

## ADDITIONAL OBSERVATIONS ON THE GLEICHENIACEAE OF TAIWAN

by

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In a previous issue of *Taiwania*, I discussed the Gleicheniaceae of Taiwan (De Vol, 1960). As is many times the case with my papers, the printers ink was scarcely dry before I wished that I could change some statements. In the previous paper I had reported *Hicriopteris glauca* var. *concolor* as a new record for Taiwan. I had never seen this fern growing and had some doubts about the identification of this fern, so Mr. M. T. Kao, C. H. Feung and I made a special trip in November 1961 to the Ta Hsueh Shan area in Taichung Hsien in an effort to find it. We found an abundance of what we called *H. glauca* but we never found a single specimen without the whitish powder; the very small plants and the fully mature fronds were all glaucous. I returned from the An-Ma Shan lumber camp earlier than my companions and dried my collection with heat. To my surprise when the specimens were dry none of them showed any white powder. So judging by the herbarium specimens they would be considered as belonging to the variety *concolor*, but as all were glaucous when growing in the field they certainly were not var. *concolor*. When M. T. Kao returned, I asked him to dry some of his collection with heat, and to dry the rest of the ferns without heat. All those dried by heat lost their glaucous appearance on the underside, and all dried without heat remained glaucous beneath. Thus our experience further confirms the observations of Fernald (1945: 258-260) and Lawrence (1951: 242); however it was not until after we learned our lesson that we noticed their reports.

This shows that herbarium material is not always adequate in determining a species, and wrong identifications are very possible when the presence or absence of the farinose powder is the deciding factor.

Another species which needs consideration is what I considered *Hicriopteris Norrisii* (Mett.) Ching. Holttum (1954: 67) had previously considered that this fern was the same as *H. Blotiana* (C. Chr.) Ching and I followed his opinion in this matter, but last year while in the United States I had the opportunity of visiting a number of herbaria and found several specimens of *H. Norrisii* which had been annotated by Holttum and recognized that he was correct in separating these two species as he did in his treatment of the ferns in *Flora Malesiana* (Holttum 1959: 15,17). One of the distinguishing characters between these two species is in the leafy bracts covering the axillary buds. In our Taiwan species, *H. Blotiana*, the



bracts are deeply pinnatifid being cut almost to the costa; while *H. Norrisii* from Malaya and Indonesia has ovate bracts that are merely lobed.

While studying this genus in the United States I realized that I had misinterpreted *H. longissima* (Bl.) Ching. What I called *H. longissima* is really *H. Blotiana* (C. Chr.) Ching, and what I called *H. glauca* (Thunb.) Ching is *H. longissima*.

*H. glauca* and *H. longissima* are very similar and I find it difficult to key them apart. Holttum writes me that *H. glauca* has thinner texture, that the scales covering the dormant buds are darker and have more rigid and more oblique marginal hairs. He thinks that their fronds only last one season. The type of *H. glauca* is from Japan. I am not sure that we have any specimens of it in our Herbarium. Our specimens identified as *H. glauca* from Japan are probably all *H. longissima*. *H. glauca* is decidedly smaller than *H. longissima*, but size taken alone is not a safe criterion on which to distinguish species.

So far as we now know we only have the following three species of *Hicriopteris* on Taiwan:

*H. Blotiana* (C. Chr.) Ching

*H. chinensis* (Rosenst.) Ching

*H. longissima* (Bl.) Ching

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