

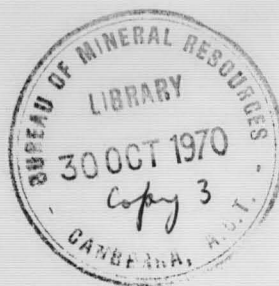
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BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Record No. 1969 / 57



Report on the 1968 Collection of
Plant Fossils from Surat and
Clarence - Moreton Basins,
Queensland

by

Mary E. White

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Summary: Plant fossils were collected at five localities in the Clarence-Moreton Basins and four in the Surat Basin in 1968 by members of the Surat Basin field party. In the Clarence-Moreton Basin, two localities in Walloon Formation contain Jurassic plants, and two in Marburg Formation contain plants with Rhaetic/Jurassic range. At the fifth locality the plants show Triassic/Jurassic age.

In the Surat Basin, Locality SB 1016 from Orallo Formation has a Jurassic flora. Locality SB 1214, thought in the field to be Blythesdale equivalent, has a probably Jurassic flora.

I. Localities in Clarence-Moreton Basin - Warwick Sheet

1. Locality SB 1017 : 4 miles SSW of Mallanganee.
GR 580414.

Field information: "Walloon Formation".

Specimens F 22998.

The only determinate plant fragments in these specimens, which contain a great deal of plant material, are pinnules of Cladophlebis australis (Morr.) and parts of leaves of Taeniopteris spatulata McClelland. Cladophlebis australis ranges from Upper Triassic to Lower Cretaceous. Taeniopteris spatulata is a Jurassic and Lower Cretaceous species.

Age: Jurassic or Lower Cretaceous.

2.

2. Locality SB 1242: 6 miles SW of Warwick on the Stanthorpe Rd.
GR 505491.

Field information: "Marburg Sandstone".

Specimens F 22999.

A small conifer twig referable to Brachyphyllum crassum Ten. Woods is present. It is illustrated in Figure 1. The closely packed, short, thick and fleshy adpressed leaves are spirally arranged. The species is Jurassic/Lower Cretaceous.

Figure 1.

Brachyphyllum crassum Ten. Woods. Negative F/5448

Specimen F 22999. Magn. X 2.



3. Locality SB 1286: 4 miles SW of Mt. Toowoona, at roadside.
GR 570497.

Field information : "Walloon Formation".

Specimens F 23000 - bulk of specimens.

F 23001, F 23002 illustrated specimens.

These specimens contain beautifully preserved plant fossils. Fronds and pinnules of Cladophlebis australis (Morr) comprise most of the impressions. Figure 2 of specimen F 23001 illustrates the species.

Figure 2.

Cladophlebis australis (Morr). Negative F/5446

Specimen F.23001. Natural size.

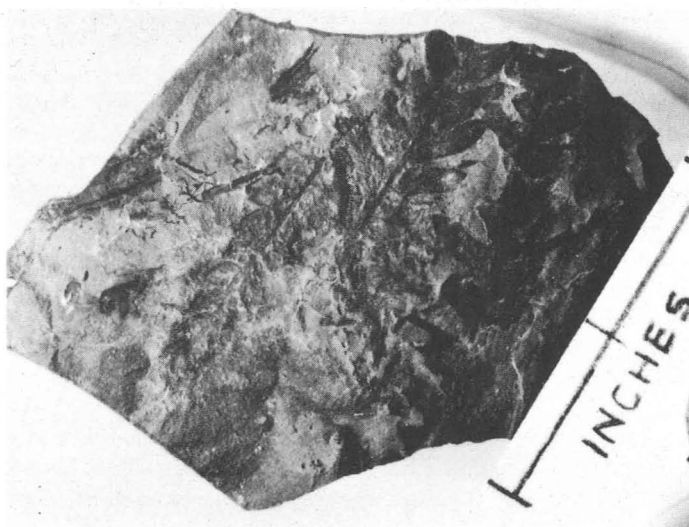


Figure 3 illustrates a fern frond referred to Sphenopteris sp. cf. S. superba Shirley. Ferns of this type have a Rhaetic - Lower Cretaceous range and the present fragment is too small for close identification. There is much variation in pinnule form and size within the species.

Figure 3

Sphenopteris sp. Negative F/5463

Specimen F 23002. Magn. X 2.



Age: Range of plants - Upper Triassic to Lower Cretaceous.

4. Locality SB 1298: 200 yards E of Durikai siding on the
Warwick - Goondiwindi railway line.
GR 466503.

Field information: "Marburg Sandstone".

Specimens F 23003, F 23004 and F 23005 Illustrated
F 23213 not illustrated.

Otozamites feistmanteli Zigno is present in quantity, very well preserved, in these specimens. It is illustrated in Figure 4 associated with Sagenopteris rhoifolia (Presl) and a larger frond is illustrated in Figure 5.

5.

Figure 4

Otozamites feistmanteli and Sagenopteris rhoifolia.

Specimen 23003. Natural size. Negative F/5458

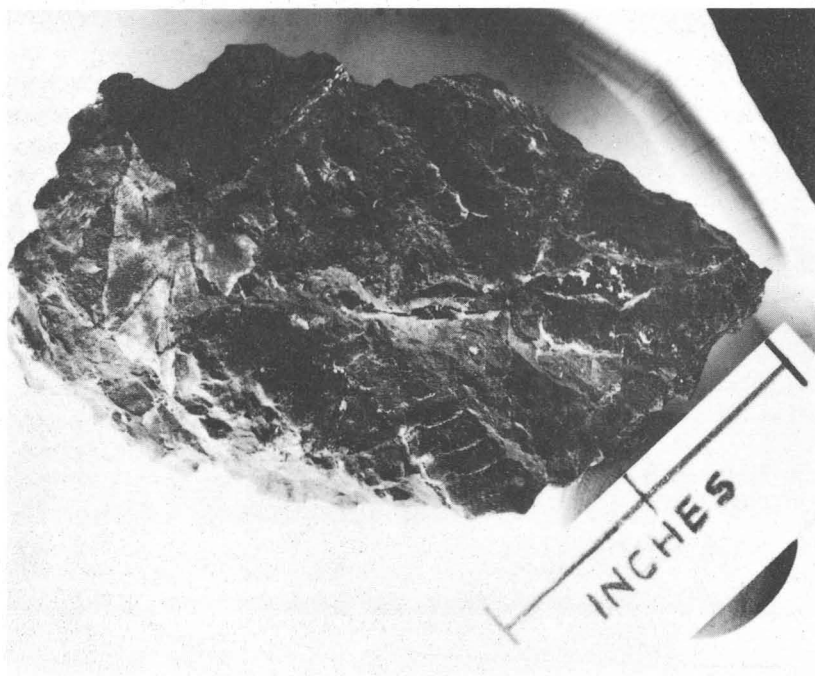
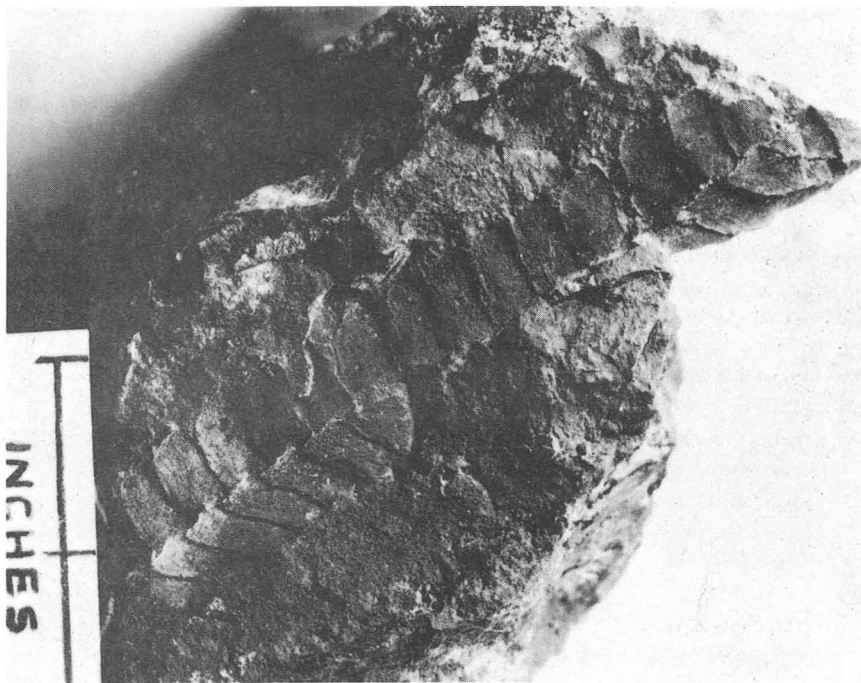


Figure 5

Otozamites feistmanteli. F 23004. Negative F/5444



A bipinnate fern frond is illustrated in Figure 6. It has a rachis which is not winged, bearing pinnae. The pinnules have a prominent midvein at right angles to the axis of the pinna. This fern is "Pecopteris" (Asterotheca) hillae Walkom, a species recorded in beds of Middle - Upper Triassic age.

Otozamites feistmanteli is a Jurassic - Lower Cretaceous species.

Age: Jurassic.

Figure 6

Pecopteris hillae Walk. Negative F/5455

Specimen F 23005. Natural size.



5. Locality SB1144. S.E. slope of Mt. Barney.

GR 581, 489.

Specimens F 23226 and F 23227 illustrated.

F 23228 not illustrated.

Figure 7 of specimen F 23226 shows a frond of Dicroidium odontopteroides (Morr) Gothan. This species has a Triassic and Jurassic distribution.

8.

Figure 7.

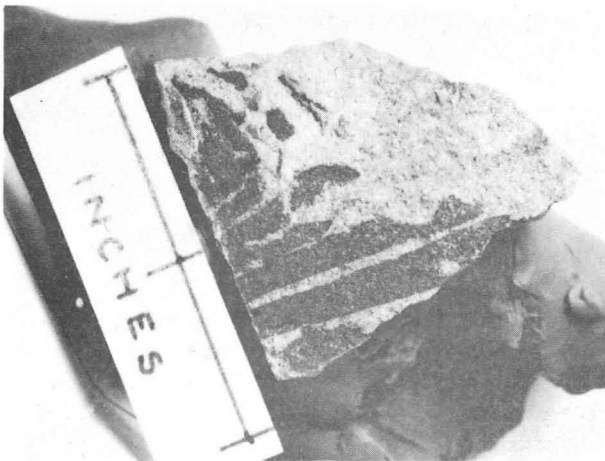
Dicroidium odontopteroides (Morr) Gothan
F 23226. Natural size. Negative F/5452



In Figure 8 a poorly preserved specimen is illustrated. Parts of six pinnae are present. Venation appears to be fine parallel veins. The specimen is referred to Pterophyllum sp.

Figure 8.

Pterophyllum sp. Negative F/5453
F 23227. Natural size.



Pterophyllum ranges from Triassic to Lower Cretaceous.

Age: Triassic or Jurassic.

2. Surat Basin Localities - Dalby Sheet

6. Locality SB 1016: Mount View Homestead.

GR 374565.

Field information : "? Orallo Formation".

Specimens F 23214, F 23215 and F 23217 illustrated.

F 23216 not illustrated.

Taeniopteroid leaves of all sizes, many very narrow and all much elongated, are present in these specimens. Preservation is good and detail of venation clearly seen. A prominent marginal vein is a constant feature and the leaves are referable to Yabiella mareyesiacae (Geinitz) Oishi. This is a species which characterises Middle - Upper Triassic strata. Figure 9 shows a large leaf of the species. A small leaf is seen in Figure 10 associated with a fragment of Ginkgo digitata (Brong) Heer. Ginkgo digitata has a Triassic - Jurassic range.

Very narrow, elongated leaves with a prominent midvein are illustrated in Figure 11. These are referable to Xylopteris elongata (Carr). Some of the leaves fork. The species is Rhaetic.

Figure 9 Negative F/5467

Yabiella mareyesiaca

F23214. Magn. X 2.

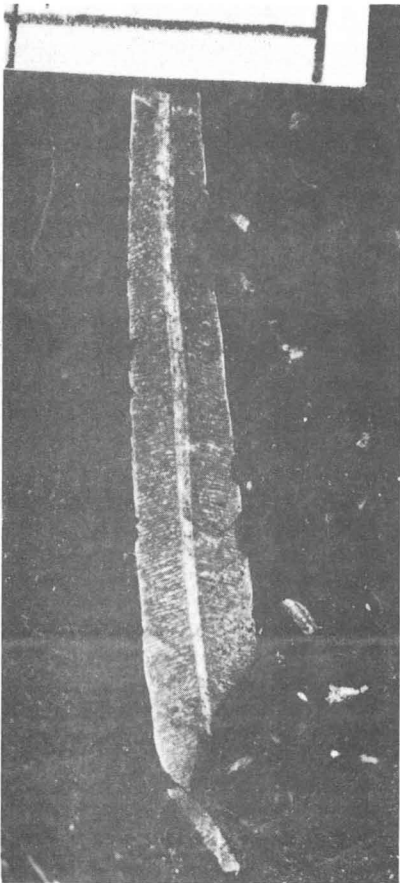


Figure 10. Negative F/5464

Y. mareyesiaca, Ginkgo digitata.

F23215. Magn. X 2.

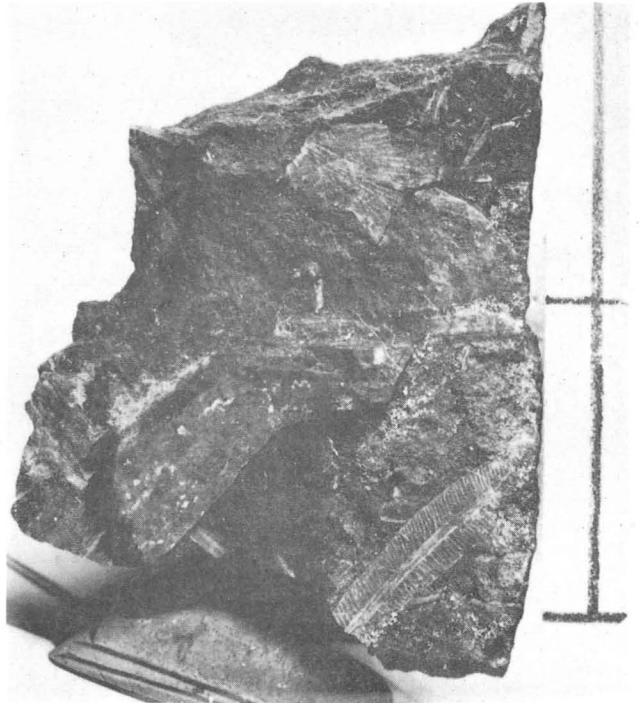
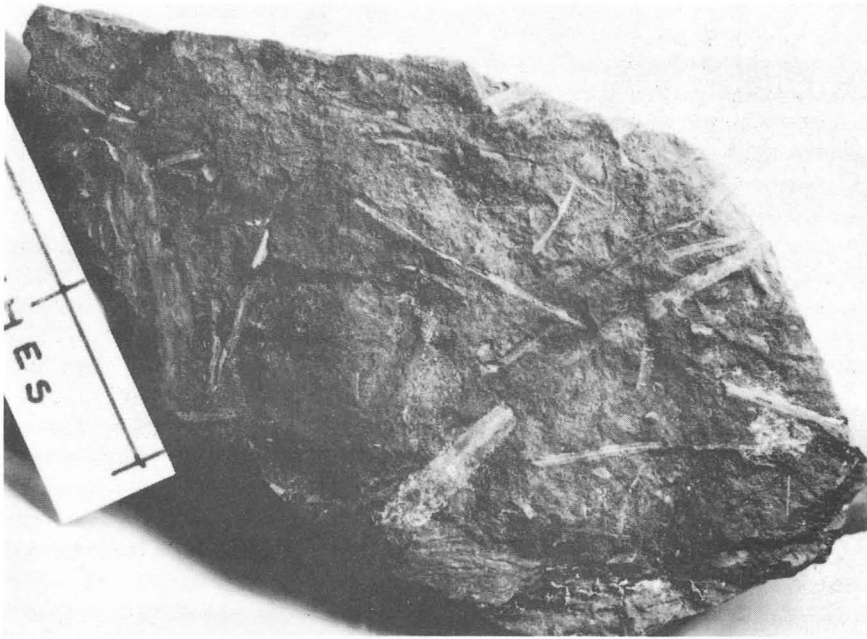


Figure 11 Negative F/5443
Xylopteris elongata (Carr)
F 23217. Natural size.



An association of Yabiella, Ginkgo and Xylopteris is Triassic in age.

Locality SB 1016 is known from field information to be Jurassic in age. The stratigraphy of the Roma type area is well understood and the units have been traced into the area from which the collection was made. Evidence from bores confirms that Loc. SB 1016 is of post Lower Jurassic age.

Yabiella was believed to be a form confined to the Triassic. Its presence in Orallo Formation extends its known range into Jurassic. The clear marginal vein in the specimens leaves no doubt about the identification.

In the 1967 collection from the Surat Basin (Records 1967/162, a collection from Orallo formation at Loc. SB 978 has taeniopteroid leaves identified as Taeniopteris spatulata. On review some of these, notably in specimen F 22895 illustrated in Figure 12 of Records 1967/162 are probably referable to Yabiella. Because of the preservation there was some doubt whether a marginal vein was in fact present and the specimens were therefore put into the form species T. spatulata.

Age: Jurassic.

7. Locality SB 1214: 10 miles SE of Tara.

GR 351602.

Field information : "Mooga Sandstone Member (Blythesdale Formation) equivalent".

Specimens F 23218, F 23219, F 23220, F 23221 and F 23222
illustrated specimens.

F 23223 Bulk of collection.

These specimens contain great quantities of finely macerated plant material. Preservation of some fragments is good.

1. Pachypteris lanceolata (Brong) Specimen F 23218, illustrated in Figure 12. This fern is of Sphenopteris type. It resembles Sphenopteris superbum Shirley but as that species is now included in Dicroidium and the present specimen does not fit into that genus without reservations, it is referred to Pachypteris and closely resembles illustrations of P. lancifolia Brong., which is a Jurassic form.

2. Sagenopteris rhoifolia (Presl) Figure 13 of specimen F 23219.

3. Coniopteris delicatula (Shirley) Figure 14, F 23220 and
Figure 16 of F 23222.

This fern occurs in Triassic and Jurassic strata.

4. Elatocladus planus Feist. Figure 14. F 23220.
5. Sphenopteris cf. S. eskensis or S. burrumensis Walk.

Figure 15 of F 23221 illustrates a pinnule of a species of Sphenopteris which could be referred to either eskensis or burrumensis. It is probable that only one of the species is valid and the presence of a pinnule of this sort denotes Triassic or Jurassic/Lower Cretaceous age.

6. Doratophyllum tenison woodsii (Eth).
7. ? Pterophyllum sp.
8. Brachyphyllum crassum Ten.Woods.

Age: Probably Jurassic.

Figure 12 Negative F/5456
Pachypteris Lanceolata (Brong)
 F 23218. Natural size.

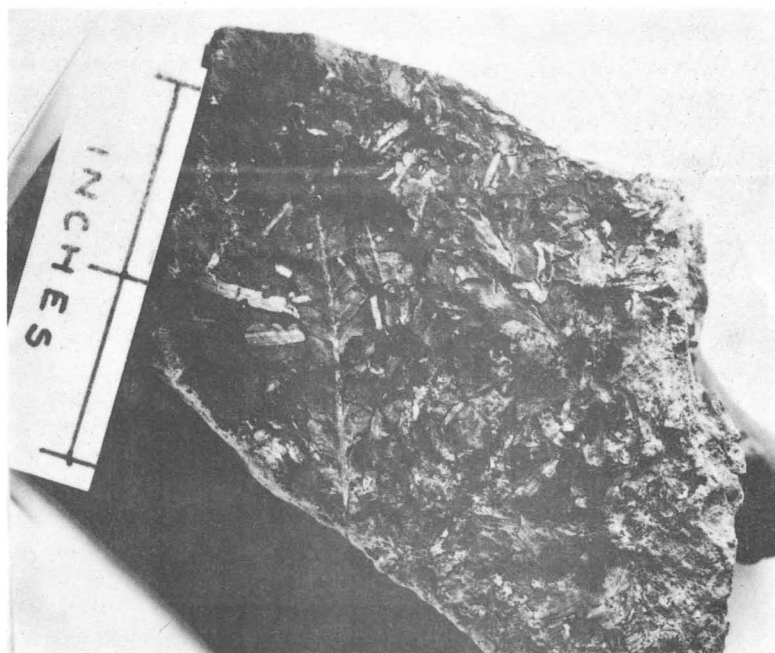


Figure 13 Negative F/5460

Sagenopteris rhoifolia. Magn. X 2.

F 23219

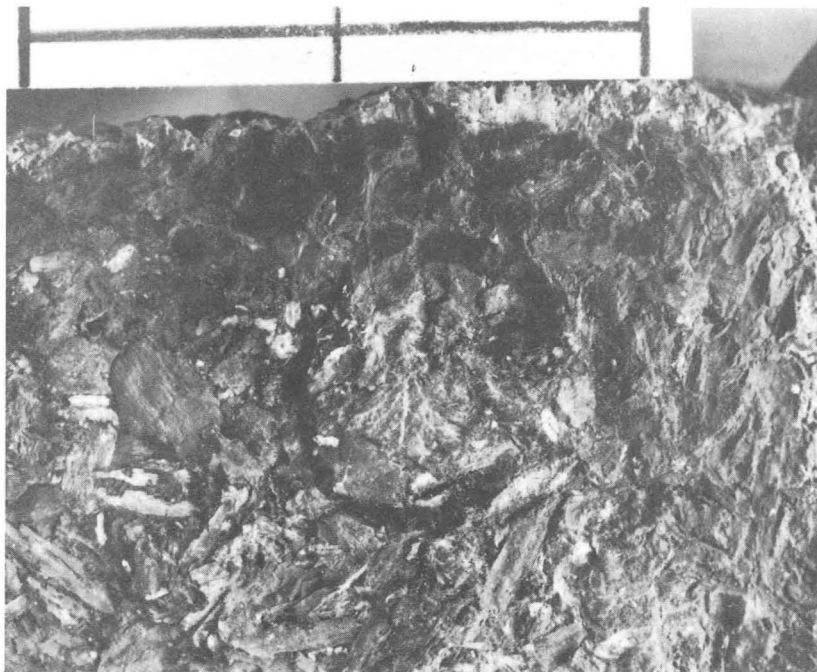


Figure 14 Negative F/5447

Elatocladus planus and Coniopteris delicatula,
F 23220. Magn. X 2.



Figure 15 Negative F/5465

Sphenopteris eskensis. Magn. X 2. F 23221

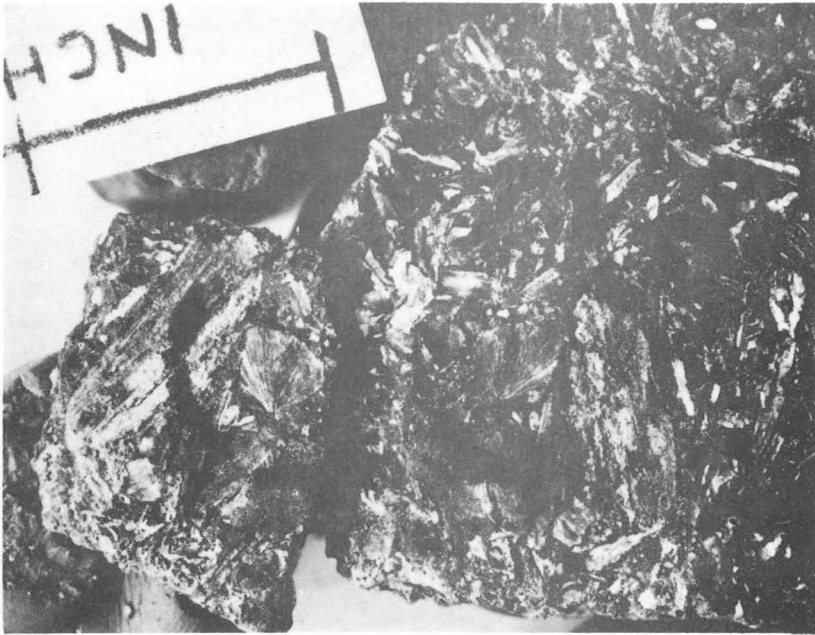
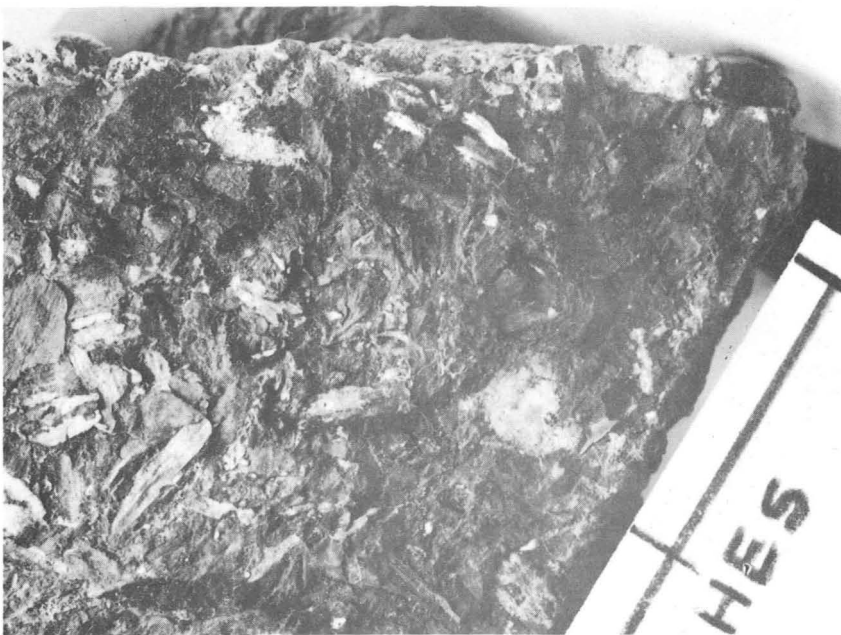


Figure 16 Negative F/5461

Coniopteris delicatula. Magn. X 2. F 23222



3. Surat Basin Localities - Goondiwindi Sheet

8. Locality SB 1105: ½ mile N of Wyaga Homestead, where Millmerran -
Goondiwindi Rd. crosses Morennan Creek.
GR 363506.

Field information : "Jurassic/Cretaceous"

Specimens F 23224.

Indeterminate.

9. Locality SB 1106: 1 mile W. of Wave Hill homestead, on edge of scarp.
GR 358525.

Field information : "Jurassic/Cretaceous".

Specimens F 23225.

Indeterminate.