Ainsliæ angustifolia, Hk. f. et Th.; and from this I feel sure that Mr. Bentham has seen an authentic specimen of *Hieracium silhetense* (most probably a sheet of the Wallichian No. 3280, with the number written on in Wallich's own hand), and that this specimen so marked is *Ainsliæ angustifolia*. No one who has worked in the Calcutta Herbarium will underestimate the value of *authentic* specimens; but the point which I wish to bring out is that they do not *finally* decide the name of a species. I fear that I have at least once or twice issued specimens of species, described by myself, named wrongly in my own handwriting; and I am quite sure that Wallich has done this very many times. It could hardly be otherwise where plants are distributed on so large a scale that in many orders they were not worked, but merely sorted by hand and eye, before distribution. In a genus like *Cyperus*, which submits poorly to this treatment, there may be found often two species mixed under one Wallichian number and name. The present mistake about *Hieracium silhetense* is probably due merely to the naming a specimen "temporarily" in the field without books, possibly in a not over dry tent 7 feet by 6, and overlooking the mistake in setting out the duplicates for distribution.

On the Restiaceæ of Thunberg's Herbarium. By MAXWELL
T. MASTERS, M.D., F.R.S., F.L.S.

[Read June 4, 1874.]

IN my former communications to the Society relating to the Restiaceæ of South Africa, I had occasion to allude to the difficulties sometimes experienced in the attempt to determine the species described by Thunberg. In the few cases where figures were given by him the representation is so perfect as to leave little to be desired; but the descriptions are so meagre that it often happens that the sex even of the plant is not mentioned.

Apart from such deficiencies, it is often no easy matter to determine the species of a Restiad. The species are often very similar one to the other, and present none, or but few, tangible discriminative characters. The male plants especially are remarkably uniform throughout the several genera; and it is a matter of difficulty, often of mere guesswork, to pair the sexual

forms. Under such circumstances, the difficulty of identifying the plants intended by the older writers is intensified. It was therefore with much interest that I was lately enabled to examine the Restiaceæ of Thunberg's herbarium, which had been obligingly forwarded to Kew for inspection and comparison. No previous writer that I am aware of has had a similar opportunity, unless it be in the case of isolated specimens which are to be found in some herbaria. Monographers have therefore had to guess at Thunberg's meaning. Each successive writer has either guessed for himself with greater or less probability, or has contented himself with citing the opinions of his predecessors. It may therefore not be entirely without interest to put on record the results of my examination of these specimens. It should, however, be stated that, beyond the rectification of the nomenclature in particular cases, there is not much that calls for comment.

A manuscript *Flora Capensis* by Thunberg is at the British Museum; and I owe the privilege of inspecting it to the Keeper of the Botanical Department. No date is attached to it; but as it comprises only eight species of Restiaceæ, it may probably be considered among the earliest of Thunberg's writings on the subject*.

In 1788 Thunberg published, in the form of an academical dissertation, twenty-six species of *Restio*; and these find a place in the author's '*Flora Capensis*,' 1806. In the '*Flora Capensis*' of the same author, edited in 1823 by J. A. Schultes, thirty species of *Restio*, three of *Willdenovia*, and one of *Elegia* are enumerated.

It is not necessary to do more than make passing allusion to the separate publications of Thunberg on the plants of this order, as the species therein described are all included in one or other of the more complete monographs already referred to.

* The species included are thus entitled:—

"*Restio dichotomus*, *Linn. Syst. Nat.* ed. 13.

Elegia juncea, *Linn. Mant.* i. p. 297.

E. digitata.

E. verticillata.

Thamnochortus, *Berg. Cap.* p. 353, tab. 5. fig. 2.

T. aphyllus.

T. aristatus."

No characters are given of any of these. It is doubtful to what species *T. aphyllus* belongs.

With one exception (*Elegia juncea*, L.) all the species mentioned by Thunberg are represented in his herbarium, though it is not in all cases quite certain that the names attached to the specimens are correct.

The name of the plant is written in Thunberg's handwriting on the face of each sheet, at the lower right-hand corner, the locality and collector's name on the reverse side at the upper left-hand corner. As will be seen, the majority of the specimens were collected by Thunberg himself, but some few by Masson. In the following enumeration I have first cited the name given in the herbarium, and have then appended to it the designation under which the plant is mentioned in my papers in the Journal of the Society, before referred to. I have endeavoured to comply with the laws of priority where reasonable certainty of identity exists; but where a plant has been placed in a new genus, I have then taken the modern combination of generic and specific names. For full details as to synonymy I may refer to my previous communications. Names that I consider should be henceforth adopted are printed in small capitals.

Enumeration of Species in Thunberg's Herbarium &c.

1. "RESTIO BIFIDUS, e cap. b. Spei, Masson." = *R. vaginatus* ♂, Mast. in Journ. Linn. Soc. viii. p. 250, haud Thunb.

Thunberg's description of his *R. bifidus* in his Fl. Capens. i. p. 87, is not sufficient to allow of satisfactory identification. In my enumeration of the species I followed the indications of my predecessors, and, as it now appears, was in error in so doing.

2. "*Restio aristatus* ♂, e cap. b. Spei, Thunberg." = *HYPODISCUS ARISTATUS*, N. ab E., Mast. in Journ. Linn. Soc. x. p. 253.
3. "*Restio aristatus* ♀, e cap. b. Spei, Thunberg." = *HYPODISCUS ALBO-ARISTATUS*, Mast. l. c. x. p. 257.
4. "*Restio umbellatus* ♂ et ♀, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS CERNUUS*, Kunth, Mast. l. c. x. p. 233.

Of this there are three specimens—two with male flowers, the third without any.

5. "*Restio umbellatus* ♂, β, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS IMBRICATUS* ♂, Mast. l. c. x. p. 231.
6. "*Restio cernuus*, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS CERNUUS*, Kunth, Mast. l. c. x. p. 233.

The discrimination of the male plants of *Thamnochortus umbellatus*, *imbricatus*, and *cernuus* one from another is by no means easy.

T. cernuus may generally be known by its turbinate or roundish spikes, obovate bracts, and coarsely tubercled culms. *T. imbricatus* has larger spikes, subglobose in form, and oblong bracts; the tubercles on its culm are relatively inconspicuous. *T. umbellatus* has oblong, erect or pendulous spikes, oblong bracts and wrinkled culms. As the specimens in Thunberg's herbarium, under the name *T. umbellatus*, seem hardly to correspond with his description and figure given in his Diss. p. 11. n. 5, f. 3, it is prudent not to disturb the existing nomenclature and arrangement of synonyms.

7. "*Restio nutans* ♂, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS ELONGATUS*, Mast. l. c. x. p. 227.

Nees had already assigned (in herb. Sonder.) Thunberg's *R. nutans* to *Thamnochortus elongatus*. The name *elongatus* has the priority over *nutans*, and should therefore be retained.

It may here be remarked that more than one species is probably comprised under *Thamnochortus elongatus*; but further specimens are required to determine the point with accuracy. The specimen in the herbarium does not correspond with Thunberg's description of *Restio nutans*, which is described as having "*spicis cylindricis cernuis*."

8. "*Restio parviflorus* ♂, e cap. b. Spei, Thunberg." = *CANNAMOIS SCIRPOIDES*, Mast. l. c. x. p. 237.

9. "*Restio elongatus* ♀, e cap. b. Spei, Masson." = *THAMNOCHORTUS ELONGATUS* ♀, Mast. l. c. x. p. 226.

10. "*Restio vaginatus*, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS* (§ *Staberoha*) *IMBRICATUS*, var. *STENOPTERUS*, ♀, Mast. l. c. x. p. 231.

Following preceding monographers, I had assigned (Journ. Linn. Soc. x. 250) Thunberg's *Restio vaginatus* to the plant which, according to the herbarium of that botanist, should have been called *Restio bifidus*. The names *vaginatus* and *imbricatus* are of the same date; but it will cause least confusion to adopt the latter.

11. "*Restio acuminatus* ♂, e cap. b. Spei, Thunberg." = *CANNAMOIS SIMPLEX*, Kunth, Mast. l. c. x. p. 237.

The herbarium specimens confirm the conjectures made by Nees and myself as to the synonymy of this species.

This is also referred to "*Chondropetalum nudum*, Rottb. Gram. p. ii. t. 3. f. 3, ♀."

12. "*Restio tectorum* β, e cap. b. Spei, Thunberg." = *DOVEA TECTORUM* ♂, Mast. l. c. x. p. 249.

13. "*Restio tectorum* γ, e cap. b. Spei, Thunberg." = *DOVEA TECTORUM* ♂, Mast. l. c. x. p. 249.

14. "*Restio tectorum* α, e cap. b. Spei, Thunberg." = *DOVEA HOOKERIANA*, Mast. l. c. x. p. 249.

So much confusion has existed as to which plant should rightly bear the name "*tectorum*," that it is satisfactory to find that the examination of the Linnean and Thunbergian collections does not necessitate material changes in the synonymy, though I have found it necessary to place the plant intended by Linnæus and Thunberg in a different genus.

15. "*Restio argenteus* ♂, e cap. b. Spei, Thunberg." = *HYPODISCUS ARGENTUS* ♂, Mast. l. c. x. p. 261.

16. "*Restio triticeus* ♂, e cap. b. Spei, Thunberg." = *R. PANNOSUS* ♂, Mast. l. c. viii. p. 244.

This does not correspond with the *R. triticeus*, which is well figured by Rottboell, Descr. et Ic. p. 7, t. 3. f. 1, but rather with the species described by myself as *R. pannosus*.

17. "*Restio triflorus*, e capite bonæ Spei, Thunberg." = *R. BIFIDUS* ♂, Mast. l. c. viii. p. 253, nec Thunb.

There has been an erasure in this label; but it seems probable that the name may originally have been written *R. bifidus*. On the same sheet, in another handwriting, the plant is called *R. triflorus*, Rottb. Gram. p. 3, t. 2. f. 2. It does not, however, correspond well with the figure and description of Rottboell's *triflorus*.

18. "*Restio fruticosus*, e capite bonæ Spei, Thunberg," haud Thunb. Diss. n. p. 14, = *LEPTOCARPUS MODESTUS*, Mast. l. c. x. p. 225.

19. "*Restio scopæ*, e cap. b. Spei, Thunberg." = *CANNAMOI VIRGATA*, Steud., Mast. l. c. x. p. 234, forma monstrosa.

20. "*Restio digitatus*, e cap. b. Spei, Thunberg." = *HYPOLÆNA ECKLONIANA* ♂, Mast. l. c. x. p. 263.

The description of *R. digitatus*, Thunb., does not correspond well with this plant, especially in the perianth.

21. "*Restio digitatus* β , e cap. b. Spei, Thunberg." = *HYPOLÆNA ECKLONIANA*, Mast. l. c. x. p. 263.

22. "*Restio triticeus* φ , e cap. b. Spei, Thunberg."

On this sheet there are three specimens, two of which belong to *R. pannosus* φ , Mast. Journ. Linn. Soc. viii. 244, and one σ to *Hypolæna impolita*, Mast. l. c. x. 264.

23. "*Restio glomeratus*, e cap. b. Spei, Thunberg." = *WILLDENOVIAE* cujusdam forma monstrosa; vide Mast. l. c. x. p. 279.

24. "*Restio incurvatus*, e cap. b. Spei, Thunberg." = *WILLDENOVIAE* cujusdam forma monstrosa.

25. "*Restio tetragonus* σ , e cap. b. Spei, Thunberg." = *R. TETRAGONUS* σ , Thunb., Mast., l. c. viii. p. 245.

26. "*Restio tetragonus* β , e cap. b. Spei, Thunberg." = *R. TETRAGONUS* φ , Thunb., Mast. l. c. viii. p. 245.

27. "*Restio tetragonus* γ , e cap. b. Spei, Thunberg."

Of this there are two fragments, one a grass, the other is indeterminable.

28. "*Restio squamosus*, e cap. b. Spei, Masson."

This is not a Restiad, but perhaps a species of *Thesium*; but it is too imperfect to be determined. Thunberg's description of *R. squamosus* (Fl. Cap. i. 87), however, suits this plant very well, and renders it almost certain that *Elegia squamosa*, Mast. l. c. x., is not the plant which Thunberg intended for his *Restio squamosus*.

29. "*Restio cuspidatus*, e cap. b. Spei, Thunberg" (Fl. Cap. i. 87).

Of this there are two specimens: one is *R. Sprengelii* σ , Mast. l. c. viii. 224; the other is *Hypodiscus Willdenovia* φ , Mast. l. c. x. 259. Under my *R. Sprengelii* I had included *R. cuspidatus* as a doubtful synonym; and on the faith of this specimen I would now confirm this identification and suppress the name *Sprengelii*.

30. "*Restio verticillaris* σ , e cap. b. Spei, Thunberg." = *ELEGIA VERTICILLARIS*, Kunth, Mast. l. c. x. p. 244.

31. "*Restio verticillaris* σ , β , e cap. b. Spei, Thunberg." = *ELEGIA VERTICILLARIS*, Mast. l. c.

32. "*Restio verticillaris* φ , α , e cap. b. Spei, Thunberg, in fossis Rode

- Gand (?) infra Winterhoek." = *ELEGIA VERTICILLARIS* ♀, Kunth, l. c.
33. "*Restio verticillatus* ♀, β, e cap. b. Spei, Thunberg." = *ELEGIA VERTICILLARIS*, Kunth, Mast. ut supra.
34. "*Restio verticillatus* ♀, γ, e cap. b. Spei, Thunberg." = *ELEGIA VERTICILLARIS*, ut supra.
35. "*Restio virgatus* ♂, e cap. b. Spei, Thunberg." *Restio virgatus*, Rottb. Gram. = *CANNAMOIS VIRGATA* ♂, Mast. l. c. x. p. 234.
36. "*Restio paniculatus* ♂, e cap. b. Spei, Thunberg." = *LEPTOCARPUS PANICULATUS*, Mast. l. c. x. p. 221.
37. "*Restio erectus* ♂, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS ERECTUS*, hic infra descripta.

The species called *Restio erectus* in Thunberg's herbarium is the male plant of a species of *Thamnochortus*, identical, as I believe, with one of the plants called by Nees (in herb. Sonder.) *Restio paleaceus*. Ecklon's no. 77 should be referred to the same species. In my previous paper (Journ. Linn. Soc. x. 227) I referred Ecklon's specimen to *Thamnochortus elongatus*, but, as I now believe, erroneously. The description of *Restio erectus* in the 'Flora Capensis,' p. 81. n. 12 (1823), is not sufficient to determine the plant; but, assuming that the specimen in his herbarium represents what Thunberg meant by *R. erectus*, it may now bear the name of *Thamnochortus erectus*, and be thus described:—

THAMNOCHORTUS ERECTUS, Mast. *Culmo* fertili simplici, tereti, olivaceo, obscure sulcato, squamis albidis minutissimis obtecto; *vaginis culmeis* 1½ poll. arctis, subcoriaceis, brunneis, striatis, apice lanceolatis laceris; *panicula* pluristachya, erecta; *spiculis masculis* 3-4 lin. longis, primo cylindratis, demum subturbinatis, rectis vel leviter curvatis, in catervas obpyramidatas congestis, singulis *spatha* vaginæ-formi, ipsa parum brevior munitis; *bracteis* ovato-oblongis obtusiusculis, mucronulatis, *flores* oblongos vix superantibus; *glumis* anguste oblongis, lateralibus externis vix alatis carinatis, carina glabra; *antheris* apiculatis. Femina mihi ignota.

It is not easy to express the differences between this and *T. elongatus* in words. The bracts and glumes of the present plant, however, are blunter, not so nearly lanceolate; and the spikelets are smaller.

38. "*Restio spicigerus* ♂, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS SPICIGERUS* ♂, R. Br., Mast. l. c. x. p. 228.

39. "*Restio spicigerus* ♀; e cap. b. Spei, Thunberg." = *THAMNOCHORTUS SPICIGERUS* ♀, Mast. l. c. x. p. 228.

40. "*Restio dichotomus* ♂, a, e cap. b. Spei, Thunberg." = *R. TRITICEUS*, Rottb., Mast. l. c. viii. p. 243.

41. "*Restio dichotomus* β, e cap. b. Spei, Thunberg." = *R. FERRUGINOSUS* ♂, Link, Mast. l. c. viii. p. 226.

On the same sheet is written, in another handwriting probably, "*Schænus capensis*, L., ut vidi ex herb. Solander."

42. "*Restio dichotomus* γ, e cap. b. Spei, Thunberg." = *R. TRIFLORUS* ♂, Rottb., Mast. l. c. viii. p. 234.

It is thus clear that Thunberg's herbarium throws no definite light on what he meant by his *Restio dichotomus* (Diss. n. 26), which by subsequent writers has been assigned to many different plants. Linnæus's *R. dichotomus* I believe to be *Thamnochortus fruticosus*, Berg, in 'Journ. Linn. Soc.' viii. 212, x. 229.

43. "*Restio vimineus* e cap. b. Spei, Thunberg." = *RESTIO PERPLEXUS*, Kunth, Mast. l. c. viii. p. 253.

The plant does not correspond with Rottboell's very insufficient figure of *Restio vimineus*.

44. "*Restio vimineus* β, e cap. b. Spei, Thunberg." = *R. CINCINNATUS*, Mast. l. c. viii. p. 240.

On the same sheet, in the same handwriting, is written "*Restio dichotomus*, e cap. b. Sp., Thunb.;" but it does not correspond with Rottboell's figure of that species.

45. "*Restio scariosus* ♂ et ♀, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS ARGENTEUS*, Mast. l. c. x. p. 227.

This scarcely accords with the description given by Thunberg of his *Restio scariosus* (Diss. n. 12).

46. "*Restio scariosus* ♂ β, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS ARGENTEUS*, Mast. l. c.

47. "*Restio thamnochortus*, e cap. b. Spei, Thunberg." = *THAMNOTUS DICHOTOMUS*, R. Br., Mast. l. c. x. p. 229.

On the same sheet, in the same handwriting, is written "*Restio dichotomus*, Rottb. Gram. t. 2. f. 1, ♂."

48. "*Restio thamnochortus* ♂ et ♀, e capite bonæ Spei, Thunberg." = *THAMNOCHORTUS FRUTICOSUS*, Bergius, Mast. l. c. x. p. 229.

This is the species on which Linnæus established his genus *Restio*.

49. "*Restio imbricatus* ♀, e cap. b. Spei, Thunberg." = *THAMNOCHORTUS IMBRICATUS*, Mast. l. c. x. p. 231.

50. "*Willdenovia teres* ♀, e cap. b. Spei, Thunberg." = *WILLDENOVIA TERES*, Thunb. Act. Holm. 1790, 27, t. 2. f. 2; Mast. l. c. x. p. 269.

51. "*Willdenovia striata* ♀, e cap. b. Spei, Thunberg." = *WILLDENOVIA STRIATA* ♀, Thunb. l. c. f. 10; Mast. l. c. x. p. 270.

52. "*Willdenovia compressa* ♀, β, e cap. b. Spei, Thunberg." = ? *WILLDENOVIA COMPRESSA*, Thunb. Act. Holm. 1790, t. 2. f. 3.

This may be the true *Willdenovia compressa* of Thunberg, whose description, however, would apply, except as regards the stigmas, to *Cannamois virgata*, Steud., as well as to a species of *Willdenovia*. Indeed the specimen has all the appearance of being a young state of *Cannamois*. The specimen, however, does not admit of examination. In both genera the presence of three stigmas, as described and figured by Thunberg, is unusual.

Observations on the Fruit of *Nitophyllum versicolor*.

By Mrs. MERRIFIELD.

[Read May 7, 1874.]

OF the British species of *Nitophyllum*, the fruit of all, with the exception of that of *N. versicolor*, is well known. But although this species was discovered so long ago as the year 1800, the fructification was unknown to algologists until 1872 or 1873, when I received from a friend, who kindly divided her only specimen with me, a frond of this plant in fruit. Some time ago I sent a fragment, with fruit, of my plant to Prof. Agardh; but I have not yet heard his opinion of it. The fruit being unknown in this country, a brief description of it, accompanied by drawings, may perhaps be acceptable.

The specimen bears coccidia, which are very minute, and are scattered over the lamina of the frond. In size, the coccidium is about equal to four of the polygonal cells of which the surface is composed. The frond is pale in colour; the fruit appears