

Jack  
Geological Survey Office  
Townsville, Queensland, 10 Sep. 1878

Dear Sir

On my return from a trip in the interior, I found your "notes on Scottish Devonian plants," for which I may accept my best thanks.

The interest you take in the Devonian flora induces me to send you a plant-fragment (apparently, of a species of Lycopodites or Lepidodendron) which I recently obtained from the Fanning River here. I submit it to your authority, with only a few remarks on the Devonian & Carboniferous rocks of Queensland.

The lowest Devonian stratum known is a limestone, which rests on granite & other metamorphic rocks (probably Silurian), & which attains, in the valley of the Burdekin, a thickness of at least 500 ft. It is crammed throughout with corals, of which I recently sent a collection to Mr. R. Etheridge jun<sup>r</sup> Edin<sup>r</sup>, for determination. This is the limestone referred to by Daintree, Q.J.G.S.L. Vol. 28 p. 290.

This limestone, on the Fanning & Keelbottom Rivers, is succeeded conformably by an immense thickness (some thousands of feet) of white and brown calcareous &



feldspathic Sandstones & conglomerates, with contemporaneous lava-sheets (Dolerites, porphyrites & diabases). The resemblance of this formation as a whole, to the Old Red beds of Perthshire (except in their greater horizontality) is very striking. The specimen now sent is from a bed of Sandstone near the base of the series, & is so far as I am aware, the only fossil the series has yet yielded.

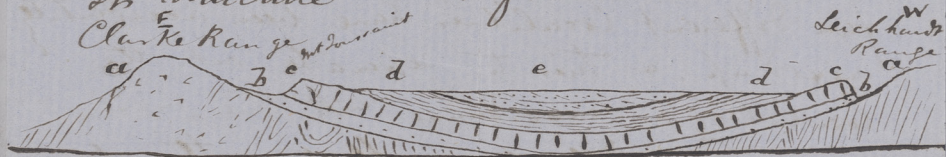
Next in ascending order come the Mount Wyatt, Canoon, Broken River & Gympie beds referred to by Daintree (pp 288-9) & these localities may be added the Star River area, which I had lately an opportunity of mapping in detail. The latter beds consist of Sandstones & conglomerates (at base), & Sandstones, limestones, Cement-stones & shales, & occupy an area of about 50 square miles. Most of the mollusca enumerated by Etheridge (Q.J.S.S. Vol 28 p 289) as from the Gympie series are represented here. The characteristic fossil is *Carruthersia Lepidodendron notatum* (McCoy's *L. australe*). A large collection of these & of the mollusca has been placed in Mr. Etheridge's hands.

I strongly suspect that further investigation will prove that the Mount Wyatt, Star R. bed rest unconformably on the Sandstone Series of Keelbottom & Fanning. The Star Series lies directly on upturned Slates (Silurian?). Daintree refers (p 288) to the fossiliferous Gympie, Mt. Wyatt &c. beds as the "higher members" of the



Devonian System; but from his remarks on p. 290, it is evident that he has not followed the series from top to bottom.

The coalfield of the Baven, Dawson, Comet & Mackenzie rivers, according to the Rev. W. B. Clarke, overlies the M. W. Zett beds unconformably, at the head of the Don River [The Rockhampton Don]. I lately mapped the greater part of the Baven field in detail. Its structure is as follows -



- a. a. Schists, slates, granites &c.
- b. b. Yellow Sandstone
- c. c. Bedded Traps (Mt. Jossaint Range)
- d. d. Marine Series, with a few coal seams, shales & ferruginous sandstones, with great banks of shells, chiefly *Productus Clarkei*, *Strophomena*, *Strophomena bisulcata* &c.
- e. Fresh Water Series. Light blue sandstones with numerous thick coal seams. The sandstones are plentifully strewed with silicified & fossilized drifted exogenous trees. Some of these are 40 ft. in length. In one I counted 30 rings of growth. The shaly partings contain, besides calamites, *Glossopteri Browniana* in abundance. You are aware of course, of the long standing dispute regarding the age



of the bed containing this plant, in which  
McCoy & Clarke took opposite sides.

The large collection of fossils  
made during my recent trip may help,  
when examined, to settle this question.  
I am fully prepared to find that what may  
be called the want of harmony between the  
flora & fauna of Australia dates far back  
into palaeozoic times. I have observed that  
whenever a palaeontologist gets a collection of  
Australian fossils to examine, he sooner or  
later comes to the conclusion that specimens  
from different localities have been accidentally  
mixed up, & tries to separate out the  
localities in accordance with this view.

You will observe that in the above  
section the Coalfield beds rest directly on  
Schists &c. - probably Silurian. The Rev. W.  
B. Clarke is the authority for placing  
the series above the Mt. Lyell &c. beds  
(separated by an unconformability).

I am yours sincerely  
Robert H. Jack

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