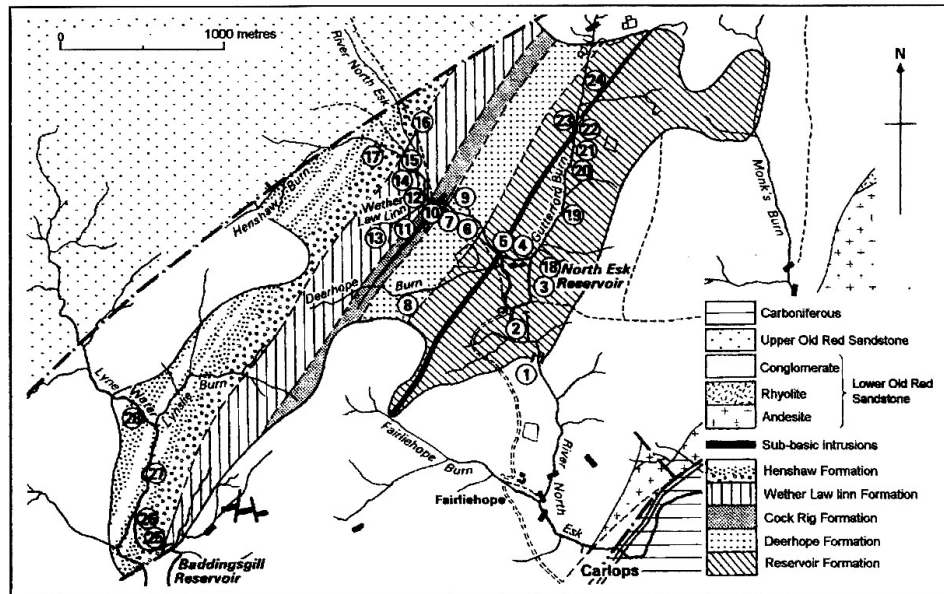


## The North Esk Silurian Inlier in the Pentland Hills



Silurian rocks in the North Esk Inlier form a thick sequence of mainly clastic sediments, vertically inclined and younging to the northwest. The oldest rocks are of Upper Llandovery age, and the youngest are Wenlock. It is probable that all the Upper Llandovery sediments belong to the *Monoclimacis crenulata* biozone, and that the whole sequence was deposited very rapidly. The sequence, as given by Robertson (1987) is as follows:

### North Esk Group

Henshaw Formation	(Wenlock)	
Red conglomerates, cross-bedded micaceous sandstones, olive green shales with one or two bands of fish fragments.		(730m)
Wether Law Linn Formation	(Upper Llandovery)	
Well laminated brown siltstones with shelly fauna.		(125m)
Poorly stratified brown sandy siltstones.		(45m)
Highly fossiliferous laminated and bioturbated yellow-brown silty mudstones.		(40m)
Cock Rig Formation	(Upper Llandovery)	
Cross-stratified red-brown conglomerates and sandstones.		(80m)
Deerhope Formation	(Upper Llandovery)	
Fossiliferous mudstones and blue-grey micaceous siltstones.		(250m)
Reservoir Formation	(Upper Llandovery)	
Interbedded greenish sandy siltstones and mudstones.		(1400m)

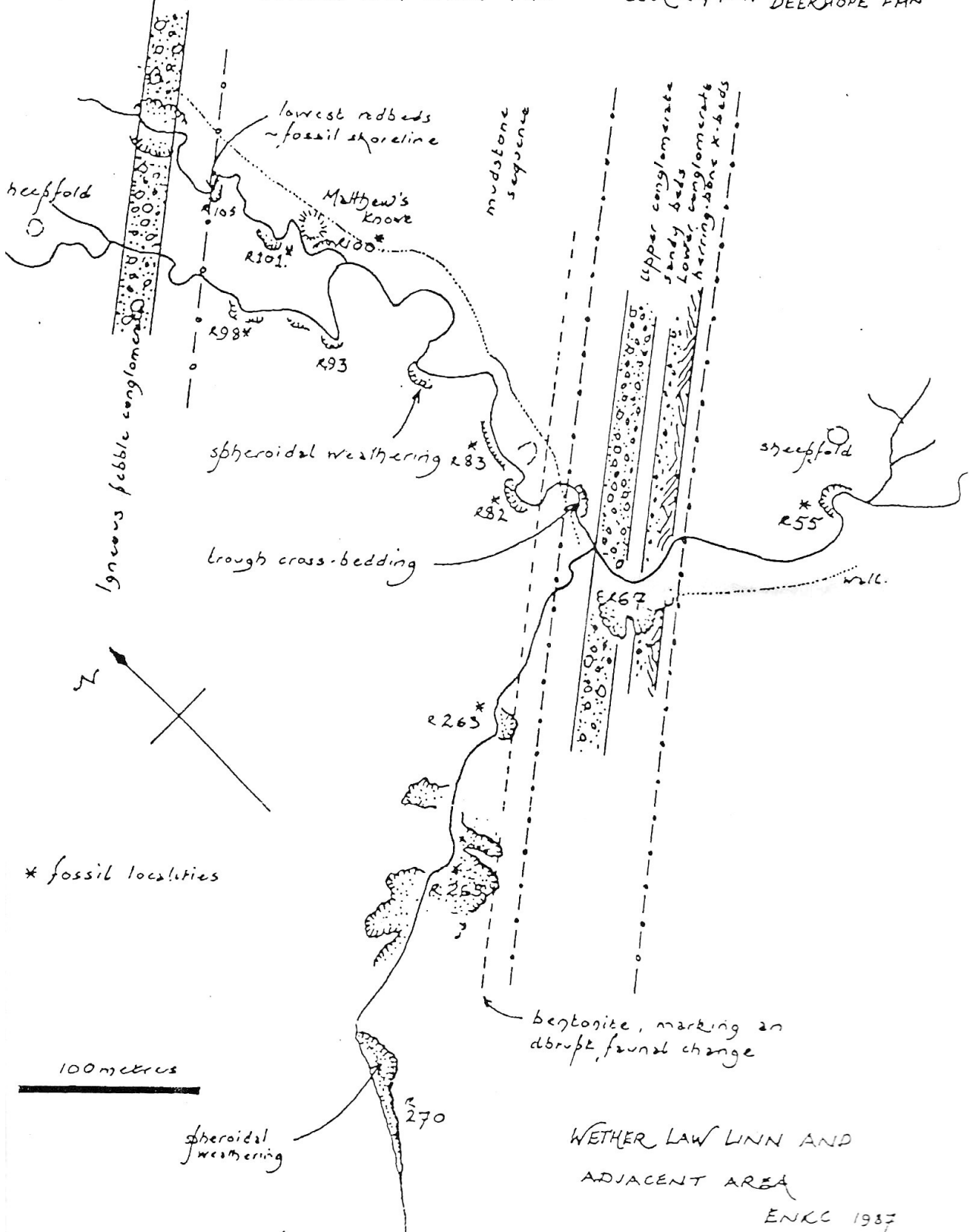
The sequence represents a rapid regression from an offshore submarine fan environment (Reservoir, Deerhope and Cock Rig Formations), through a shallow shelf environment in which an abundant and diverse fauna existed, though changing through time (Wether Law Linn Formation), and finally to a terrestrial environment (Henshaw Formation).

Further details are to be found in Robertson, G. (1986). *North Esk Inlier*. pp.174-185 in McAdam, D. and Clarkson, E.N.K. *Lothian Geology*. Scottish Academic Press, Edinburgh.

HENSHAW FMN

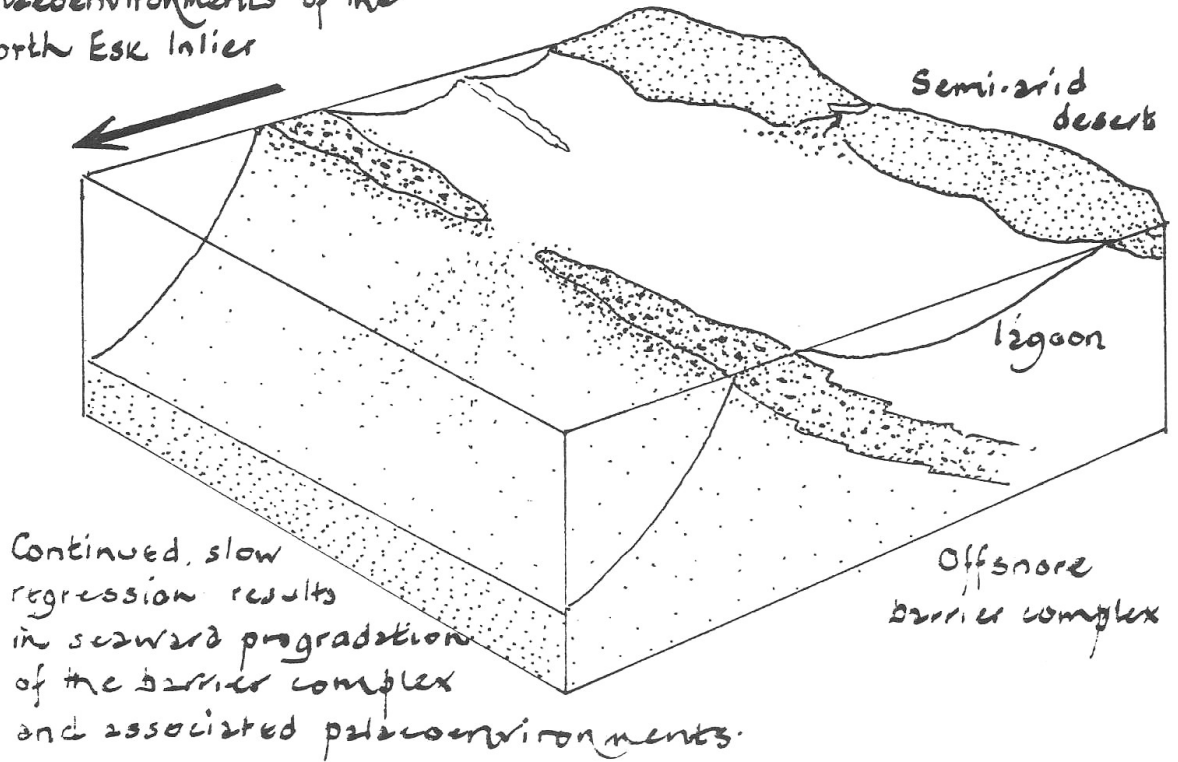
WETHER LAW LINN FMN

COCKRIG FMN DEERHOPE FMN

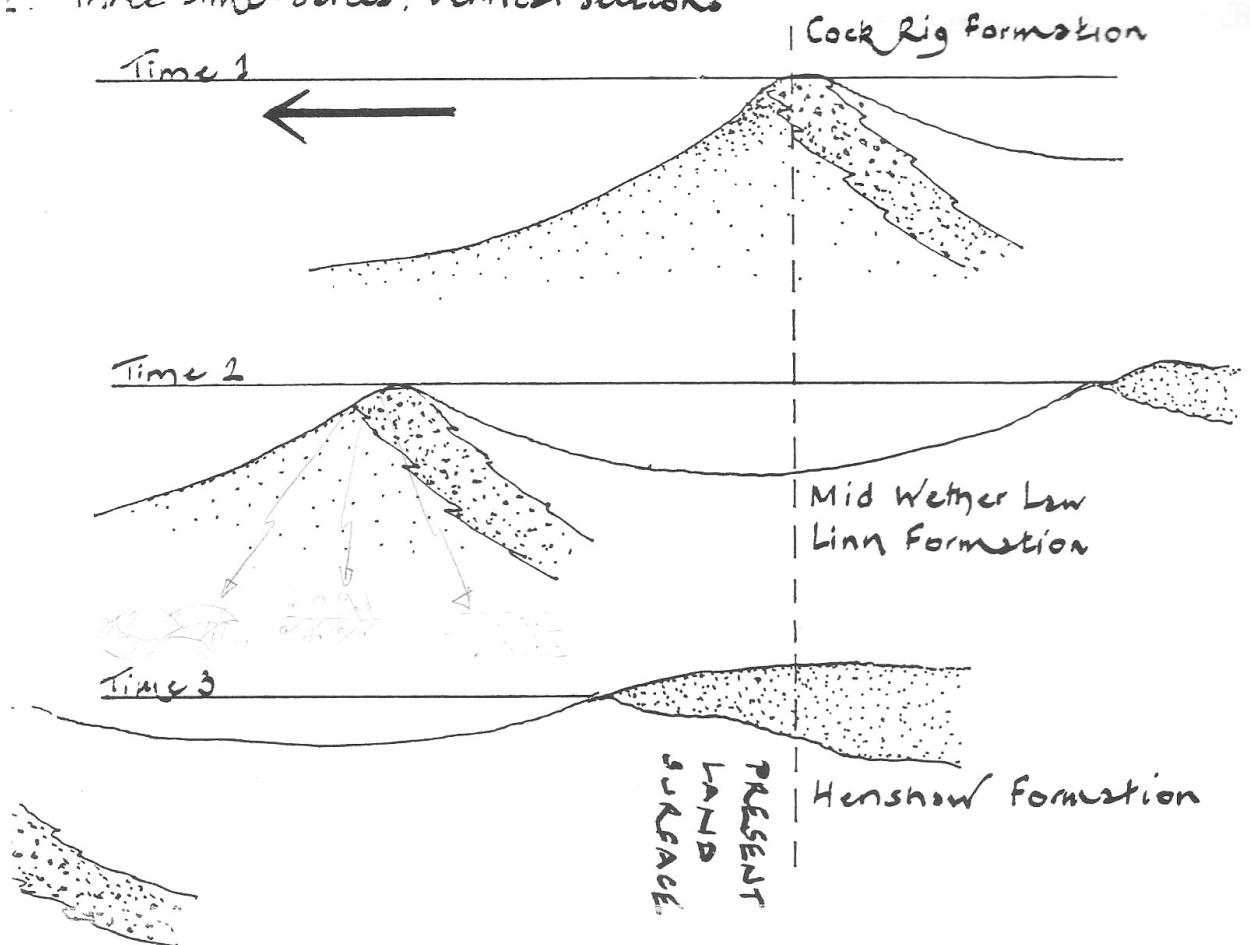


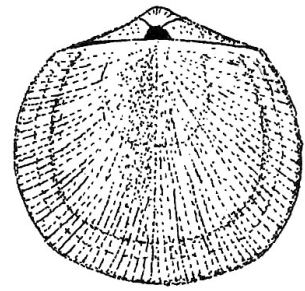
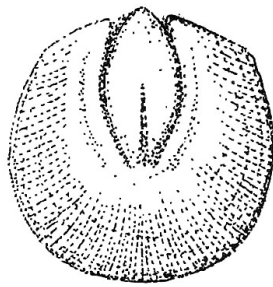
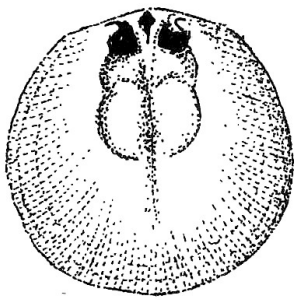
Formation names from Robertson (1987)

# Palaeoenvironments of the North Esk Inlier

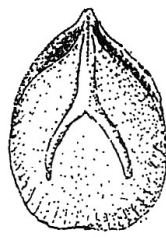
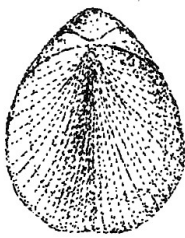


## 2. Three time-slices; vertical sections

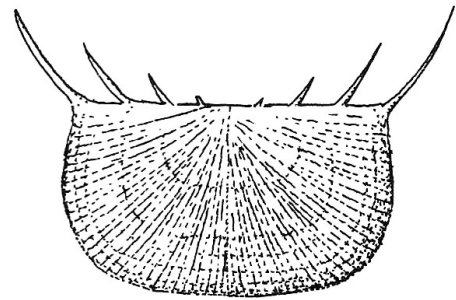




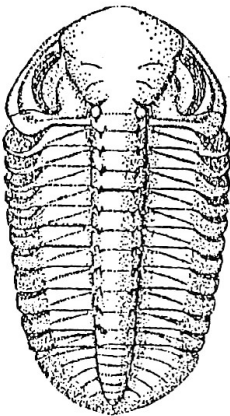
*Isorthis mackenziei* x4



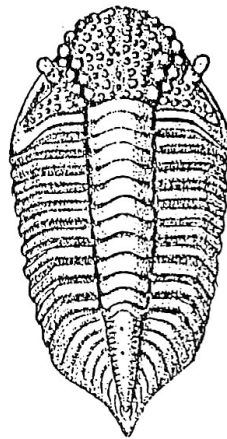
undescribed atrypoid x5



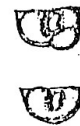
*Strophochoneles* sp. x5



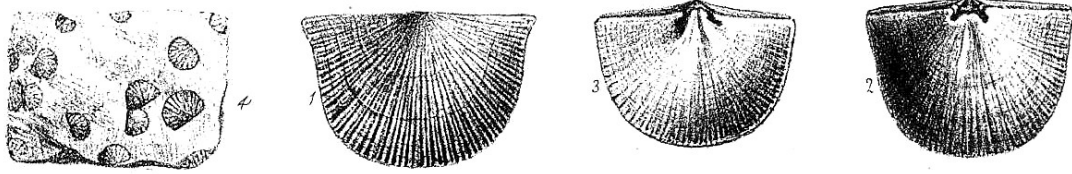
*Acernaspis* (*Eskaspis*)  
*sufferata*



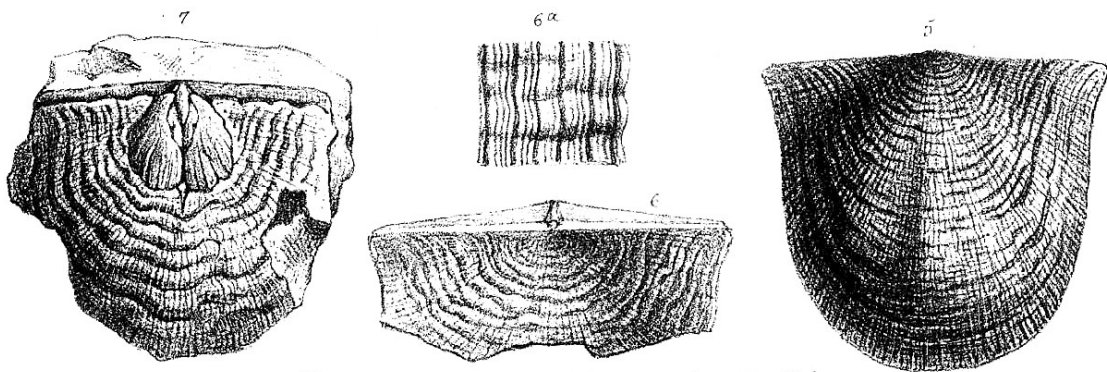
*Encrinurus* *expansus*



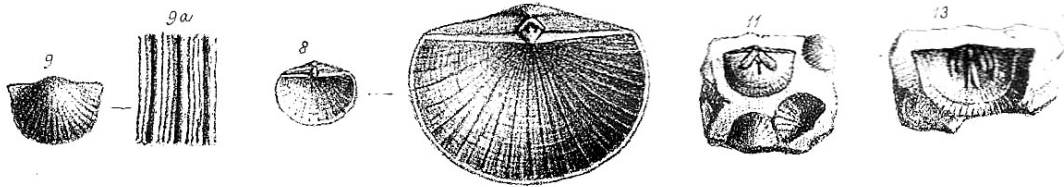
*Crapedobolbina*  
(*Mitrobeyrichia*)  
*impendens*



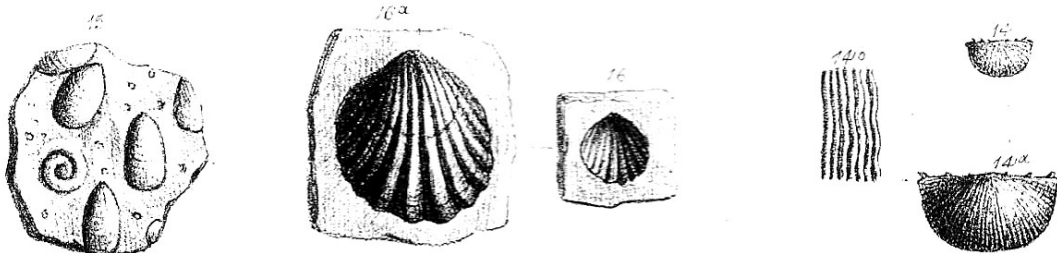
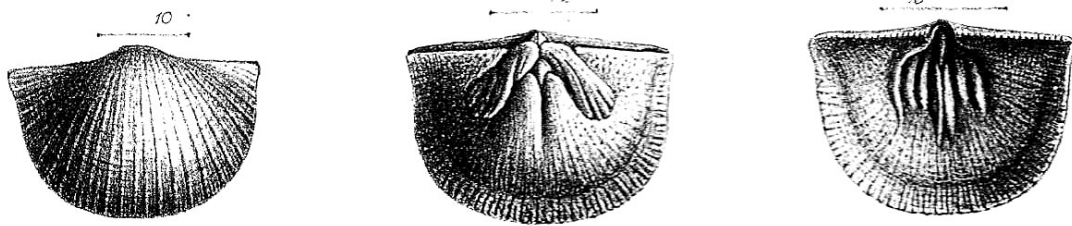
*Coolinia pecten* (1-4)



*Protomegastrophia walmstedti* (5-7)



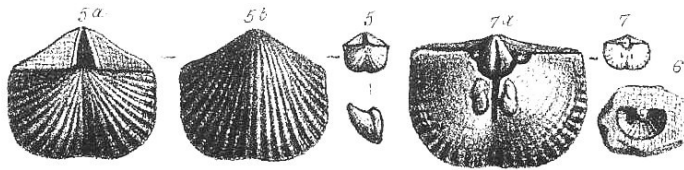
*Eoplectodonta* aff. *penkylensis* (8-13)



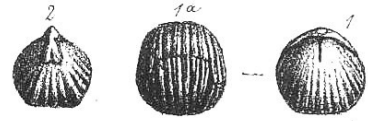
Thos Davidson, del et lith.

M. & N. Hanhart, imp.

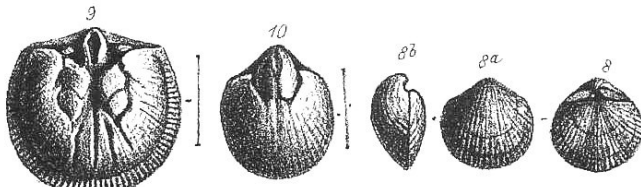
UPPER SILURIAN BRACHIOPODA.



*Skenidiodes lewisii* (5-7)

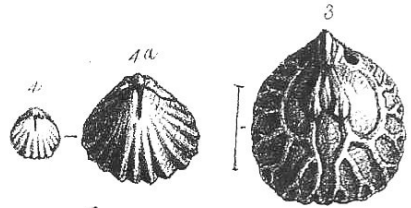


*Sphaerirhynchus* sp.

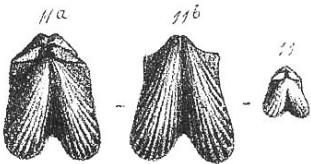


*Isornis* sp. (9)

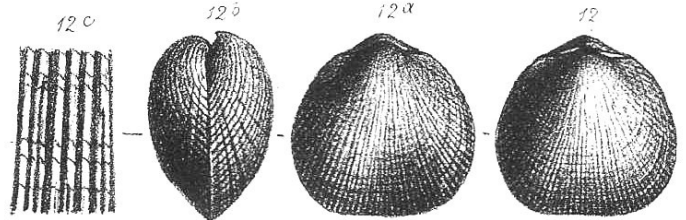
*Visbyella visbyensis*  
(8, 10)



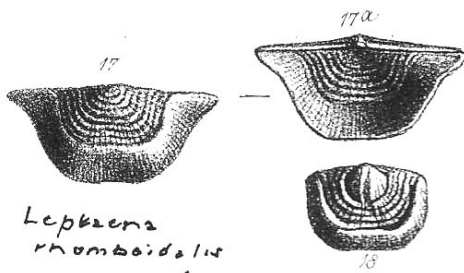
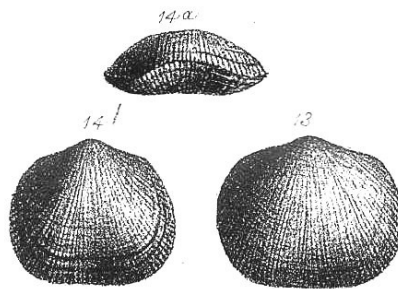
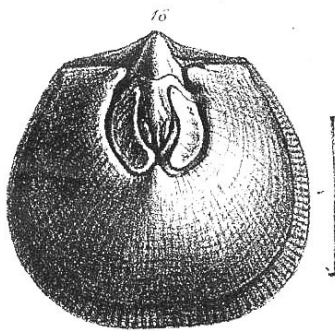
*Camarotoechia*



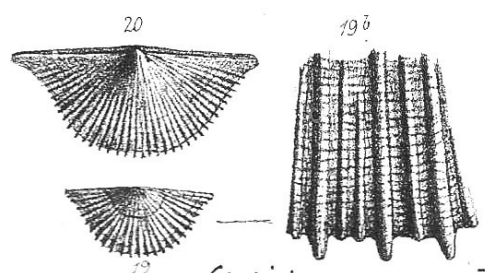
*Dicelosisia* sp.



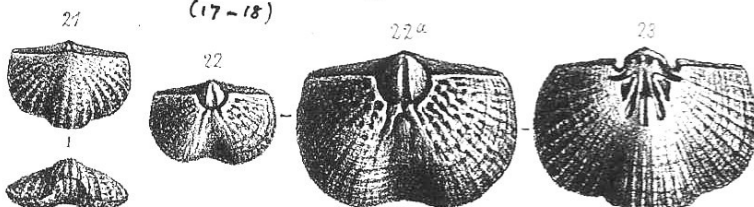
*Dalmanella polygramma*  
(12-16)



*Leptaena rhomboidalis*  
(17-18)

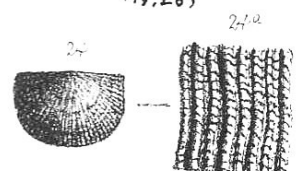


*Coolinia appianata*  
(19, 20)



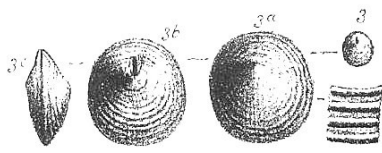
Thos. Davidson del. et lith.

*Pentlandina tartana* (21-23)

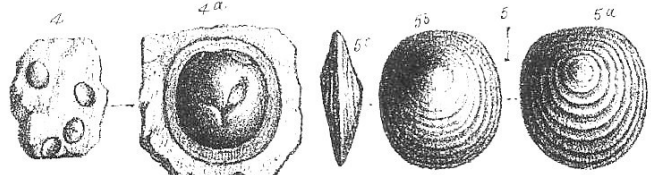


*Protochonetes* sp.  
M & N Hannhart imp.

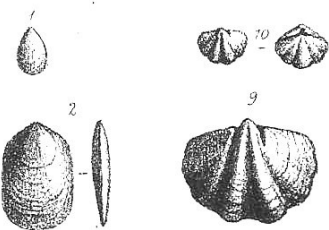
UPPER SILURIAN BRACHIOPODA.



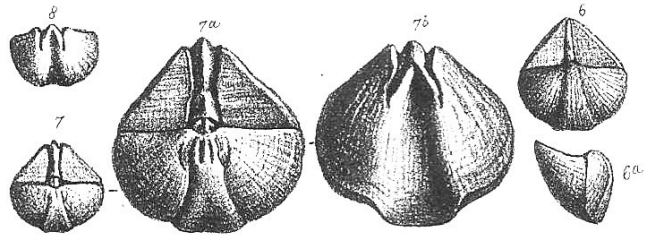
*Orbiculoides* sp



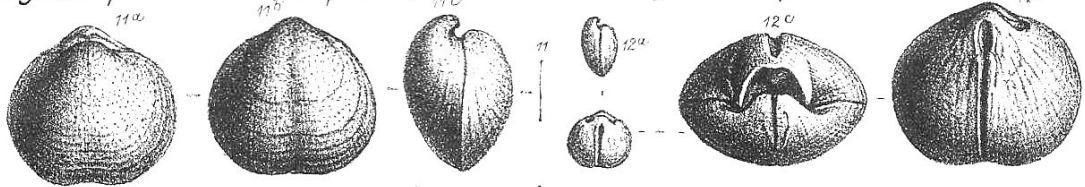
*Paracerasiops* sp



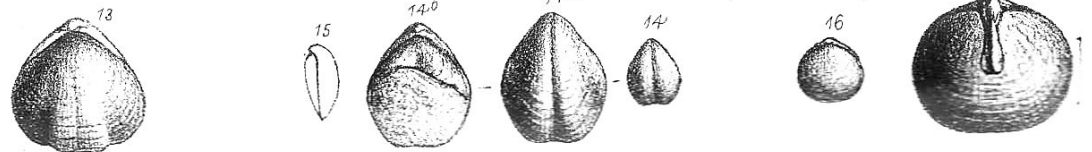
*Lingula* sp. *Howellsia* sp (9-10)



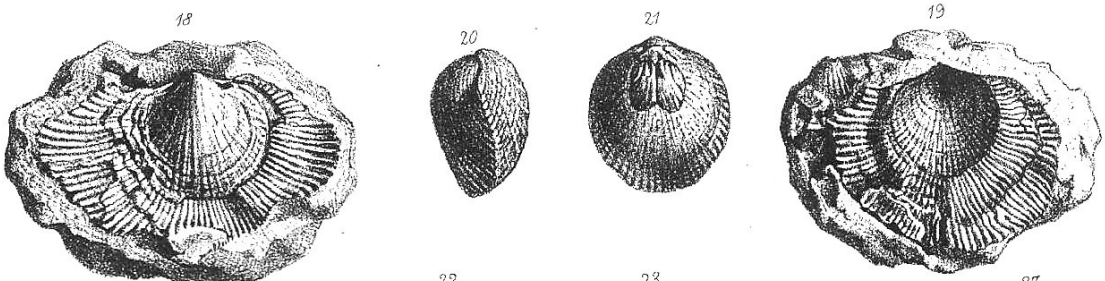
*Cyrtia exprorecta* (6-8)



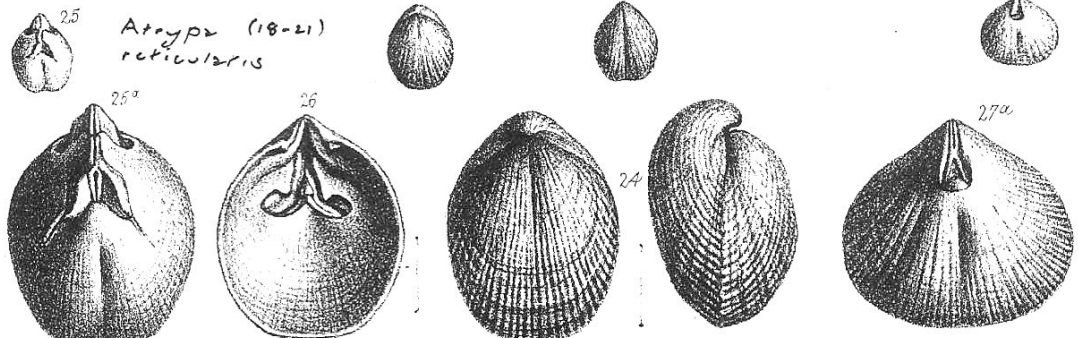
*Naucleospira pison* (11-12)



*Atrypa* (18-21)  
*reticularis*



*Zygospira pentlandia* (22-27)



Thos Davidson del & lith

M & N Hamhart imp