NOTES ON SOME TASMANIAN MESOZOIC PLANTS.

Part II.

By

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Plate IX.

(Read 13th July, 1925.)

This paper completes the examination, undertaken last year, of a series of fossil plants from the Mesozoic Rocks of Tasmania. In addition to the collections of the Tasmanian Museum and Geological Survey, I have also had the opportunity of examining a small collection from Mt. Nicholas, presented by Mr. Alex. Montgomery to the Geological Survey of New South Wales. For this latter opportunity I have to thank Mr. W. S. Dun, who very kindly gave me his notes on the specimens, and also furnished me with the photograph of the specimen of *Pecopteris* figured here.

I take this further opportunity of reiterating my admiration of the work the late R. M. Johnston did on these fossil floras, thirty to forty years ago; and also of expressing again my appreciation of the kindness of Messrs. Clive Lord and P. B. Nye in giving me the opportunity of examining the collections and in offering every facility to assist me in the work.

The following list of thirty-three species indicates the extent to which the Tasmanian Mesozoic flora is now known, and compares favourably, as regards number of known species, with any of the floras of Mesozoic age in Australia:—

Equisetales:

Neocalamites Carrerei, Zeiller.
Phyllotheca australis, Brongn.

Filicales:

Cladophlebis australis (Morris).
„ *tasmanica* (Johnston).
„ *Johnstoni*, Walkom.
? *Phlebopteris alethopteroides*, Eth. Jr.

Thinnfeldia Feistmanteli, Johnston.
„ *odontopteroides* (Morris).
„ *lancifolia* (Morris).
„ *acuta*, Walkom.
„ cf. *talbragarensis*, Walkom.
Johnstonia coriacea (Johnston).
„ *dentata*, Walkom.
„ *trilobita* (Johnston).
Linguifolium diemenense, Walkom.
„ *Lillieanum*, Arber.
Sphenopteris Morrisiana, Johnston.
Pecopteris (cf. *Hillæ*, Walkom).
Tæniopteris Morrisiana, Johnston.
„ *Carruthersi*, Tenison-Woods.
Sagenopteris moribunda, Johnston.
Chiropteris tasmanica, Walkom.

Cycadophyta:
Pterophyllum Strahani, Johnston.
„ *risdonensis*, Johnston.
„ (*Anomozamites*) *inconstans* (Braun).
Pseudoctenis sp.
Sphenozamites Feistmantelii, Johnston.

Ginkgoales:
Ginkgoites digitata (Brongn.).
„ *salisburioides* (Johnston).
Baiera tenuifolia, Johnston.
? *Baiera bidens*, Tenison-Woods.
? *Czekanowskia* sp.
Phœnicopsis elongatus.

Neocalamites Carrerei has been recorded from rocks of Rhætic age in Tonkin and South Africa, and from the Ipswich Series, of Upper Triassic age, in Queensland.

Phyllotheca australis is more typically a Permian species, occurring in association with the Glossopteris flora. It is present in the Triassic Narrabeen Stage of the Hawkesbury Series in New South Wales, and has been recorded, with some doubt, from the Ipswich Series of Queensland.

Cladophlebis australis is of very widespread occurrence in Australia and New Zealand, as well as other parts of the world, in rocks of Triassic, Jurassic, and Cretaceous ages, and affords no indication of the exact horizon of the rocks in which it occurs.

Cladophlebis tasmanica and *C. Johnstoni* are so far only known from Tasmania.

Phlebopteris alethopteroides, described from rocks of the Walloon Series (Jurassic) in Queensland, was compared with the European *Phlebopteris polypodioides*, which is now placed in the genus *Laccopteris*. This latter genus is widely spread in Rhætic, Jurassic, and Lower Cretaceous floras, but up to the present the Australian species has only been found in Jurassic rocks.

Thinnfeldia. The distribution of this genus in Australia is of interest. It has been pointed out that in Queensland there are no records of *Thinnfeldia* from the Walloon Series, all the known occurrences being in the Ipswich Series or its equivalents. In New South Wales, however, although *Thinnfeldia* is abundant in the Triassic floras, it is also present in the Talbragar beds in association with *Tæniopteris spatulata*; these Talbragar beds are indicated to be of Jurassic age, both by their stratigraphical relations and by their fossil flora. In New Zealand, *T. Feistmanteli* occurs in ? Rhætic and also in Middle Jurassic rocks; *T. lancifolia* and *T. odontopteroides* only in rocks of Rhætic age. In Tasmania there are five species of *Thinnfeldia*, four of which (*Feistmanteli, odontopteroides, lancifolia,* and *acuta*) occur in the Ipswich Series of Queensland, or its equivalents (Rhætic, or a little older), and the fifth (cf. *talbragarensis*) is a species intermediate between *Feistmanteli* and *lancifolia*, which was described from the Jurassic Talbragar Beds.

The genus *Johnstonia* is not known outside of Tasmania, and the three species included in it cannot yet be used for purposes of correlation.

Linguifolium Lillieanum is a species described by Arber from rocks of Rhætic and ? Lower Jurassic age in New Zealand, but has not hitherto been recorded from Australia. *L. diemenense* is only known from Tasmania.

Sphenopteris Morrisiana is also a species known only from Tasmania.

The specimens compared with *Pecopteris Hillæ* would, if the comparison were certain, be of some value in correlating the Tasmanian strata with those of the mainland. Both sterile and fertile fronds of *P. Hillæ* have been described from the Esk Series (equivalents of the Ipswich Series) in Queensland, of Upper Triassic age.

Tæniopteris Morrisiana is only known from Tasmania; *T. Carruthersi* (= *T. tasmanica*, Johnston) occurs in the Ipswich and Esk Series in Queensland.

Species of *Sagenopteris* are not of common occurrence in Australia, and, so far, all the specimens have been referred to one species, and have been obtained from Jurassic rocks. The species *S. moribunda* from Tasmania may possibly be synonymous with *S. rhoifolia* of the mainland.

Chiropteris tasmanica appears to differ from *C. lacerata*, the only other species known from Australia or New Zealand, which occurs in the Rhætic Beds at Mount Potts, New Zealand.

Pterophyllum Strahani and *P. risdonensis* are only known from Tasmania. *P.* (*Anomozamites*) *inconstans* is referred to a species which occurs widely in rocks of Rhætic age.

Sphenozamites Feistmantelii is only known from Tasmania.

Ginkgoites digitata is a very widespread Jurassic species, and specimens referred to it have been obtained from the Ipswich and Esk Series in Queensland. A similar form is *G. moltenensis* from the Rhætic of South Africa.

Ginkgoites salisburioides cannot at present be correlated with any species occurring in other localities. The small rosette-shaped structures found in association with *Baiera tenuifolia* are similar to those described from the Ipswich Series in Queensland, and also from the Stormberg Beds in South Africa, as *Stachyopitys annularioides*.

Baiera bidens, a common Jurassic type, occurs in the Ipswich Series in Queensland, and *B. australis*, a similar form, is found in the Jurassic of Victoria.

The type of leaf described as *Phœnicopsis elongatus* is common in the Esk Series of Queensland, and also occurs in the Stormberg Beds of South Africa, both of Rhætic age. Similar leaves have been described from Rhætic rocks in South America.

Of this list of thirty-three species there are seventeen which are known definitely to occur in other Mesozoic floras.

The following table indicates which of these seventeen species are also found in other Australian Mesozoic floras:—

	Narrabeen Beds, N.S.W. (L. Trias.)	Ipswich and Esk Series, Q'land (Rhætic).	Rhætic of New Zealand.	Walloon Series, Q'land (Jurassic).	Talbragar Series, N.S.W (Jurassic).	Jurassic of New Zealand.	Jurassic of Victoria.
Neocalamites Carrerei		x					
Phyllotheca australis	x	x					
Cladophlebis australis		x	x	x	x	x	x
Phlebopteris alethopteroides				x			
Thinnfeldia Feistmanteli	x	x	?		x	?	
,, *odontopteroides*		x	x				
,, *lancifolia*	x	x	x				
,, *acuta*		x					
,, *talbragarensis*					x		
Linguifolium Lillieanum			x			x	
Pecopteris Hillae		x					
Taeniopteris Carruthersi		x					
Pterophyllum inconstans							
Ginkgoites digitata		x					
Baiera tenuifolia		x					
,, *bidens*		x					
Phoenicopsis elongatus		x					
	3	13	6	2	3	3	1

This shows thirteen of the seventeen species to be common to the Tasmanian flora, and that of the Ipswich and Esk Series of Queensland, and leaves no doubt that there is a much closer relation between these two floras as at present known than between the Tasmanian and any other flora in Australia and New Zealand.

It is notable that the only species common to this Tasmanian flora and the Victorian Jurassic flora is *Cladophlebis australis*, a species which is present in almost every Mesozoic flora known.

Perusal of the foregoing notes on the distribution of the species occurring in the Tasmanian Mesozoic flora gives strong support for the suggestion that the whole of the collections examined by me have been obtained from rocks of Upper

Triassic (Rhætic) age, and that these may be correlated as regards their age with the Ipswich Series (and its equivalents, the Esk Series, and probably also the Lower portion of the Tiaro Series) of Queensland, and the Rhætic beds occurring at Mount Potts and the Clent Hills (Canterbury).

As stated in the first part of this paper, very many of the specimens examined have been without locality labels, and it now remains for someone with a knowledge of the field geology of the rocks from which these fossils were collected to identify as many of the specimens as possible lithologically. I feel sure that correct localities could be determined in this way for more than 90 per cent. of the specimens.

Until this has been accomplished, little further can be done in correlating the fossil collections from different districts with one another, and with those obtained from the various Mesozoic strata of Australia and New Zealand.

REVISION OF THE DETERMINATIONS OF R. M. JOHNSTON AND O. FEISTMANTEL.

In view of the long period which has elapsed since R. M. Johnston and O. Feistmantel described collections of Tasmanian plants, and of the many changes in nomenclature since those days, it is considered that the following revision of the names applied to their figured specimens will be of considerable value and interest to students of Tasmanian fossil floras. Only the figured specimens have been dealt with, as one can feel reasonably certain of identification in these cases, whereas there would be too much uncertainty attached to a similar treatment of those species which were described but not figured.

R. M. Johnston. (Pap. Prop. Roy. Soc. Tas., 1886.)	Revised Nomenclature.
Pl. 1.	
1-1A *Pterophyllum Strahani*	= *Pterophyllum Strahani.*
2 *Salisburia hobartensis*	= ? *Baiera bidens.*
4-4A *Sagenopteris salisburioides*	= *Ginkgoites salisburioides.*
5-5A *Glossopteris moribunda*	= *Sagenopteris moribunda.*
Pl. 2.	
1 *Alethopteris serratifolia*	= *Cladophlebis australis.*
2 *Neuropteris tasmaniensis*	= ? *Thinnfeldia lancifolia.*
Pl. 3.	
1 *Cyclopteris australis*	= *Ginkgoites digitata.*
2 *Baiera tenuifolia*	= *Baiera tenuifolia.*
3 *Ginkgophyllum australis*	= ?
4 *Neuropteris antipoda*	= ? *Cladophlebis australis.*
5 *Odontopteris crispata*	= *Pterophyllum (Anomozamites) inconstans.*
6 *Pterophyllum (?) dubia*	= ? *Taeniopteris* sp.

Pl. 4.	
1-2 *Sphenozamites Feistmantelli*	= *Sphenozamites Feistmantelii.*
3 *Taeniopteris tasmanica*	= ? *Taeniopteris Carruthersi.*
4 *Trichomanides Ettingshauseni*	= ?
5 *Thinnfeldia media*	= ? *Thinnfeldia lancifolia.*
6 *Thinnfeldia trilobita*	= *Johnstonia trilobita.*

R. M. Johnston.
Geology of Tasmania (1888).

Pl. 25.	
1 *Pecopteris (Thinnfeldia) odontopteroides*	= *T. lancifolia.*
2 " " "	= *T. lancifolia.*
3 *Thinnfeldia* sp.	= *T. Feistmanteli.*
4 *Pecopteris (Thinnfeldia) odontopteroides*	= *T. lancifolia.*
5-6 *Alethopteris australis*	= *Cladophlebis australis.*
7 *Thinnfeldia obtusifolia*	= *T. odontopteroides.*
8 *Alethopteris australis*	= *Cladophlebis australis.*
9 *Thinnfeldia obtusifolia*	= *T. Feistmanteli.*
10 *Danaea Morrisiana*	= ?
11 Fruit of a conifer	= ?
12 Seed	= ?
13 *Pecopteris caudata*	= ?
14 *Thinnfeldia obtusifolia*	= *T. odontopteroides.*

Pl. 26.	
1 *Pecopteris caudata*	= ? *Linguifolium diemenense.*
2 " "	= ? *Johnstonia coriacea.*
3 Unnamed	= ?
4-5 *Thinnfeldia superba*	= *T. lancifolia.*
6 *Pecopteris caudata*	= ? *Thinnfeldia* sp.
7 *Thinnfeldia obtusifolia*	= ? *T. odontopteroides.*
8 *Pecopteris caudata*	= ? *Johnstonia coriacea.*
9 *Rhacophyllum coriaceum*	= *Johnstonia coriacea.*
10-11 ? *Phyllotheca*	= ? *Baiera tenuifolia.*
12 *Thinnfeldia trilobita*	= *Johnstonia trilobita.*
13-14 ? *Phyllotheca*	= ? *Baiera tenuifolia.*
15 *Thinnfeldia obtusifolia*	= ? *T. odontopteroides.*
16 Seed	= ?
17 *Thinnfeldia obtusifolia*	= ?
18 ? *Phyllotheca*	= ? *Baiera tenuifolia.*
19 *Cyclopteris australis*	= ?
19a *Baiera tenuifolia*	= ?
20 *Pecopteris caudata*	= ? *T. odontopteroides.*
21 *Thinnfeldia obtusifolia*	= *Thinnfeldia* sp.
22 cf. *Glossopteris Browniana*	= ? *Sagenopteris moribunda.*

In his "Geology of Tasmania," R. M. Johnston repeated the four plates from his paper in the Proceedings of the Royal Society of Tasmania for 1886 as follows:—Plates 1, 2, 3, and 4 = Plates 28, 23, 27, and 24 respectively of the Geology of Tasmania.

R. M. Johnston. (Pap. Proc. Roy. Soc. Tas., 1893.)	Revised Nomenclature.
Pl. 2., figs. 1-5.	
Pecopteris odontopteroides	= *Thinnfeldia lancifolia.*
(Pap. Proc. Roy. Soc. Tas., 1894-5.)	
Fig.	
1 *Neuropteris tasmaniensis*	= ? *Thinnfeldia lancifolia.*
2 *Thinnfeldia Feistmantelli*	= *T. Feistmanteli.*
3 *Pecopteris Buftoni*	= ? may be *T. lancifolia.*
4 *Pecopteris caudata*	= ?
5-7 *Strzeleckia gangamopteroides*	= ? *Linguifolium diemenense*
8 ,, *tenuifolia*	= ? *Johnstonia coriacea.*
9 *Cardiopteris tasmanica*	= ?
10-13 *Sphenopteris tasmanica*	= *Cladophlebis tasmanica.*
14-15 ,, *Morrisiana*	= *S. Morrisiana.*
16 *Thinnfeldia polymorpha*	= ? *T. Feistmanteli.*
17 *Gleichenia dubia*	= ?
18 *Thinnfeldia Buftoni*	= ? *T. lancifolia.*

O. Feistmantel. Uhlonosne Utvary v. Tasmanii, 1890. Prague.	Revised Nomenclature.
Pl. 7.	
3-5 *Thinnfeldia odontopteroides*	= *T. odontopteroides.*
6 *Alethopteris australis*	= *Cladophlebis australis.*
Pl. 8.	
*1 *Sphenopteris elongata*	= ? coniferous branch.
*2-4 *Sphenopteris elongata*	= ? *Baiera tenuifolia.*
*5 *Thinnfeldia odontopteroides*	= *T. odontopteroides.*
6-10 ,, ,,	= ,,
*11 ? (*P. caudata*, R.M.J.)	= ?
*12 *Thinnfeldia trilobita*	= *Johnstonia trilobita.*
*13 *Thinnfeldia saligna*	= ? *Linguifolium diemenense.*
*14 *Taeniopteris Carruthersi*	= *Taeniopteris Carruthersi.*
15 *Alethopteris australis*	= *Cladophlebis australis.*
*16-17 *Glossopteris moribunda*	= *Sagenopteris moribunda.*
18-18a *Sagenopteris tasmanica.*	= ?
Pl. 9.	
*1-1a *Sagenopteris salisburioides*	= *Ginkgoites salisburioides.*
*2 *Nilssonia polymorpha*	= ? *Taeniopteris* sp.
*3 *Anomozamites inconstans*	= *Pterophyllum inconstans.*
4 *Podozamites elongatus*	= *Phoenicopsis elongatus.*
*5-6 *Sphenozamites Feistmantelii*	= *Sphenozamites Feistmantelii.*
7 *Otozamites Mandeslohi*	= †*Otozamites Mandeslohi.*
*8 Fragment of leaf	= ?
*9 *Gingko australis*	= *Ginkgoites digitata.*
Pl. 10.	
*1-2 *Anomozamites strahani*	= *Pterophyllum Strahani.*
*4-5 *Trichopitys Johnstoni*	= *Baiera tenuifolia.*
*6 *Gingko Hobartensis*	= ? *Baiera bidens.*

* Figures marked with an asterisk are exact or slightly modified reproductions of some of R. M. Johnston's figures.

† Although I have examined a large number of specimens from Tasmania, I have seen no trace of any species similar to this.

DESCRIPTION OF AND NOTES ON SOME OF THE SPECIES.

Thinnfeldia acuta, Walkom.

Qland. Geol. Survey, Pub. 257, 1917, p. 23, Pl. 3, fig. 4.

A single specimen of portion of a *Thinnfeldia* frond may be referred to this species. It has pinnules about 3.5 cm. long and 0.7 to 0.8 cm. wide at the widest part, and which taper gradually to an acute tip. The species was described from the Ipswich Series in Queensland.

Thinnfeldia sp. (cf. *T. talbragarensis*, Walkom).

A specimen similar to that figured by Johnston as *T. polymorpha* (Pap. Proc. Roy. Soc. Tas., 1895 (1896), p. 62, fig. 16) may be compared with *T. talbragarensis*, a species occupying a position intermediate between *T. lancifolia* and *T. Feistmanteli*, described from Talbragar, N.S.W. (Mem. Geol. Surv. N.S.W., Pal. No. 12, p. 9.)

Pecopteris sp. (? *P. Hillæ*, Walkom). (Plate IX., fig. 1.)

The specimen figured is one from Mount Nicholas, which shows little detail other than the form of the frond and a median vein in each ultimate segment. The general form and the size of the pinnæ and pinnules suggest a comparison with the sterile fronds of *Pecopteris* (*Asterotheca*) *Hillæ* described from Rhætic rocks in the Esk District of Queensland (see Mem. Q'land. Mus., viii., pt. 1, 1924, p. 82). A good specimen from the collection of the Geological Survey of New South Wales is figured on Plate IX., since no similar species has previously been figured from Tasmania.

Linguifolium Lillieanum, Arber.

Geol. Surv. N.Z., Pal. Bull. No. 6, 1917, p. 38.

A number of leaves in a small collection of plants from Mount Nicholas agree very closely with this species, described originally by Arber from New Zealand. Arber's description is:—"Leaves spathulate, up to 9 cm. or more in length, and "1.7-3 cm. across at their greatest width. Margins entire, "apex rounded, leaf gradually tapering to an elongate base; "midrib well marked, persisting to the apex. Lateral veins "arising at an acute angle to the midrib, arching upwards, "and then bending to the margin, once or twice forked, "about 1 mm. apart."

Associated with these larger leaves are numerous smaller ones, which only appear to differ in size, and for the present may be regarded as belonging to the same species. These

small examples are up to 6 cm. long and 0.5 cm. wide (though usually only 0.3 to 0.4 cm. wide), with a prominent midrib and secondary veins making an angle of 25deg.-30deg. with the midrib. The secondary veins usually branch once, and at the margin are about 1 mm. apart. I have only observed them associated with the larger ones.

Sagenopteris moribunda (R. M. Johnston).

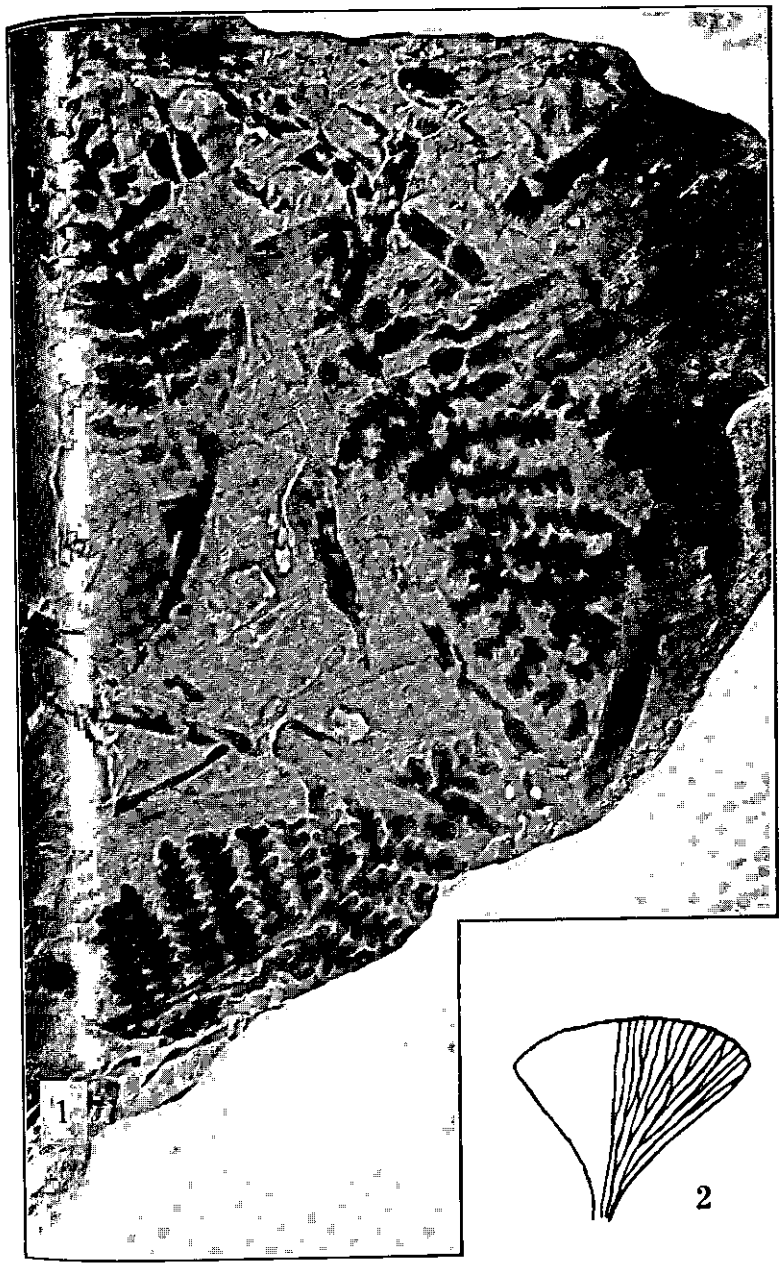
Glossopteris moribunda, R. M. Johnston, Pap. Proc. Roy. Soc. Tas., 1886 (1887), p. 169, Pl. I., fig. 5; Feistmantel, Uhlonosne Utvary v. Tasmanii, 1890, p. 99, Pl. 8, f. 16 and 17.

The specimens referred to *Glossopteris moribunda* by Johnston were incomplete leaves, in which the anastomosing venation was the factor relied on for the reference to *Glossopteris*. The leaves would probably be more correctly placed in *Sagenopteris*, a Mesozoic genus with a similar type of venation. The network formed by the veins is somewhat more open than in the examples of *Sagenopteris* I have seen from Queensland, and probably the Tasmanian form is a different species. Feistmantel (1890, p. 99) suggested a reference to *Sagenopteris*, and for the present the best course would appear to be to keep the specific name proposed by Johnston, but to transfer it to the genus *Sagenopteris*.

Chiropteris tasmanica, n.sp. (Plate IX., fig. 2.)

Leaf fan-shaped, outer margin apparently lobed. Veins radiating from base, branching dichotomously, about 1 mm. apart; adjacent veins joining occasionally.

This single specimen could easily be taken, at first glance, for such a species as *Ginkgoites antarctica*, but closer examination shows that the veins occasionally anastomose, and there is some indication that the outer margin may be lobed, after the manner of some examples of *G. digitata*. The specimen is 3.5 cm. from base to outer margin, and about 3 cm. wide at its widest portion. It does not agree with Johnston's *Sagenopteris salisburioides* (= *Ginkgoites salisburioides*), and for the present may be placed in *Chiropteris*, a species of which has been described by Arber from rocks of Rhætic age in New Zealand. It is very similar to the fragment figured by Seward (Ann. S.Af. Mus., iv., Pt. 1, p. 62, Pl. ix., fig. 4) as *Chiropteris cuneata* from the Stormberg Beds (Rhætic) of South Africa.



(1) *Pecopteris* sp., from shales of Mt. Nicholas.
(2) *Chiropteris tasmanica*, n.sp.

Pterophyllum (*Anomozamites*) *inconstans* (Braun.).

Odontopteris crispata, Johnston, Pap. Proc. Roy. Soc. Tas., 1886 (1887), p. 172, Pl. 3, fig. 5. *Anomozamites inconstans*, Feistmantel, Uhlonosne Utvary v. Tas., 1890, p. 108, Pl. 9, fig. 3.

The specimen placed by Johnston under *Odontopteris crispata* would seem to be more correctly placed under the division of *Pterophyllum*, in which the lamina is more or less continuous.

A somewhat similar type is *Nilssonia elegans*, Arber, described from rocks of Middle Jurassic age in New Zealand.

Sphenozamites Feistmantelii, Johnston.

The examination of additional specimens has convinced me that the best place for the specimen which, in Part I. of this paper, I referred to ? *Otozamites* is in *Sphenozamites*, where Johnston placed it in 1886. *Sphenozamites* was originally proposed as a subgenus of *Otozamites* for plants which agreed with this genus in venation and mode of attachment of the pinnæ, but in which the bases of the pinnæ were not auriculate. The additional specimens, which were amongst a later consignment forwarded me by the Geological Survey of Tasmania, show that the venation is that of *Otozamites*, *i.e.*, divergent and dichotomously branching, but that there is an absence of the characteristic lobe at the base of the pinna. It is difficult to determine the mode of attachment of the pinnæ to the rachis, but it does appear in places as if the pinna partly overlaps the rachis and is attached to the upper surface. There is in general a notable contraction towards the base of the pinna; there is also in all the specimens a number of the spine-like extensions of the lamina which are well shown in the figures. These peculiar extensions are generally traversed by a single vein, which, in cases where the extension of the lamina is itself forked, branch so that a single branch vein goes into each segment.

? *Czekanowskia* sp.

Associated with *Cladophlebis australis* at Mount Nicholas are numerous long, narrow leaves, suggestive in part of *Baiera tenuifolia*, but differing in that they are traversed by a series of delicate parallel veins or striations, and differing from that species also in an apparent absence of the branching which it commonly exhibits. Another suggestion

is that these may be leaves of an equisetaceous plant, *e.g.*, *Neocalamites Carrerei*, which has numerous long, narrow leaves at each node of the stem. The presence of a number of parallel veins, if such they be, is against this.

EXPLANATION OF PLATE IX.

1. *Pecopteris* sp. (cf. *P. Hillæ*, Walkom) from the shales of Mount Nicholas.
2. *Chiropteris tasmanica*, n.sp. Diagram to show venation.

Note.—Since this paper was written Mr. P. B. Nye, Government Geologist of Tasmania, has pointed out that the fossil plants described have practically all been obtained from the Middle or Felspathic Sandstone Series, the classification of the Mesozoic Rocks known as "Trias-Jura" in Tasmania being as follows:

Upper Sandstone Series.

Middle or Felspathic Sandstone Series (up to 600 feet).

Lower or Ross Sandstone Series (up to 800 feet).

A.B.W.

17th July, 1925.