java, namely, *S. nana* BL., had been met with. Now the diagnosis of BLUME is of such a nature, that it is impossible with its aid to recognize the species [1]); nor are the figures of his plate XLVIII conspicuously clear. I soon found, by comparison with BECCARI's monograph of Malay *Triuridaceae*, that the specimen in question evidently agreed completely with his *S. corniculata* [2]). I will shortly give detailed proof of this identity, but first remark that BECCARI himself had noticed the agreement between BLUME's *S. nana* and his own *S. corniculata*, for he speaks of *S. nana* [3]) as follows:

"Non ho visto questa Specie, ma dalla figura lasciata da BLUME mi sembra poterla includere nel gruppo della *S. corniculata* e della *S. Arfakiana*".

In order to obtain greater certainty I have examined the original specimen of BLUME's in 's Rijks Herbarium at Leiden.

Under the name of *Sciaphila nana* BL. there are here found,

1) C. L. BLUME. Museum Botanicum Lugduno Batavum I. p. 322. 1849—1851.
2) O BECCARI. Malesia III. p. 336. Tav. XXXIX. Fig. 5—13. 1886—1890.
3) O. BECCARI. l. c. p. 338.

pasted on one sheet of paper, three plants, numbered 1, 2 and 3. REICHENBACH had written there: Mihi specimina 2—3 sint tenella, specimen 1 nana BL tantum H.G. RB. fil." I completely share this opinion; there can be no doubt, that 2 and 3 are specimens of *S. tenella* BL., while the other specimen is the one, which served for BLUME's diagnosis, as it is exactly the same as that used for the illustration of the habit. Only in this illustration two flowers are still present, whereas the specimen now possesses but a single one. This renders the Leiden herbarium specimen of little use for determination, as one would at most be justified in sacrificing a part of it, when preparing a monograph of the order, supposing also that one had sufficient reason for assuming, that no new species of *Sciaphila* will be discovered, a by all means remote contingency.

As was mentioned, the specimen of the Utrecht museum is certainly identical with BECCARI's *S. corniculata*. I will now mention the reasons for this conclusion. Since staminodes are wanting in the female flowers, and the rudiments of pistils in the male flowers (which have three stamens), and since the style is found on the top of the ovary, it is clear that our plant belongs to the subgenus *Hyalisma*. Here several species are further excluded, because in the centre between the stamens there are no sterile organs, which, according to BECCARI, are appendages of the staminal connectives. There then remain *S. nana*, which for the above-mentioned reasons we will leave out of account for the present, *S. Arfakiana*, in which the segments of the male perianth terminate in appendages, which are here wanting, while the style in also fixed on the ovary in another way than in the specimen, with which we are here concerned, and *S. corniculata*. Of the characters, given by BECCARI as typical of this latter species, all are found in the specimens from Java. I mention them here in succession. Small low plants, with somewhat strongly branched shoots and thick fleshy roots. Only the extreme tips of the shoot-branches bear flowers; of these the two or three lowest flowers are female, the upper ones male. The latter are present in larger numbers, but the uppermost generally remain buds. The perianth of the male flowers has six lobes and the latter are provided at their top with a few long fine hairs, resembling cilia; the filaments of the three stamens have more or less grown together. While the male flowers have definite, albeit short peduncles, the female flowers may well be described as sessile in the axil of a bract. Most characteristic are the pistils, which, as BECCARI indicated, are sigma-shaped, while the upper part of the ovary and the style are more or less papillar; the description might perhaps still leave some doubt as to the identity,

but the figures of ovary and fruit: 10, 11 and 12 are quite similar to the specimens in the Utrecht museum, as indeed all the other figures. Only the cilia at the top of the perianth leaves are figured somewhat shorter; this is, however, intelligible, as BECCARI had dried plants to work with and I had excellently preserved alcoholic material at my disposal.

My conclusion is therefore that the plants found in Tjiomas belong to *Sciaphila corniculata* BECCARI and that the distribution of this species is consequently not limited to New-Guinea, as BECCARI had imagined.

If we may now assume that the figures of *S. nana* given by BLUME are not very accurate — an assumption which does not seem to me to be very hazardous —, and if we further eliminate from BLUME's description the unbranched shoot, which was probably due to an accidental property of the specimen described, then it seems to me, that we may well assume, that *S. nana* of BLUME and *S. corniculata* of BECCARI are names for one and the same species, especially as so far no other species of this genus have become known from Java except the so widely different *S. tenella* BL.

There is however no complete certainty on this point, and as long as this is not the case, it will be best to affix the name of the accurately described *Sciaphila corniculata* BECCARI to the specimen in question, and for the present to regard the name of *Sciaphila nana* BL. as not sufficiently well characterized. Possibly a future monographer, having many more data at his disposal, will be able to restore this name, but at present it is better to reject it.

Utrecht, December 1908.

Astronomy. — "*The Solar Vortices of* HALE". By Mr. A. BREMSTER JZ. Communicated by Prof. W. H. JULIUS.

On the more or less cyclonic configuration of the hydrogen flocculi around the spots on the spectroheliographs of the solar atmosphere and on the shifting and the becoming invisible of one of these flocculi at a short distance from a spot, HALE recently founded the hypothesis that the spots are vortices, which from the solar atmosphere continually absorb the hydrogen, which there comes back every time as new protuberances or flocculi outside the spots.[1])

[1]) HALE: Astroph. Journ. Sept. 1908 — Contrib. from the Mt. Wilson Sol. Obs. No. 26.