Samples,

1. Sample clay, from Upper Utica, 120 ft below contorted layer of false Garrard SS. (Fairmount), about 100 yds up from Limestone creek, 1½ mi. S of Maysville, Ky., John Brodt

2. Sample, Limestone, just above clay of sample I.

3. Sample normal weathered false Garrard SS. 10–15 ft below contorted layer. About 100 yds S of John Brodt's house above R R level.

4. Sample unweathered, from same horizon as 3.

5. Nearest approach to sandy Garrard like rock in Upper Utica. About 10 ft of this section, [illegible] south of forks of road, 1¾ mi. S. of Maysville, Ky.

6. Contorted layer at base of Utica, 1 mi. NE of Carlisle.

Maysville – Summit.

Continuation of section along Limestone creek, S. of Maysville, Ky.

complete n + 13 ft.

5½ ft rise – 8 rails.

5½ ft rise – 8 rails.

2 ft rise 4 rails road crossing, Lynx abundant above level of R R. track. = Typical lynx beds.

5½ ft rise 9 rails.

5½ ft rise 8 rails.

5½ ft rise 8 rails.

A. 5½ ft measured in this stretch. Lynx is abundant and [illegible] [illegible] appearance. The top of this section is top of lynx beds. = S of W rise at beginning of longest and deepest cut. Mt Auburn = 28 ft

18 ft soft clay measured, with clay limestone layers between, [illegible] [illegible]

2 ft limestone,

½ ft Dalmanella [illegible] abundant in [illegible] [illegible] bed of limestone,

4 inches limestone at top is Lynx,

1 ft limestone, More lynx,

1 ft limestone, More lynx,

10 in clay. Top of limestone [illegible], followed by clay which [illegible] [illegible] [illegible], [illegible] a [illegible] at base of the Dalmanella [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

(20 rails, 13½ ft up to Dal. [illegible] 16½ ft to same bed at R R level = 20 rails = 3 ft = 10 [illegible] 1½ ft.)

Maysville – Summit.

(7 ft 3 in. base of [illegible], [illegible]
to base of next heavy limestone).
1 ft 7 in of softer, [illegible] [illegible],
[illegible], weathering back,
Rhynch. dentata — 3½ ft above base of the next
series of limestones & Leptaena
rhomboidalis [illegible] [illegible], [illegible] abundant at this level and
for 1 ft below at least,
8 ft. [illegible] up was loose
I [illegible] [illegible]. Did
it fall down or was it
thrown up. See no good
reason for the latter.

4½ ft to base of [illegible] [illegible] layer. [illegible]
common for 1½ ft. Associated with Columnaria
rugosa. Warren = 41 ft 3 in.

Carlisle – Millersburg.

1) NEast of Carlisle, about 2 miles, at
Tunnel cut, Lower part of Utica
I think.

2) NEast of Carlisle 1 mi. contorted
layers of limestone with 6 good
Chitambonites at various localities.

3) West of Carlisle. W. of bridge 93.
Bryozoans collected. believed
to be Lower Utica.

4) 1¼ W. of Carlisle. Quarry of heavy
limestone beds, little clay,
Contorted layers. One Chitambonites collected in R R ballast,
This ballast contains Bryozoans, very heavy but about
[illegible] yet broken [illegible], believed
to have come from [illegible] quarry,

5) 1½ mi W. of Carlisle. Top of Cathays
clay of rubble limestone.
10 ft below top is Orthorhynchula
Immediately above Cathays
is [illegible] limestone belonging to Chitambonites zone I
think but no search made for
Chitambonites.

Carlisle - Millersburg

6) Paris 14 mi. E. = [illegible] mi. W. of Carlisle. East of [illegible] in cut is Hebertella [illegible]

7) West of post 714 in cut is Orthorhynchula, [illegible] with Hebertella [illegible] and [illegible] same as 10 ft. below top of Cathays 1½ mi. W. of Carlisle.

8) Miller's station about 13½ mi. E of Paris. Both east and west Orthorhynchula + H. [illegible] are found.

9) 12¾ mi. E of Paris Orthorhynchula H. [illegible] and Rafinesquina very common.

10) 12 mi. E of Paris [illegible] [illegible] Cyclonema varicosum.

11) W. of 12 mi. E of Paris is R R cut with cross bedded limestone [illegible] [illegible] of section. [illegible] is [illegible]

12) Bowd 11½ mi. E of Paris. W. of [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] limestone.

13) Cut E. of [illegible] Orthorhynchula about 10 ft. [illegible] [illegible] of cross-bedded [illegible], [illegible] above.

Millersburg — Million

14) Cut W. of P 11. Strombocrinus

15) E end of cut ½ mi. E of Millersburg. [illegible] [illegible], [illegible] [illegible] with H. [illegible] + Orthorhynchula. Strombocrinus found there also.

16) According to Time Table, Millersburg is 9 mi. E of Paris. The [illegible] exposures east of Millersburg are [illegible] of Cathays age.

Soil from Cathays used for [illegible] culture ½ mi E of Millersburg.

Million - Valley View.

1.) 7. [illegible] Garrard SS, 4 mi. W of Richmond, ¼ mi. E of first road crossing on R.R. (87)

2.) 8. Massive [illegible] Garrard SS, at first RR crossing = 87. W of Richmond 4 mi.

Utica apparently upper. Bassler

3) [illegible] [illegible] [illegible] [illegible] E of Mr. Geo. Million's House = 85.

3-4. Million Tunnel. upper Utica

4) Between Tunnel + bridge [illegible] [illegible] [illegible] ½ mi. W of Million Tunnel = [illegible] W. of Million. [illegible] Utica middle or upper. Bassler

Utica + Cathleys 5) Between bridge 53 W of Millian + V 30 mi ... [illegible] ... [illegible] Station, Here also is bridge 52.

Catheys 6) Between bridge 52 and 51 only 1/10 mi West of [illegible]

) West of bridge 51 [illegible] lime-stone [illegible]. Not [illegible] exposed. Farther west [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

Utica + Catheys

8) SW. of Antioch church. This is first place where lower part of section looks a little like Catheys. But I can not find Orthorhynchula the Hebertella [illegible].

Catheys

9) Farther W, 1/4 mi [illegible] V 29 M.

10) (R [illegible] [illegible] = 1/2 mi W.

Catheys 11) Between Robert Kelley + bridge 45. Rafinesquina common. No Orthorhynchula.

12) 1/2 mi. E of Haydens station, as far W. as the station the Coarse, massive limestone shows up, at least 10 ft not measured. This resembles Clitambonites limestone but no Clitambonites was found. About 2 mi. E of Valley View.

Hebertella Catheys

13) Between Haydens Station and 1/2 mi. West the Coarse limestone [illegible] to be in creek bed and above this level on N side of creek but at higher level near Haydens station on S side of creek. For almost entire distance the [illegible] rock of [illegible] [illegible] [illegible] [illegible] level.

Catheys

14) Post V 27 M. A few specimens Hebertella [illegible] + a single very [illegible] [illegible] [illegible] which [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] Haydens St[illegible] + [illegible] [illegible] east.

[illegible]eys

[illegible]) Between Eb Millian grist mill Jeff Dard's stone Bridge 40 [illegible] [illegible] [illegible]. At [illegible] [illegible] [illegible] same [illegible] [illegible] section as [illegible] [illegible] + [illegible] Haydens station. [illegible] bridge [illegible] [illegible] Coarse limestone seen at Haydens.

Millim - Valley View

16) West of Jeff Davis store fossils cease abruptly & the rock just as abruptly resembles much decayed Garrard sandstone, at RR crossing farther west the limestone is so thick above level of RR I think that a fault must exist in here.

17) Lexington limestone exposure 1 mi. E of Valley View, just W of cross roads mentioned above.

Base of Cutleys.

Colby - Winchester

1) West of Colby, under overhead bridge Stromatopora is common, also apparently 1 specimen of Orthorhynchula + many Constellaria of Colby type, as well as C. florida. By Colby type I mean with not elevated monticules. The Hebertella here is coarse ribbed, not the H. maria. The large Hebert. type also appears to occur.

2) About 1/4 mi. E is just FM 629 with not exposure between.

3) About 1/2 mi. E of Colby is top of first rise and with first exposures.

4) About 5/8 mi. E is second exposure with Constellaria and Rafinesquina declivis. No Orthorhynchula identified with confidence although one appeared to occur. Apparently few Hebertella maria.

5) 628 FM. Expt. Constellaria Colby type + Rafinesquina declivis.

6) No exposures for 3/8 mi. E of 628 FM.

7) At 2 points within 1/8 mi. W of 627 FM are two very poor exposures.

8) One good exposure 1/8 mi. E of 627 FM. At top is coarse grained limestone, and Orthorhynchula found 6 ft at R.R. level so that it is rare or finally was carried

Colby - Winchester

9) I hardly know which division to hold about the [illegible].

10) About 1/2 mi E of Junct 627 FM is Nelson station.

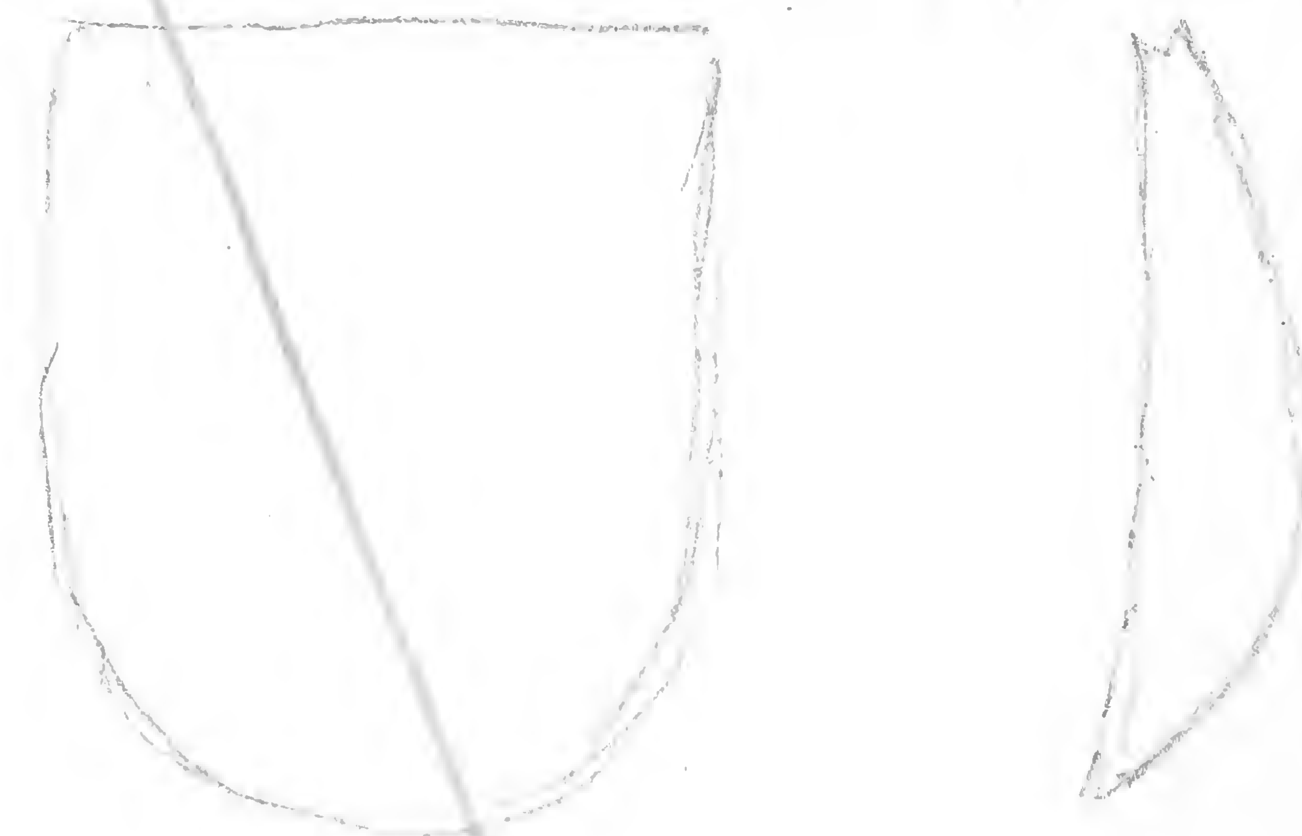
11) About 1/4 mi further east is fine exposure crossed by bridge a considerable distance above RR level. Rafinesquina declivis both forms of Constellaria. Not collected here because fossils are same as those seen further west. Towards eastern end of exposure it is seen that the coarse limestone section is at least 15 ft thick, possibly 20 ft, but at different intervals it weathers badly to a rough rubble.

12) A short distance E of east end of last exposure is Junct 626 FM.

13) About 1/2 mile E of Junct 626 FM and 1/2 mile W of Winchester is another exposure. This is believed to be the base of the section. Plectambonites & D[illegible] multisecta,

14) At W edge of town W of [illegible] junct 625 FM. Top of C[illegible]

15) West of Winchester Catheys soil used for [illegible] land



Boyd

1) Trinucleus, Dalmanella multisecta in thin seggy limestone slabs, loose at R.R. level. Also a ... interior of ... shell referred to a ... Rafinesquina. Plectambonites occurs also, 81 ft from R.R. level to top of exposure with ... (... nearly all ...). Dalmanella common in limestone about 20 ft above R.R. Exact horizon at which it comes in is not known.

2) Leptaena gibbosa + Dal. emacerata begin a short distance above the ... limestone in the steep cut ½ mi. ... station. 11 ft above top of ... limestone believed to be ... Cathey's. This part of section, ...

3) The total thickness of Catheys appears to be about 25 ft. Above this is soft clayey stuff with clay shale + a little thin limestone, about 20 ft thick. In this section appears D... multisecta, Leptaena gibbosa. The Trinucleus and Rafinesquina ... appear to ... here also. Above this is ... grained limestone with Dalmanella multisecta + Plectambonites ... for 36 feet at least. This part of section does not resemble ... of Cincinnati, but ... face east of Point Pleasant.

Boyd-Berry.

4) Bridge over river at Boyd, leading to Columbia ... + Corinth. In the Catheys ... is rather common.

5) Catheys ... south of Boyd, where it has been extensively quarried.

6) Imm. S of Boyd up road running ... R.R., is ... limestone like that at Carlisle. Along this is ... ... clay ... and thin ... ... Cincinnati. Section ... quite different from that at Boyd. Dalmanella ... further up the hill side.

... excellent ... slabs of ... limestone ...

The ... limestone belongs ... the ... bedded limestone of Catheys ... exposed N of Boyd.

7) Farther south ... with Dalmanella ... R.R. ... distance. ... common. Hebertella ... resembling ... of ... sections ...

Boyd - Berry

8) As far as I can judge from observations made so far, the Cathays rises from the cut 1/4 mi N of Boyd southward, and about 2/3 mi or 1 mi south of Boyd exposes the strangely contorted bed which occurs below the top of the Cathays about 20 feet. Farther south the Cathays dips southward and soon exposes the Utica at RR level, for quite a distance, until a point less than 1 mile from Berry is reached. But about 1/3 mi N of Berry the Cathays rises again and the top is at least 20 feet above RR level.

9) At the Tunnel 1/2 mi S of Berry the same [illegible] occurs that is seen at Cut 1/3 mi N of Berry. At the Tunnel there is a high exposure.

10) The contorted layer seen since 1/2 mile S of Boyd is here well seen about [illegible] ft above top of tunnel entrance.

11) Found [illegible], same as near upper part of hill believed to be Utica, east of railroad crossing 1/2 miles [illegible] south of Boyd, but at Berry it occurs below contorted layer 20 ft, and at 1/2 mi S of Boyd it occurs about 15 ft above contorted layer.

12) Southward the first exposure worth visiting is 1/2 mi N of Robinson, so that it is unnecessary to walk the track between Berry & Robinson.

13) Contorted layer [illegible] S of Robinson, Ky.

14) Between Robinson and Poindexter apparently the former more massive limestone [illegible] the contorted layer shows up.

15) Near Poindexter the bedded clays alternating with [illegible] of limestone, same as near Berry, show up.

16) S of Poindexter 1/2 mile the contorted layer is seen about 10 feet above RR and the more massive limestone is at top of bluff, about 40 feet above RR. Observations taken from train only, since Berry, Ky.

17) 1/2 mi N of Cynthiana rock contains Dalmanella, rather large and flat, but not Plectambonites. Has some appearance [illegible] considered of Cathays age.

18) At N edge of Cynthiana there is a fine exposure of Lexington quarries, with Hebertella [illegible] and Rhynchotrema [illegible] Dalmanella

Mayerville - Summit.

Loc. A. Plat. lynx. Top of Mt Auburn.

Carlisle - Millersburg.

Loc. 10. Orthorhynchula. Platystrophia (12 mi E of Paris
Cyclonema. Hebertella maria, large
Raf. pinguina small strongly curved
Raf. pinguina. large flat.
Base of bryozoan. Columnaria small.

Loc. 11. West of Port 12 mi E of Paris.
Orthorhynchula. Platystrophia
Cyclonema. Hebertella maria. large.

Loc 5. — 1½ mi W of Carlisle. Top of Cathcys,
Platystrophia. large.
Cyclonema.
Raf. pinguina small. Hebertella what species?

Loc 8-9. — 12½ mi. E of Paris.
Orthorhynchula
Camelli branches, Hebertella maria

Loc. 5A. 1½ mi. W. of Carlisle. 10 ft below top of Cathcys.
Orthorhynchula Platystrophia
Amborychia. Hebertella maria small.
Camelli branches.

Loc. 13. West of Bond. in cross bedded limestone.
Orthorhynchula.

Loc. 3. W. of Carlisle. W. of bridge 93.

Loc 2. 1 mi. E of Carlisle. Clitambonites.
Plectambonites sericea. Utica

Loc. 1. 2 mi. E of Carlisle. Strophomena Vallis.
Buccania? Middle or Upper Utica

Loc. 3. Strophs Hallie breaky, Loc. 85.
Utica upper aspect. 1 mi. E of Millin.
Subnitites

Loc 3-4. — One mile west of Millin at the Tunnel. West side dump.
Utica - upper
Strophomena hallie. Dalmanella
perscitisecta. Subnitites.
Cyclonema very acute. Acaphus.
Zygospira. Hebertella.
Large globular bryozoan.
Large Eschasopora.

Loc. 4. Between Millin tunnel + bridge 53
going West. orthoceras.
Raphinesquina very small,
Utica middle upper
Dalmanella multisecta
Plectambonites sericea.
Very flat gastropod.
Hebertella. Zygospira.

Loc. 5. Between bridge 53 and 30 mi. E of
Utica Cathays Versailles. Callopora nigellaroides. Communis
Castellaria florida.
Raphinesquina. Cyclonema.
Lamellibranchs. → Eridotrypa briarens

Loc. 6. Between Whitlock Station and ½ mi
Cathays West of Whitlock.
Small Platystrophia.
Eridotrypa briarens

Loc. 7. West of bridge 54
Mixture of Cathays and Utica
Plectambonites
Rock resembling Garrard ss. Collected.
Callopora communis
Eridotrypa briarens

Loc. 8. S W of Antioch church. West of
Cathays Whitlock Station.
Rafinesquina, elongate Cathays form.
Platystrophia. Lamellibranchs.

Loc 11. Between Bob Kelley + bridge 45.
Cathays
Cyclonema. Large Rafinesquina.
Large Hebertella sinuata.
Large bryozoans.

Loc. 13. Haydens station to ½ mi. West.
Cathays Large bryozoans. Heterotrypa

Loc. 14. Mile post 27 mi E of Versailles.
Cathays Lamellibranch.

Loc. 17. One mile E of Valley View.
Many Cathays. Should be Lexington.

Colby-Winchester

Loc. 1. Cut W of Colby.
Platystrophia small. Hebertella.

Loc. 3. Cut ½ mi. E of Colby.
Very elongate Rafinesquina.

Loc. 4. About 5/8 mi. E of Colby.
Columnaria alveolata.
Rafinesquina very elongate.
Platystrophia.
Orthorhynchula.

Loc. 5. At Milepost 628 FM.
Hebertella rather large.
Platystrophia.
Rafinesquina. Nine ordinary.

Loc. 7. ⅛ mi. West of milepost 627 FM.

Loc. 8. ⅛ mi. E of Milepost 627. FM.
Orthorhynchula Cyclonema
Rafinesquina elongate & nine ordinary.
Platystrophia rather large.
Strophomena. genus not certain.
Hebertella large.

Loc. 13. ½ mi. W. of Winchester.
Raphistoma?
Orthoconchia? Lamellibranchs.
Plectambonites
Dalmanella multisecta.

Loc. 14. West of milepost 625 FM.
Very elongate Rafinesquina.

Boyd-Cynthiana

Loc. 1. Base of Utica N. of Boyd.
Dalmanella multisecta.
Leptaena gibbosa
Raphistoma? Zygospira.

Loc 1+ Base of Utica. Found either N or S of Boyd. record lost as to direction from Boyd.

Loc. 1. Rafinesquina small, in Trinucleus layer N of Boyd.
Calymmene dec.

Loc. 3. Cyclonema. North of Boyd.
=(Cathays) Rafinesquina.
Dalmanella multisecta.
Raphistoma. (Bucania?)

Loc. 6. 1 mi. S. of Boyd. ostracoda.
Dalmanella multisecta.

Loc. 8A - 1 mi. N. of Berry S of Milepost.
Bucania.

Loc. 8B. - ½ mi. N. of Berry.

Loc. 9. ½ mi. S. of Berry. Ostracods.
Orthoceras?

Loc. 17. ½ mi. N. of Cynthiana.
Gomphoceras? Bucania?
Raphistoma? Zygospira.

1) West of Tyrone is Lexington with Hebertella borealis + Rhynchotrema ca.

2) Top of Lexington east of culvert W 65.5. Base of Catheys west of W 65.5 culvert. Well exposed. Well bedded clay + clay rock intercalated as in Cincinnatian strata. Near base is contorted layer, often looking like huge rejmatt boulders with the strata above and below undisturbed. Rafinesquina only fossil seen. No bryozoans found. Fossils therefore very scarce but no long search was made. Large slide [illegible] at W. end of cut.

3) W of W 65 post, the Lexington-Catheys contact is well shown. Top of Lexington with Hebertella borealis + small Platystrophia. The Catheys is well bedded clay + clay rock. [illegible] at very base. Post reads 1 mile from station = Tyrone.

4) About 25 feet above base of Catheys the clay rock is replaced by limestone section, some of it crossbedded, with no clay but [illegible] resembling the Lexington a little. Lower part strongly contorted in places. Well exposed E of bridge 64.4

5) In the long railroad cut W of bridge 64.4 the Catheys limestone is well exposed and contain a few bryozoans, very scarce. Post at West end of cut reads 1 mi. from station = Lawrenceburg.

6) In the long cut East of yard limits the Catheys limestones continues to be well exposed. It resembles the Lexington but does not show the Lexington fossils, which are so common [illegible]. No exposure between this and Lawrenceburg.

7) W of Lawrenceburg is post 63 W.

8) At west end of Lawrenceburg, where the pike to Alton crosses the RR, Trinucleus, Plectambonites, and Utica bryozoans occur. This is the first Utica exposure seen. Dalmanella multisecta.

9) West of a post 1 mi. W of Lawrenceburg the top of the Catheys limestone is exposed again. This is down grade here.

10) The same limestone occurs East of bridge 61.7 W. = Catheys

11) E of bridge 61.0 = 2 mi. W. of Lawrenceburg. = Catheys? Some of the layers are contorted.

12) At greatest height of elevation 1/4 mile West of bridge on the road contains Dalmanella & Plectambonites, and is either near base of Utica or top of Catheys. Did not have time to examine exposure first.

13) West of first 1 mile east of Alton station I collected Zygospiras. Catheys

14) Just east of Alton station I secured Zygospiras. Plectambonites [illegible] and the rock looks more like Utica but no Dalmanella seen, therefore at least scarce. Lower Utica.

15) A fine cut West of station not visited.

May 9. Bassler.
1. 2. Carlisle Millersburg.
3. Boyd. Berry. Cynthiana.
4. Colby.
5. 6. 7. Milton. Ky.
8. Lawrenceburg.
9. 10. Harrodsburg.

South east of Harrodsburg about 1½ miles is the beginning of a long R. R. cut made for the new line to [illegible]. Just before reaching it there is exposed a very fine grained limestone with vertical worm borings, resembling the Birdseye. This is probably the Upper Birdseye of [illegible]. Above this, forming the greater part of the cut, is limestone which I consider the Catheys. I did not examine it carefully. Near the top I collected what might be a young [illegible]. I recognized a Rhynchotrema but the beds of the vertical [illegible] was [illegible] and the [illegible] was well exposed. Above the Catheys, forming the top of the cut was the Utica, estimated at 10 feet thick. It consisted of thin clay rock interbedded with clay. It contained Dalmanella more like emacerata than multisecta, and Trinucleus. Also [illegible]. The Zygospiras look like Utica forms. The rock is [illegible] or [illegible]. The Catheys may be 40 feet thick, apparently less. A short distance east of the cut limestone, [illegible]. Is this Utica? Similar trouble in identification occurred west of Lawrenceburg.

2) About 1 mile east of the cut last mentioned, and about 2½ miles from Harrodsburg, there is a second cut. West of this cut the fine grained rock with vertical worm borings is seen again. = Upper B. [illegible] of Birdseye? Similar rock is seen at the cut.

3) About ½ mile east from the last cut the exposure seems similar to the [illegible] Harrodsburg [illegible], and the fossil species [illegible] in those the main cut 1½ mile E of Harrodsburg, but I found no Trinucleus or Dalmanella but I collected some fossils immediately above in coarse-grained limestone. The absence of Plect and [illegible] at one of these cuts is noteworthy.

4) Further [illegible] the rock exposure resembles that below the Cathey [illegible] again. Not carefully examined.

Mason, Ky, Cut north of station
10 ft clayey [illegible] with thin limestone layers, [illegible] coarse-[illegible] [illegible] rough, [illegible] [illegible] clay, Dalmanella, smaller [illegible] [illegible] [illegible] clay. [illegible]

9½ [illegible] soft [illegible] clay, [illegible] [illegible]. Then [illegible] [illegible] 2½ ft [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
Cornulites [illegible] Hinde
Strophomena [illegible] [illegible], [illegible]

At Pl. [illegible] exposure 1 mile N of Mason, Ky,

Plectorthis about 9 ft below heavy coarse grained l. with St. [illegible] [illegible] common.

Coarse grained l. section of 18 ft with rather massive [illegible] [illegible] by thin [illegible] bedded layers.

[illegible] on [illegible] R.R. at [illegible] [illegible] [illegible]
27½ ft [illegible]
9 ft [illegible] coarse l. [illegible]
8 ft [illegible] [illegible] [illegible]
20 ft [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
20 ft [illegible] [illegible] [illegible] [illegible], Some of [illegible] [illegible] [illegible] weathering to soft clay.

Owingsville

Clinton

2°	Belfast		
24½°	Greenish white clay	41½°	Upper Richmond
15°	Occasional sandy l.		
27½°	sandy limest in sandy cl.		
3½ ft	Rhynchotrema capax	32½°	Middle Richmond
	Streptelasma.		
	Dinorthis subquadrata not rare		
1½°	Sandy l. Plectambonites + Leptaena		

13	13° Chiefly clay		
	Ctenodonta, Byssonychia, Lophospira bowdeni. Strophomena planumbona. Common a short distance above and below this		
Hebertella 33°	11° Chiefly Hebertella	71½°	Hospital
	— Tetradium bed		
	8° Rubble clay rock, Hebertella at base.		
	2½° Hebertella + rubble		
	½° Hebertella blue l. + Pr. hospitalis		
	11° Hebertella + Pr. hospitalis clay rubble		
25½	10° Clay rubble, Fossils scarce.		
	½° Heavy dense blue limestone.		
	5° Sandy clay.		
	10° Not exposed.		

Creek exposure. Formerly obtained Leptaena rhomboidalis down this creek.

Williamstown. 948 – 44
Base of Strophomena planumbona 904

Falmouth 530.
Top of Cathaya
Top of Utica

Wyoming

Residual Clinton clay

36½° { 10° whitish clay
11° Brownish sandy clay
16½° Sandy cl. with few sandy l. layers

33° Middle { 33° Sandy clayey limestones in S. Cl.
Fossils few in upper part of M. Richm.
Between 10–13 ft above base Plectambonites + Bythopora gracilis are
Common. Strophs. vetusta rare.
About 3° above base are Strophs. vetusta, Rhyndothema capax

Base of Middle Richmond and top of Lower Richmond.
Dinorthis subquadrata from
with 2 feet of this bed zone.
Hebertella insculpta, grds. H. sinuata.
Streptelasma. Rafinesquina. Vetusta.
Calapoecia. Rhyndothema capax.
Strophs. planumbona.
Rafinesquina. Platystrophia.

7½° Sandy clay limestones with Hebertella insculpta rather common at top and the rest of the fossils mentioned above in the remainder of the section below.

35° of exposures containing good limestone layers. Strophs. planumbona occurs 15° down
= 23° below top of H. insculpta
18° Below top of H. insculpta was found single Dalmanella jugosa.
26½° Below H. insculpta = Strophs. neglecta.
35° below H. insculpta = Catazyga headi.

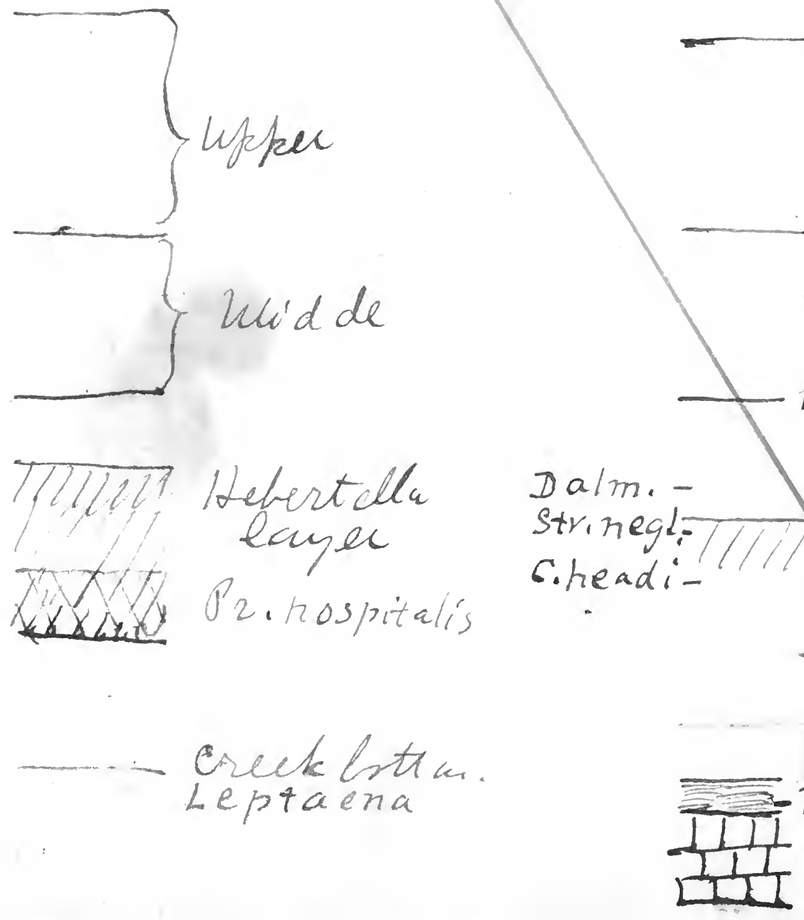
Wyoming.

From 23 feet below H. insculpta
Hebertella sinuata is chief fossil.

C. 76–81° Below H. insculpta – bryozoan layer with 5 Rhynchotrema dentatum ~~just above~~ and Leptaena rhomboidalis just above base of bryozoan layer. Immediately below is

B 18° Dense blue limestone.
Lynx limestones.

Covington Ville



Sunset - Day's Mill.

Mt. [illegible] 930
[illegible] 1010
[illegible] 810
[illegible] 760 barometer
[illegible] 741 correct. [illegible] this
[illegible] 1010 $\frac{1010 - 740}{270}$
[illegible] 1022 [illegible]
2 ft layer 920 = [illegible]
[illegible]
[illegible] 770 [illegible] creek, [illegible] for some distance above that.

6½ ft to [illegible]
20 ft to [illegible]
10 ft to [illegible]
4 ft to large oak tree.
11½ ft [illegible] B to [illegible]
[illegible]

57 ft [illegible]
81
24 ft [illegible]

Wyoming, [illegible] part of section,
[illegible] 2 ft above [illegible]

Hebertella [illegible] layer [illegible]
7½ ft sandy limestone [illegible] H. [illegible]
[illegible]
[illegible]
[illegible]
[illegible]

25 ft [illegible]
18 ft [illegible]
23 ft " " " [illegible]
24 " " " [illegible]
24 " " " [illegible]
From here [illegible] H. [illegible]
[illegible]
26½ ft [illegible] neglecta
30½ ft " " " [illegible]
32½ ft " " " [illegible]
20 ft [illegible]
[illegible]
10 ft. Clay and
large oak tree
4 ft [illegible] clay [illegible],
16½ ft [illegible]
[illegible]
[illegible]
Henry [illegible]

[illegible] 81 [illegible]

SW of Sunset.

SW of Sunset.

SW of Sunset

E of Days Mill.

SW of Pleasant Valley.
NE of crossing of Licking river.

60 ft down to river.

Days Mill.

{H. inzaculpta. Abut 5-8 ft.
100 ft } to gate at pike. a little above
Rubbly limestone with Pl. lynx.
69 ft Int Shal.
{Bellerne
11 ft {rubble clay limest. Ampl. robusta at base
16½ dense blue clay rock
13 ft. dense blue clay limestones.
Fairmount. M. undata. Pl. lynx abundant
Heterospongia. Callispira dalei.
11 ft badly weathered L.
M. undata comes in here spiny sp.
7½ ft more rubbly limestone. Pl. lynx common
5 ft. limestones. Heterospongia
Platy. lynx begins here spiny sp.
25 ft. chiefly L. in 2 sandy clay.
Strph. mayvillensis.
18 ft 2 sandy L with Str. mayvillensis
at different intervals.

7 & ft Fairmount

SW of Sunset. Nickles.

Hebertella insculpta + Leptaena rhomboidalis.
12½ ft Rhyn. capax. Leptaena rhomboidalis
Strph. planumbona + elongata
thin L. in clay. fossils numerous.

10½ ft rubble. Fossils rather common.
Dalmanella jugosa
4 ft rubble.
1 ft. limest. with Dal. jugosa +
Strph. planumbona.

SW of Sunset Continued.

4 ft limest + clay.
Dalmanella jugosa
3 ft limest + clay
Strph. Cyrtocordensis + elongata.
2 ft. at base is limest Streptelasma rusticum
8½ ft Chiefly L. + clay Heb. sinuata common
Lyph. perplexa + bowdeni.

5½ ft Praespira hospitalis becomes abundant.
Associated with H. sinuata, L. bowdeni.
2 ft. Paenospira abundant. Praespira hospitalis
Heterospongia coming in. Callispira subnodosa.
Heb. sinuata here comes in abundant.
10 ft above tree stump. Byth. meeki common.
Bat. variatus not common.
Callispira subnodosa not common.
2 ft below top of large tree stump. Callispira
subnodosa (Nickles) Lower Ridgemont.
5½ ft chiefly clay rock + some limestone
with few H. sinuata + L. bowdeni. = rubble clay rock
6 ft chiefly rough limestone weathering
rubbly.
9 ft poorly exposed. Several limestone layers
in clay.
2 ft dense cl. L. like that at below.
Three specimens of lynx in next lower bed
at top.
11 ft dense clay L. dark blue. Fossils few.
In lower beds Lyphospira is rather
common.
14 ft Lynx beds Lynx is common.
Rhyn. dentatum here, probably dropped
11 ft dense L. near unfossiliferous, base not
seen exposed on W side of valley

Hetero-Spongia

895

774
708

572

636

496

760

740

675

664

640

562.

770

695

422

892

899

693

560

588 Mt Washington.

Mt Washington

{3 ft. [illegible] as at N. side of Floyds creek at base —
F. C. [illegible] of [illegible],
[illegible] Top [illegible] 5½ ft below [illegible] where fence crosses the creek, [illegible] just west of [illegible] J. D. Stansbury.

S side of Floyds creek.

Clinton.

34 ft Madison beds.

(XV) 5½ ft. Lower Madison bryzoans collected,
(XIII) 5½ ft {Lower line of Madison, Streptelasma
(XII) 5½ ft {Upper part of 16 ft of clay, fossils for me section.
(XI) 5½ ft {Middle part of very poor for me section,
{Streptelasma very abundant at base. indurated clay rock

(X) (IX) 7½ ft {Str. [illegible] 1 ft above base indurated clay rock
{[illegible] common at top, found
{[illegible] only [illegible] 1 ft above base.
{[illegible] Str. [illegible] at base

(VIII) 5½ ft {Clay [illegible] Str. [illegible] at top,
{Base of good [illegible] section.

5½ ft. rubble limestone poorly exposed.

(VII) 8 ft. Streptelasma very [illegible] at top, + Beachi occur,
(VI) [illegible] at top of section. [illegible] abundant at top.
Heterospongia + Streptelasma at base,

(V) 6 ft {Heterospongia and Streptelasma in upper half,
{Rubble limestone. Zyg. kentuckiensis at base

2 ft 6 in solid clay limestone.

(IV) 2 ft 3 in {Rubble clay + Zyg. kentuckiensis. Bryozoans
{collected

15 ft {Chiefly massive clay limestone
{Parasp. [illegible]
(III) {Hemiphragma [illegible] + [illegible] at base

25 ft chiefly massive clayey limestone with Parasp. [illegible] rather common towards top,

(12°–20° II) 15 ft {more clayey beds. Parasp. [illegible] 478 ft
{Bythopora delicatula, Batostoma varians at top.
{(2 ft below top is [illegible])

(I) 5 ft. Platystrophia [illegible] var. section.

N of Greenwell Ford section.

72 ft [illegible] Warren

7½ ft { partly rubbly, Lithostrotion in upper ½ ft. blue clay rock.

5 [illegible] blue clay rock, partly rubbly.

7 ft 3 in. blue clay rock [illegible] upper part of rubbly,

5½ ft blue clay rock. Massive.

7½ ft to top of [illegible] falls. Indurated clay rock.

4 ft 4 in. blue clay indurated rock.

1 ft Hardy blue clay rock.

20 in. blue clay [illegible] [illegible] Pinnatopora

6½ ft { blue clay rock massive and [illegible] in upper 2 ft.

5½ ft { blue clay rock indurated, upper 15 inches still harder. Columnaria alveolata (spherical) at top, others about 2 ft from base, others about 1½ ft from base.

5½ ft { Columnaria at top = in upper one foot, Pinnatopora and lamellibranchs found,

5½ ft blue indurated clay rock, Pinnatopora and indurated blue clay rock. Crinoids, Columnaria

3 ft 6 in. { shale & blue fine rubble in upper in upper one foot [illegible] [illegible]

[illegible] blue clay rubble with fossils [illegible] [illegible]

6 in, several [illegible] layers.

4 ft [illegible] [illegible] blue cl. l. rubble

7 in [illegible] solid, [illegible] few fossils

3½ ft. softer blue cl. l. rubble.

12 in. More indurated blue cl. l. Fossils plenty,

15 in. blue clay l. rubble fossils fairly plenty.

2 in. [illegible] l. with Amieleidendrum? & [illegible] [illegible],

2 ft blue clay rubble l. with Leptaena at base.

N of Greenwell continued.

Clinton,

25 Madison massive beds.

27 ft { upper part not studied, middle = Liberty? Midd[le], bryozoans near base, and sandy clay section. Some

11 ft { Schizophora biconvex 1 ft below top, clay blue indurated rubble [illegible] at top

2 ft. { typical northern Cincinnatian blue clay rock. Good strophomena

1 ft. blue clay rock. Columnaria [illegible] alveolata common.

Section N of High Grove [illegible]

Bardstown.

[illegible] about 8 mi S of [illegible] house [illegible] church.

at home of Will Lloyd at first [illegible] of [illegible]. [illegible]

66 ft [illegible] Columnaria layer on

[illegible] Nickles. [illegible] and [illegible] basal,

7½ ft [illegible] bryozoans collected

exposure [illegible] along road.

30 ft above [illegible]

(Crinoidal [illegible])

(Leptaena [illegible])

[illegible] top of [illegible]

12½ ft sandy [illegible]

18½ ft [illegible] Mt [illegible]

2 ft [illegible] Corryville.

[illegible]

[illegible]

[illegible] Nickles [illegible] but [illegible] from the [illegible]

Along [illegible] S of [illegible] N of [illegible] [illegible]

585 [illegible]

At [illegible]

Mt [illegible]

2 ft [illegible]

42 ft [illegible]

18 ft [illegible] 448 [illegible]

[illegible]

632, Columnaria bed at 1st exposure S of [illegible] at J. W. [illegible] house,

568 Base of crinoidal [illegible] exposure N of [illegible] exposure [illegible]

635 Columnaria bed at S. N. Abel, a [illegible]

W. J. [illegible] used [illegible]

678 Columnaria bed with Calapoecia [illegible] and [illegible] about 1 ft farther up [illegible] 50 feet north of cemetery about 9 miles [illegible] N of Bardstown.

685 at top of [illegible] S of 8 miles N of Bardstown.

(At [illegible] the lower Columnaria bed is 47 feet below the upper Columnaria bed [illegible])

Here, 9 miles from [illegible], the upper bed is about 50 ft above the lower bed [illegible] J. W. [illegible] about 14 miles [illegible] Bardstown [illegible] at S. N. Abel's [illegible] about 11 miles from Bardstown.

N of [illegible] about 600 ft, [illegible] 8 miles from Bardstown [illegible] 11 [illegible]

674 = 674 ft [illegible]

645 ft [illegible] Next page.

645. Spring from ... [illegible] ... probably the top of Marcellus ... [illegible] ... At least 11 ft of ... [illegible] exposed. 1 1/4 mi S of Bardstown & 1/4 mi North of bridge across Cox's creek.

630. Bridge across Cox's creek.
730. Cox's Creek P.O. floor of building
755 ... [illegible] ... from Bardstown ...

772 ... [illegible] ...
... [illegible] ...
In white ... [illegible] ...
... [illegible] ...
790 ... Small ... [illegible] ...
... [illegible] ... 4 1/8 mi S of Bardstown.

815 ... 3 1/2 ... of Bardstown.

810 In front of ... [illegible] ... of Bardstown.

810 ... [illegible] ...
2 mi ... of Bardstown.

770 Top of ... [illegible] ...

815 In front of ... [illegible] ...
... [illegible] ...

800 In front of ... [illegible] ...
... north of Bardstown.
730 ... [illegible] ... of Bardstown.

Fossil locality at bridge 4 mi E of Bardstown
... = 5 mi E of Bardstown.

... [illegible] ...

... [illegible] ...

5280
.144
21120
21120
[illegible]
[illegible]

Loc. 7. Lebanon, Ky.

Devonian apparently [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] ut 5 ft [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

35 ft {from Dev. l. down to top of bryozoan layer. Columnaria layer not seen here.

11 ft down from top of bryozoan layer to [illegible] top of [illegible] [illegible] [illegible]

15 ft [illegible] [illegible] top of [illegible] [illegible] to [illegible] [illegible] [illegible] bryozoan of the section 2 miles SE of [illegible] (loc. 2) occurs.

8 ft down from [illegible] bryozoan to creek level. = Batostoma?

S = 7.25 bryozoan [illegible] between Loc 2 + 3 SE of Lebanon, Ky.

Loc 3. About [illegible] SE of Lebanon [illegible] Oll Riley's. Streptelasma certainly, Prasopora?, Ctenodonta?

T Richard Murrell on Cany Creek about 1½ mi above the bridge. Streptelasma [illegible] in front of house and [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] associated with [illegible] = Upper [illegible] [illegible] [illegible] [illegible] [illegible] stream ½ mi [illegible] top of [illegible] Hope, about 15 ft [illegible] [illegible] Streptel.

at level of Fairmount.

Corryville — neglecta (dichotoma?), jamesi.

Bellevue

Fairmount — fabriculata, trifasciata, ultrapistulata ella

Mt Hope — fissicosta

G.O.O. May 15. '05.

Ky — Cincinnatian {Richmond, Covington, Eden {Garrard ss, Eden shales}}

Mohawkian {Nashville or Trenton {Winchester (cedar?), Flanagan, Lexington (Perryville shales, [illegible])}; Stones River {Tyrone, Oregon, Nelson}}

Ohio, Cincinnatian

Richmond {Madison, Whitewater, Versailles {Liberty, Waynesville}, Clarksville [Warren]} unconformity.

Covington {McMillan {Mt Auburn, Corryville, Bellevue} slight unconformity; Newport {Fairmount, Mt Hope} slight unconformity; Eden {McMicken, Southgate, Economy}}

Utica — Utica — Fulton

Mohawkian {Trenton, Nashville — Pt Pleasant, Bromley fine shale}

Maysville

nat. Auburn
Callyco[illegible] [illegible]
Coelocl[illegible] [illegible]
Hemiby[illegible] pulchra.

[illegible]ysville lower part of sect. in SE¼ M 3 miles
Lower part [illegible] [illegible] the more marsh
[illegible] the section [illegible] the more
clay [illegible] [illegible] with
[illegible]
[illegible] [illegible] [illegible]
Calli[illegible] [illegible] [illegible]
B[illegible] [illegible].

Bellevue tp.
[illegible] [illegible] just north of
home of John Reetz on property
of Bill Smith [illegible] first cut N
of castle [illegible]

Bill Ward

[illegible] [illegible] – [illegible],
[illegible] [illegible]!
[illegible] layer [illegible] 10 ft [illegible]
2 ft [illegible] [illegible] [illegible]
11 feet below [illegible] [illegible]
10½ feet [illegible] = [illegible] 13/16"
[illegible]
13½ ft [illegible] [illegible]

[illegible] common!
15 ft [illegible] [illegible]

Fig 4 B and C [illegible] [illegible] by
[illegible] at [illegible] [illegible]
[illegible] than [illegible]. This [illegible]
~~[illegible] [illegible] [illegible]~~, appears to
be represented by [illegible] small
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] like 4 B and
7 in [illegible]

Acidaspis cerealepta. Ohio Pal. Vol. 1. pl. XIV. fig. 8 = Ceraurus according to Miller (= Ceraurus pleurexanthemus according to him)

Parcedus Darwini.

Fragments and ppr specimens are rare in hills back of Cincinnati. about 400 feet up. = ~~Bellevue or base of Corryville~~ Corryville, rather near top. Good specimens = 2 mi Sw Vilmapville, in a layer of marl 2 feet thick between harder stratified rocks. = base of Bellevue. = Fig. 1 A B of plate 1 of mine.

Parcedus clandei. Miller. Diameter ½ to ¾ in. Diameter of depressions = about ⅓₀ inch.

Parcedus is placed by Hindle under sponges.

Plate I.

Parcedus darwini. (Sponge perhaps)
~~Typeo~~ From two foot clay layer at base Corryville, about two miles south of Mayville, Ky in railroad cut. Depressed globular bodies, probably originally nearly spherical, with depressions, chiefly hexagonal, originally filled by plates which were a little convex on the outer surface. Fragments and ppr specimens are rare in hills back of Cincinnati, at 400 ft (= Corryville?) Attains top of section at 425 ft.

Parcedus clandei. Miller. ½ to ¾" diam of specimens, ⅓₀ in = diameter of depressions. Found associated with P. darwini at Mayville (= Base of Bellevue) but not at Cincinnati.

Dalmanella cycla is less robust shell than multisecta, valves very thin, hence the ventral valve appears nearly flat in most specimens except near the beak and along the slight medial ridge, due to pressure & flattening. Radiating striae said to be prominent and rather coarse, less fine than those of multisecta, but this is not true of the types in the James collection.

Plat cypha James differs from larger specimens of crassa, it is more gibbous, has a more profound and lengthy sinus, greater length of hinge line and finer and more numerous costae.

Plat. crassa James, said by James to occur 300-400 ft up = Fairmount to Corryville.
Differs from laticosta in having generally but 1 plication in sinus and 2 on fold, Lateral plications = 5 or 6. Lateral slopes always abrupt and much less compressed from valve to valve than in laticosta.

Acidaspis crosotus. back of Plainville. Columbia ave. 160 ft up.

Acidaspis ceralepta Miller describes Fig 9 of pl. 14 of Ohio Pal. and not fig 8.

Acidaspis Cincinnatiensis. figs 3.4. 6. & 7. of plate 14. Ohio are all here included. Meek.
Miller describes specimen from Dr. H. H. Hill. in Eden Park, less than 200 feet above low water.
Fig 6 & 7 come from 15-20 feet above low water from James's Collection
This may be madisonensis.

Trematis dyeri. Dorsal valve Shell marked by 2 or more distinctly elevated regular concentric lamellae giving the valve a rough appearance. No punctations have been observed in this valve. Ventral valve puncta.

Lingula vanhorni. Miller. Elongate ovate. Length 3/4 in.

Crania dyeri. Miller. Diam. .20 1/5 inch convexity .07 inch. Shell small, circular. dorsal valve, prominent, conical. apex central. Surface with 6 or 7 fine, sharply elevated concentric ridges or lamellae lines of growth.

Heliospongia stelliforme.
Spongiae:
Brachiospongia tuberculata & laevis.

Heterospongia aspera	6-7	
knotti	6-7	5-7 = Rich.
subramosa	4-7.	3-5 = Lor.

Dystactospongia insolens.
Coelenterata.
Stromatoporidea.
Beatricea nodulosa.
undulata
Labechia ohioensis. Nicholson. 5-7.
Stromatocerium pustulosum var 7

Dal. emacerata. Length + width as 5 to 7. hinge line nearly equalling the width of shell. Dorsal valve flat with a slight depression down the centre. Ventral valve depressed convex, an undefined elevation extending from umbo towards the front, + sometimes quite to the margin of the shell. ~~Shell~~ Shell thin.

Rhynchotrema dentatum. Published as a Trenton species from Turin NY, But the types are referred by Whitfield + Hovey to Cin. O.

The typical specimens are quite common at the quarries in Hamilton Butler co Ohio. It has not been found associated with O emacerata, ~~but begins~~ and, as far as known, has a range commencing about 50 feet above the latter, and extending to nearly the top of the exposure of the Lower Silurian rocks. The largest specimens that I have seen were found near Oxford, in Butler Co. Ohio. (= Fig. 6A ?)

Cotter's mecki.
It may be readily distinguished from O. emacerata, for which it has been mistaken, by the following characters, to wit, It is smaller, striae not so fine, (2) mesial sinus in the dorsal valve and mesial ridge in the ventral valve more distinct and better defined, greatest convexity of the ventral valve more central.

12 mp.

Platystrophia dentata From 250 to top of hills back of Cin.

Raf. alternistriata. Striae more uniform in size + finer. Shell has a shining lustre as in L. sericea. Its range seems to be about as great as that of alternata. Mill. This range must be [illegible].

~~Coxirhyticus~~

[illegible] Dorsal valve [illegible] Madison.

[illegible]

Rocks. — June 26.

1. West of bridge 51, west of [illegible]. Resembles Garrard SS. at base of Utica, where it is common.

2. (No 7) True Garrard SS. 4 mi. W. of Richmond, Ky. Weathered.

3. Loc. 87. Four miles W of Richmond. True Garrard, but fresh.

4. Clinton. 4 ft below top. at bridge E end of Bardstown, Ky.

5. Botland bed, 19½ ft below top of Clinton. bridge east end of Bardstown. Nelson Co. Ky.

6. Massive Madison bed below thin bedded layer. 1 mi. West of Bardstown, at distillery on east side of creek.

7. 1 ft above base of Botland bed, 4 mi. E of Bardstown, Ky on Springfield pike. = Main Richmond exposure.

8. South end of Mt Washington. Madison. Near base of Upper third.

9. South of Mt Washington. The great clay rock section of the Lower Richmond.

10.) - 12 ft. below top of Clinton at E end of Bardstown. Ky.

11. 20 ft of clay rock a short distance below limest Strophomena macy millensis Takes place of Garrard SS. just west of depot at Williamstown. Ky.

Wyoming.

D. pl. subquadrata
Pl. serratus
pebbles.
H. bisculpta
halli alveolata
Calapoecia
St. nutans. neglecta
Zyg. Kentucke — Rh. dentatum
H. bisculpta

Catazyga.

D. alt. jugosa
undata — Orthoceras S. Tetradium

Clay rock.

Din. subquadrata
2 — H. insculpta
7½ streptelasma Pr. vetusta
Calapoecia Rh. capax
11½
D. jugosa
5 Str. planumbona
1 — C. headi. Zyg. Kentuckiensis
Str. neglecta?
Pr. hagPettalis

Tetradium

clayrock.

Heavy unfos. bed.

Acidaspis.

1. Species having occipital ring

   a. Smooth or with a central tubercle = Odontopleura onchrones.

   b. With a single large straight median spine = Acidaspis crossota Lock.

   onealli = incorrect.

Position unknown = Ceratocephala ceralepta Anthony.

C. cincinnatiensis Meek.

Ceratocephala granulata Warder, Trilobite [illegible] associated with [illegible]

Calymene – C. [illegible]
C. [illegible]

Acidaspis o'nealli.
Not far from the northern bank of Todd's Fork, about 1 mi. very near east of Morrow, in Salem Township.
Sold to Lou Simonton.
grain elevator.

Glyptocrinus o'nealli,
bought
Wachsmuth, Iowa

Found in [illegible] creek, in Virginia.

Orthis occidentalis.

Dalmanites breviceps.
Found by Mr. Kelley O'Neall.

From lower part of Lebanon beds, at lower part of strata containing from just below Orthis occidentalis.

Simonton.
Lives in Broadway, 3rd house after the [illegible] Warren on east side of street.

Dr. Carden at Morrow

Pasceolus – genus.
Beatricea? genus. – Mich. Report.
third species?
Heterospongia – genus – Cincinnati Mus.
~~[illegible]~~ ~~Genus~~
~~Species~~

Dystactospongia insolens Genus
Species.

Pattersonia robusta Genus species.
" French species.
Streptelasma divaricans
Brachiospongia digitata
Streptelasma rusticum
canadensis.
Columnaria alveolata
Calapoecia cribriformis
Leptobolus insignis.
Lingula cincinnatiensis
Schizambon [illegible]
Trematis millepunctata
~~" [illegible]~~
Pholidops cincinnatiensis
Schizocrania filosa
Crania scabiosa
Crania ?albersi
Crania laelia
Rafinesquina nitida
alternata
fracta
nasuta
loxorhytis
alternistriata

Figs. 5. 6 A. B. Plate II. | Sizes + Publication
Figs 1 & 3. Plate III.

Fig 1. 2A. 2B. 3. 4. 5. 6A. 6B. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16 17. Plate V.

Figs 2A. 2B Plate VI
Figs 1F 8A. 8B VII
Figs 2C D. E Plate IX
Figs 8 XIV.

Trypa.

Stroph. planiconvexa.
 [illegible]
 [illegible]
Leptaena tenuistriata
Plectambonites sericeus
Stroph. nutans?
 planumbona
 subtenta
 neglecta
Plectorthis approximata
 jamesi
 ella
 aequivalvis
 plicatella
 triplicatella
 fissicosta
 dichotoma
Dalmanella multisecta
 emacerata
 bellula
 fissa.
Hebertella occidentalis
 sinuata ?
 insculpta

Washington.
Spr ingers. Erock ... Mexican figured
Hondi ...
Leptopterium manuniform
Dyst ... spongia minima
Het ... spongia aspera
Patters ... dibrachi
Patt ... whitfi. Ruff Pal XL '94

In ... dead address.

Lingula ...
What about ... by ...
Trematis ...

Orbiconia ...
Crania ...
...
parallela

Plectambonites ...

Orthis ... What ... type?

Plect. ...

Where is Carley collection?

Plect ... stannage ...

Orthis ...

Orthis ...
Made ... types
Crania typ
Zygospira ...
...

Eldridge.

Garfield car to Meridian St.
Walk one square south.
Meridian and ... St.

Hindia parva. Ulrich. types =
= Minn. specimens are the types.

Chirospangia faberi = probably the same as Leptopterium mammiferum.

Physics. 3rd Year or 4th Year.

Elect either Chem or Phys. Must
May elect both.
Must elect 1 yr. of biology,
Bot. Zool. Physiol. + Physiography.

Physics 1 = Mechanics + Sound,
Physics 2 = Light heat electricity.

In High School no uniform texts or methods of procedure are required by law in different cities.

History is chosen as the [illegible] study. Must come in [illegible] 3 X a week for reference work in order to make this less of a [illegible].

Not allowed to substitute sewing or cooking or drawing for science. Nothing can be substituted for science.

Physics I 8 30 — 20 pupils
9 boys 11 girls

Physics I 10.00 — 32 pupils
14 boys 18 girls

Physics 2 1 PM — 23 pupils
11 boys 12 girls

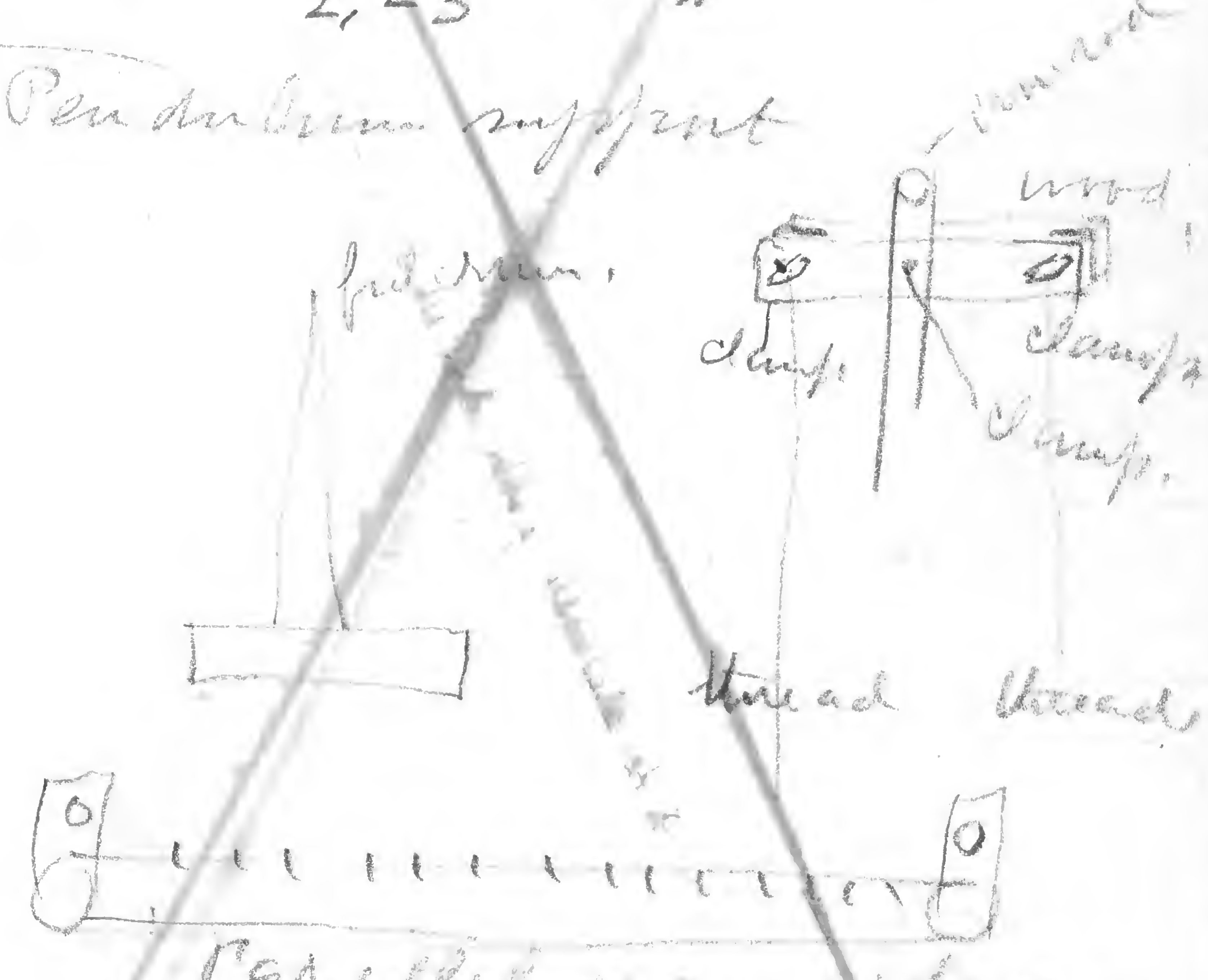
Forty lessons in Physics.
Lynn McMullen.
Henry Holt + Co. 1906.

Assistant get $20.00 a month.
25 "
30 "

Working [illegible] day in laboratory.

Physics I, 18 experiments
2, 23 "

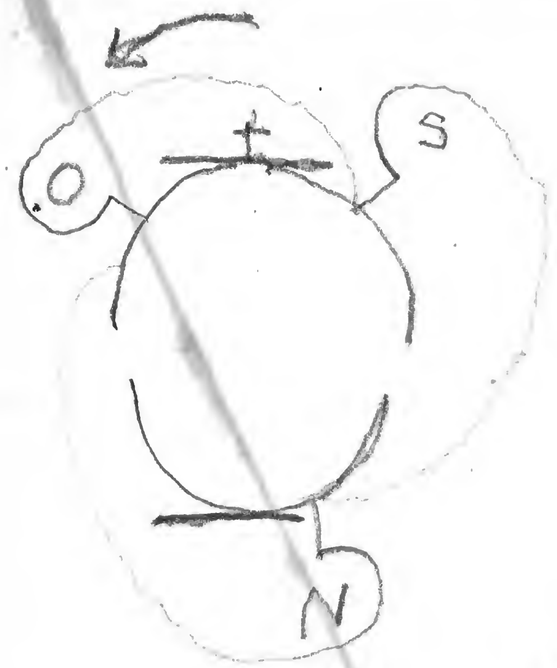
Pendulum support

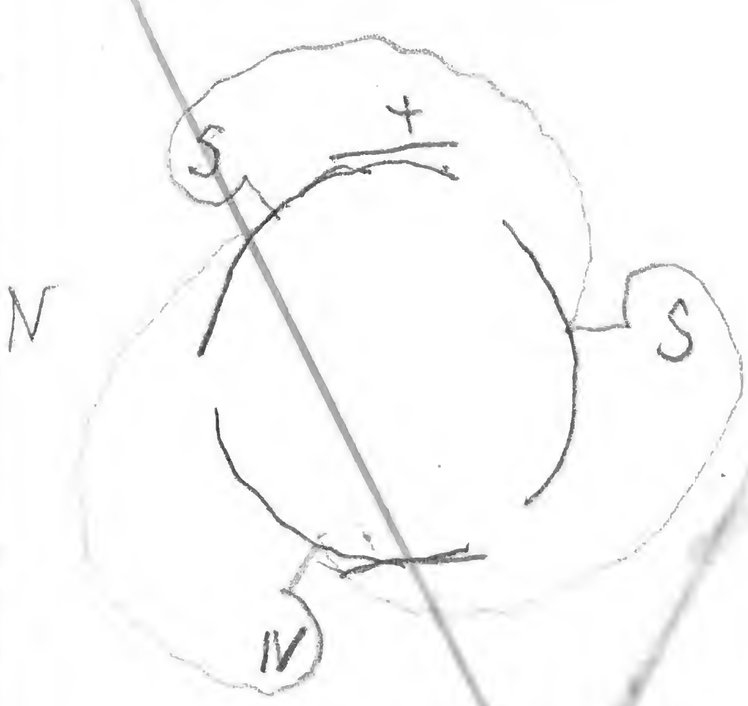


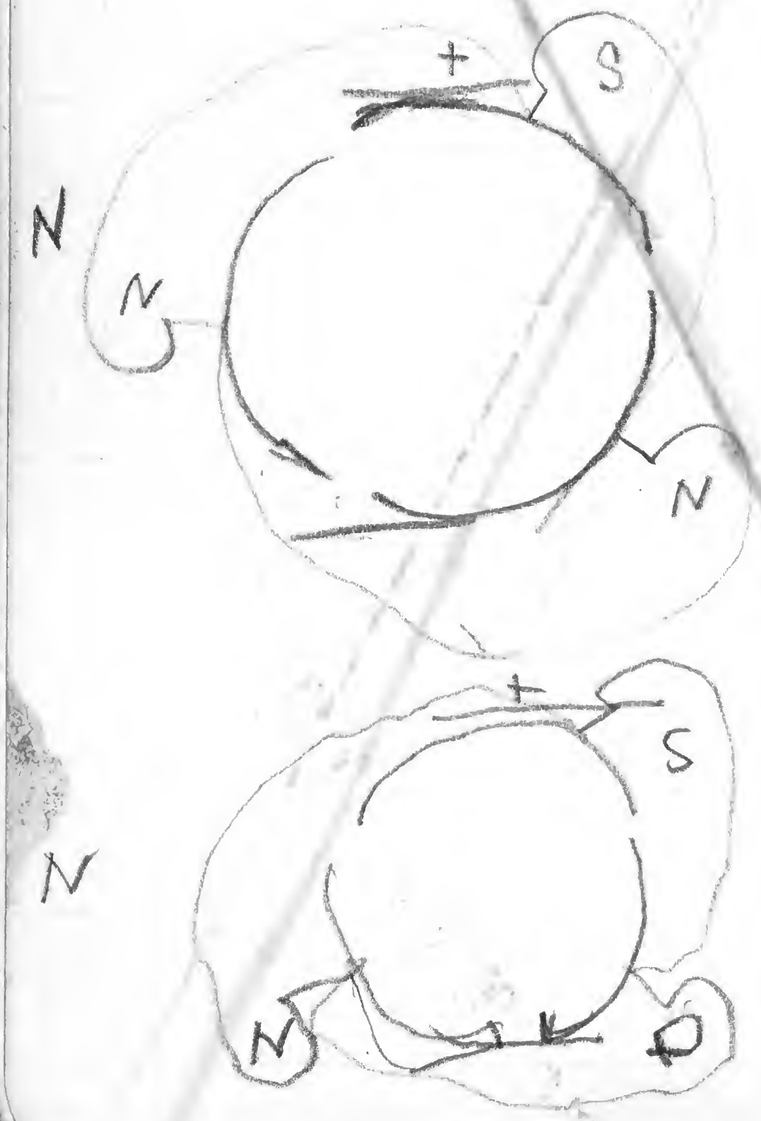
Parallelogram of forces.

Metronome.

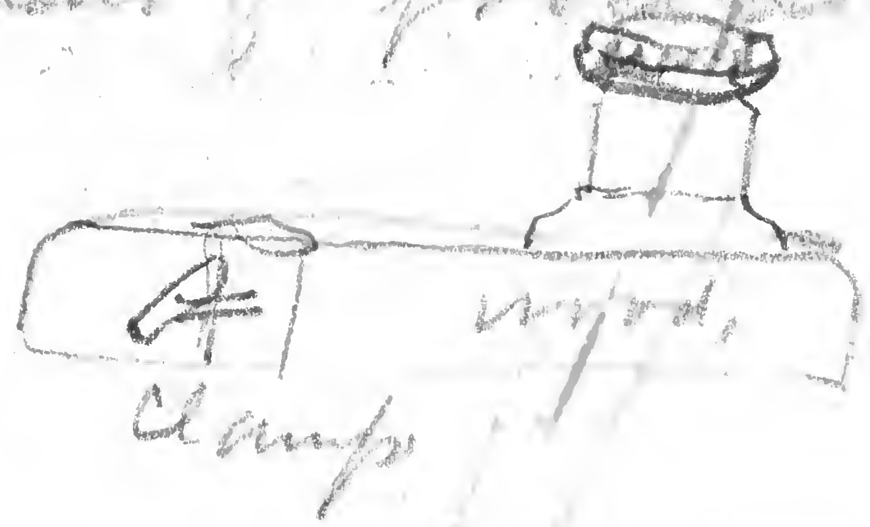
Midget recepticle for making electric light recepticle.


O
+
S
N
N
S


S
+
N
S
IV
S


+
S
N
N
N
S
+
S
N
N
O
S

for clamp in connection with measurement of focal distances.



Galvanometer used for voltmeter using high resistance coil, for ammeter using shunt, No 18 wire, short lengths,

Red glass bulbs for spectrum work.

$ 3.50

Watson, W.
A Text book of Physics.
Longmans Green & Co, 1904
N.Y.

Practical measurements of Magnetism & Electricity
George A Hoadley
Am Book Co. 1904.
111 pages

The Rational Arithmetic.
Grammar School, Myers & Brooks

William H. Pierce.
Boston
282 Washington St

Miss Rhodes 1.50
W. Willis Hall 1.25

3 hrs Roman Spl.
2 hr Greek
5 hrs Modern
5 hrs American
2 hrs England Robert
3 hrs English Miss Cox

Elements of Physics.
Sanford Text book
Henry Holt, new edition

Physics Lab Manual
Mees & Preston.
[illegible] Training School,
Indianapolis

History of Physics,
Florian Cajori,
Macmillan Co.

Carhart & Chute.

Physics 1 Mechanics & Sound
2 Heat, Light & Elect.

Laboratory Course
3 Mechanics & Sound
4 Electric & Light.

Carcinoma,

Wilbur D of ... [illegible]

Charley Driggs –

... [illegible]

20 inches heavy bedded, fossils bedded,

1-2 in ... ostracods, ...

26 inches fossiliferous thin bedded

1-2 inches darker,

10 in thin bedded.

about 12 inches above ... thin bedded, most of them

14 inches, ... although

9 in ches thin bedded

2-3 in Darker.

William Beachler
Decatur Ind.

Will Gibbs, at the Leech quarry, knows about the meristomata.

Old Geo. W. Hawker quarry.

Viss Ginim owns the quarry now. About 10 ft down from the top = meristomata.

Chaffin quarry, meristomata very scarce. They occur very low here. 20 – feet down at least.

Another workman told me that they occur below water level about 2 ft at bottom of quarry.

Mc Reynolds. = Interurban quarry = meristomata not found here.

Leech quarry, occur

3 ~~to~~ 3.5 ft = meristomata.
3 ft
bottom of quarry =

~~Hindia sphaeroidalis elegantia~~
Miller & Dyer
~~Hindia parva Ulrich.~~

~~Lepidolites dickhauti, Ulrich,~~

~~elongatus Ulrich~~

~~Anomaloides reticulata Ulrich~~

Laticheilia Ulrich.

Tetradium fibratum

~~Cin. Jour. I. p. 37. 1878.~~

~~Am. Geol. III. p. 244. 1889~~

~~Cin. Jour. 2, p. 21, 1879,~~
~~2 p. 22~~

~~I, p. 92, 1878,~~

Am. J. Sci. Vol 22, p. 236, 1856.

Thomas C Brown, 3/4 mile S[illegible] of Lynn Sta,
John Devere at Wabuntz Sta,

Menzies station.

N of [illegible] Mineville, - [illegible] France,

S. of Morning View, [illegible] ravine.

---

11 miles from [illegible],

Landscape in History
Archibald Geikie.
Macmillan 1905.

Age of the Earth
W. J. Sollas,
J. Fisher Unwin.
Paternoster Square
London. 1905,

The Nature of Ore Deposits,
Dr. Richard Beck
& W. H. Weed,
Engineering & Mining Journal,
New York,

Ore Deposits of the U.S,
J. F. Kemp,
Engineering & Mining Jr.
261 Broadway, N.Y.

Geology of S Africa
F H Hatch &
G. S. Corstorphine,
Macmillan, 1905

Economic Geology of U.S,
Heinrich Ries,
MacMillan 1905

Introduction to Rarer Elements
Philip E Browning
John Wiley
New York,

Experiments with Plants,
Macmillan Co, 1905,

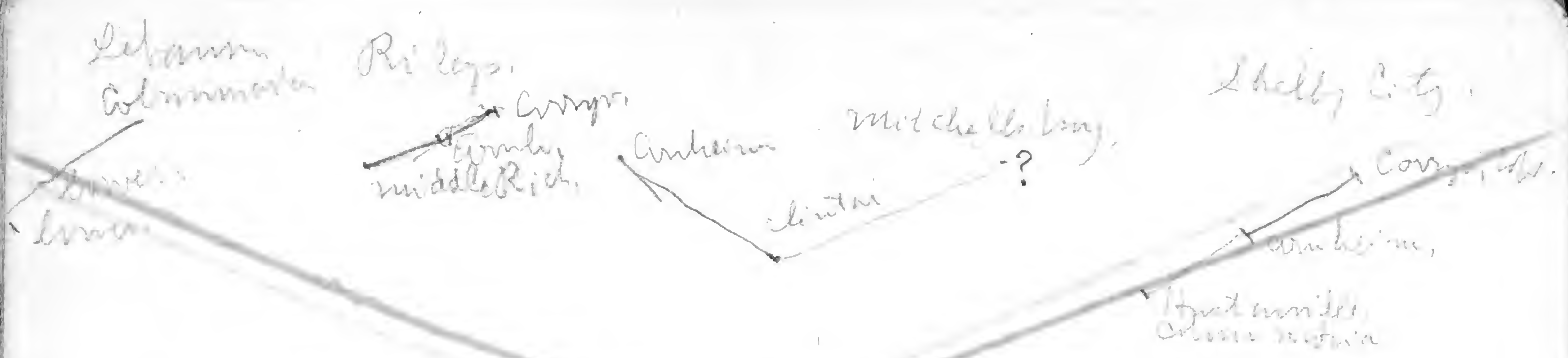
Eurysoma newlini. Claypole
Am. Geol. Vol. VI. p. 258.
associated with Eurypterus
possibly lacustris and
Ceratiocaris.

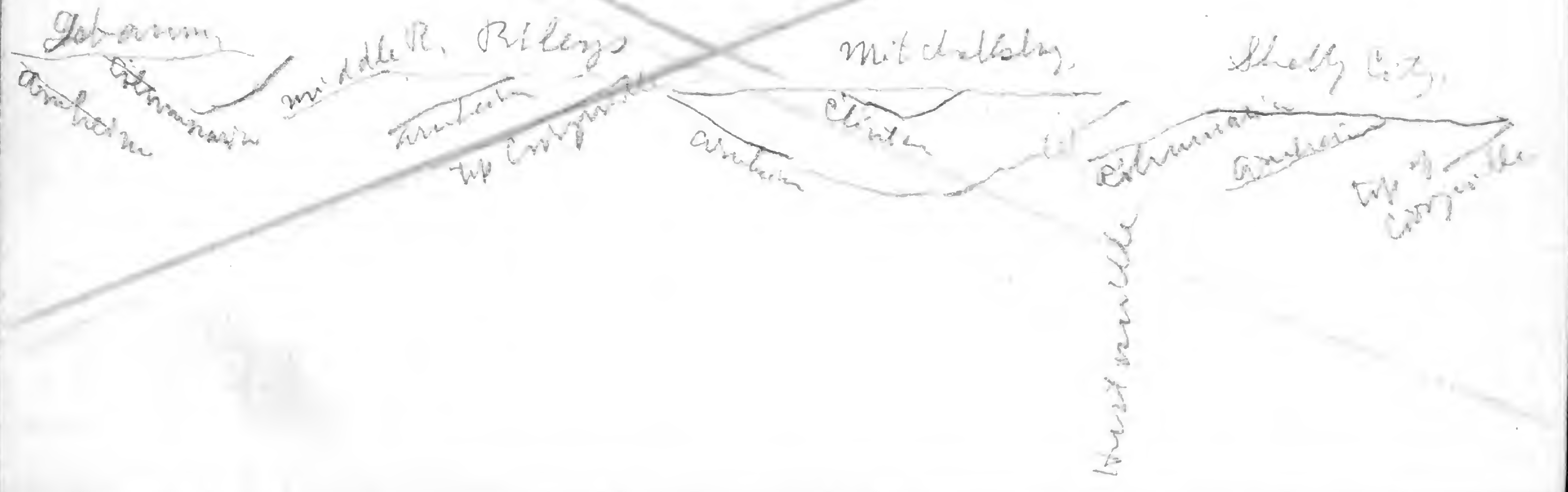
C. E. Newlin. Kokomo. Ind.
3 specimens = types.

gnathopods
as in
paddle. Megalograp-
tus with
chelate spines long
pointing upwards.

Carcinosoma ingens. Claypole,
Am. Geol. XIII. page 77
Charles Smith. Akron Ohio,
from bottom at Kokomo.
chelate appendages short
and fewer.

Eusarcus Grote & Pitt.
Bull. Soc. of Nat. Sciences, Vol
III. No 1.


Lebanon
Columnaria
Rileys.
Corryville
middle Rich.
Anderson
Mitchellsburg.
Clinton
?
Shelby City.
Arnheim,
Trenton middle
Columnaria


Lebanon
Columnaria
Arnheim
middle R.
Rileys
Trenton
top Corryville
Mitchellsburg.
Clinton
Anderson
Shelby City.
Columnaria
Arnheim
top of Corryville
Trenton middle

Hindia parva.

Sponges free, globular in form, with an even rounded surface. Specimens vary between 5 and 10 mm. in diameter, but in a large proportion of the specimens seen the diameter varies but little from 7 or 8 mm.

The radiating canals are a little smaller than in the common H. sphaeroidalis, Duncan, of the Trenton, being, as a rule, not over 0.27 mm. in diameter. H. inaequalis Hinde, from the lower sponge beds of the Trenton limestone at Dixon Illinois, is larger and has, as its name may indicate, radiating canals of very unequal size.

This species (H. parva) has been known to me for nearly ten years as one of the most persistent fossils of the Trenton group in the western states. I met with it first at several localities in parts of Kentucky, and since have found it, holding about the same horizon in Tennessee, Minnesota and Wisconsin. Though a common fossil, good specimens are rare.

Occasionally we meet with specimens of this or a closely related species in the middle beds of the Cincinnati group. These are a little larger than the Trenton form, the specimens averaging about 10 mm. in diameter. This supposed variety of H. parva has been found on the hills about Cincinnati Ohio, at Colby and McKinney's in central Kentucky, and at Savannah, Ill. Formerly I supposed it might be identical with Miller and Dyer's Microspongia gregaria (Jour. Cin. Soc. Nat. Hist. vol. I. p. 37, 1878) but its internal structure is clearly the same as that of Hindia. These authors say of their species that its structure is "fibrous or minutely porous, and very compact" and that what they named "oval disc-shaped bodies" supposed by them to be spicules. From this it is evident that either they are mistaken in their diagnosis or they had a very different sponge before them.

Seven specimens of another supposed variety of H. parva were collected from the upper beds of the Cincinnati group near Middletown

which I refer have the same internal structure but are necessarily small, the diameters of the smallest and largest specimens being respectively, 3 and 5 mm.

Microspongia gregaria. p 37.

This is a small gregarious, globular, calcareous sponge, free and having no spicules. Its structure is porous or minutely porous, and very compact. Weather-worn specimens show the porous structure, which is well illustrated in the figure. Microscopic sections, prepared by Dr. J. H. Hunt, reveal what we suppose to be spicules. They are minute needle-shaped bodies. This species is sometimes found in clusters, though it is by no means a common fossil. Specimens collected, vary in diameter, from less than one eight to more than one half an inch, and have been found at Cincinnati, and in the upper part of the Group. The specimen illustrated is from the collection of C. B. Dyer.

p. 92.

Anomaloides reticulatus, Ulrich?

The thirty five fragments before me were found in a spot about two feet square, and it may be possible that they all belong to one individual, but that seems scarcely probable. They are all hollow, and the inner [illegible] is composed of an aggregation of sub-cylindrical or rather club-shaped stems which are placed parallel with each other, and perpendicular to the surface; their inner ends are acutely pointed, while that end which shows on the exterior surface is rounded, and with a minute pit on the top, for the articulation of two very fine and small spines. [illegible] of the bottom of these club-shaped plates is very irregular, being arranged in curved or flexuous transverse, or diagonally intersecting lines; and on account of their cylindrical form, there are a great number of interstices which may be referable to pores, analogous to those in the Asteroidea.

Two of the specimens are compressed, conical in form, one is two inches in length, and the greatest breadth is three-fourths of an inch; its two edges run ~~parallel~~ nearly parallel for about one and one-fourth of an inch, from where it tapers rapidly to a point. These specimens may represent rays. Another specimen appears to be part of a disk, and judging from its form it seems possible that it was supplied with short such rays as those described. Two other fragments were observed, in which some small specimens of Bellerophon bilobatus were found within the envelope of the plates.

Locality and Position.—From the Cincinnati Group at Covington, Ky., at an elevation of about 1,275 feet above low water mark in the Ohio River, found by Mr. H. Dickhaut and the author.

p. 21

Lepidodiscus dickhauti, Ulrich.

All the specimens of this species examined are excellently flattened, but their original form undoubtedly was either sub-spherical or sub-pyriform with the lower portion considerably indented. The envelope of scale-like plates is very thin, being little more than one-hundredth part of an inch in thickness, and appears to have been slightly flexible. The plates in brief with the exfoliated marginal rounded, and arranged in concentric lines or zones each other in a spiral manner; they are much smaller about the indented portion, gradually becoming larger as the lines approach the upper portion. The appearance presented by a specimen that is flattened vertically, is very like that style of ornamental work on watch-cases called "engine turning". In the largest plates observed, the expanded portion has a diameter that is not more than one thirty-second of an

in fr. Detached plates have a length that is equal to about three times the greatest breadth, and are somewhat cuneiform in outline the widest end being that one which is exposed on the exterior of the rock. When the species is completely dried the interior lining of the valve of the rock, and to the outside of which the plates are attached is removed, the lower ends of the plates are exposed; this side of the plates is provided with a distinctly defined, longitudinal furrow.

Specimens of this species are usually coated with iron, which effectually destroys their minute characters. Fortunately the author found a number of specimens that were entirely free of this trouble and from these the details of the accompanying figures were obtained.

Named in honor of the energetic collector Mr. H. E. Dickerson.

Formation and locality: the specimens were found in the shales of the lower part of the Hudson River group at Covington, Ky. Taken with about one hundred and fifty feet above low water mark in the Ohio River.

v. 22

Lepidelites dickersoni. Ulrich.

This species differs from the type of the genus mainly in its different form. The form of L. dickersoni is sub-cylindrical, while that of the species under consideration is sub-cylindrical, with the ends somewhat truncated. The length is equal to about three and a half times the diameter or transverse measurement. The specimens are coated with iron, and for that reason it was impossible to ascertain whether the plates differ from those of the type species. Their arrangement is very much the same.

This species seems to have attained a larger size than L. dickersoni. The largest specimen found, the surface of both ends, is flattened concentrically by two inches in length by three fourths of an inch in width.

Formation, locality and collectors: as found on the last.

Lakeshore [illegible] multifera, Ulrich,
Contributions to Am. Pal.
pl. 33. Hud. River. Ga.

N
[illegible] possible.
R.R. 55 ft up to top of limestone
[illegible] clay [illegible]
40 ft. down to Licking, intermediate [illegible]
5 ft = probably [illegible] of [illegible]
[illegible]
Possible that top of [illegible]
might [illegible] at [illegible]
[illegible] immediately
NW of [illegible]

N of [illegible] 23

53 ft R.R. to top of Winchester,
52 ft down to Licking
5 ft [illegible]

Bryant's Ford [illegible] 1/2 [illegible]
N [illegible]
20 1/2 mi [illegible]

2 ft 9 in [illegible]
[illegible]
57 1/2 ft [illegible] R.R.
50 ft down to Licking at low water
at least.
intermediate ground about 10 ft below
top.

Station 31, culvert, 3 mi from Grey Island.
35 ft above low water Collected,
30 ft above low water Utica,
[illegible]

Station 32 [illegible] + Station 33 Drukers
[illegible] 20 ft up

Station 34 = Stockton road = 2 2/3 mi E of water works. 1 1/3 mile W of 8 mi. creek
Station 35 Creek + road on west, short [illegible]
[illegible]
over 45 ft of [illegible] with [illegible]
thin limestone
36 [illegible] limestone
[illegible] with clay [illegible]
at least 35-40 ft of limestone
with few [illegible] Utica
[illegible] 30 ft

Stations 36-37 flood plain narrow on
north side of river = 200 yds.
8 mile post office.

Station 39, Creek = 8 mile creek.
[illegible] Deep wide valley
with [illegible]
Same limestone [illegible] as at
35 [illegible] good [illegible]
[illegible]

Station 40 [illegible]
[illegible] above track
level.
Between 40 + 41 are several good gullies
above [illegible] level. 6 M to [illegible] R
9 Miles [illegible]

Station 42 - Nine Mile [illegible]
[illegible] [illegible] [illegible] on E [illegible]
[illegible] [illegible] [illegible] Exposure
[illegible] the neck, [illegible] [illegible],

Station 44 [illegible] [illegible] [illegible] [illegible]
exposure, [illegible] [illegible] = 66 feet,

Station 46 another [illegible], on west,

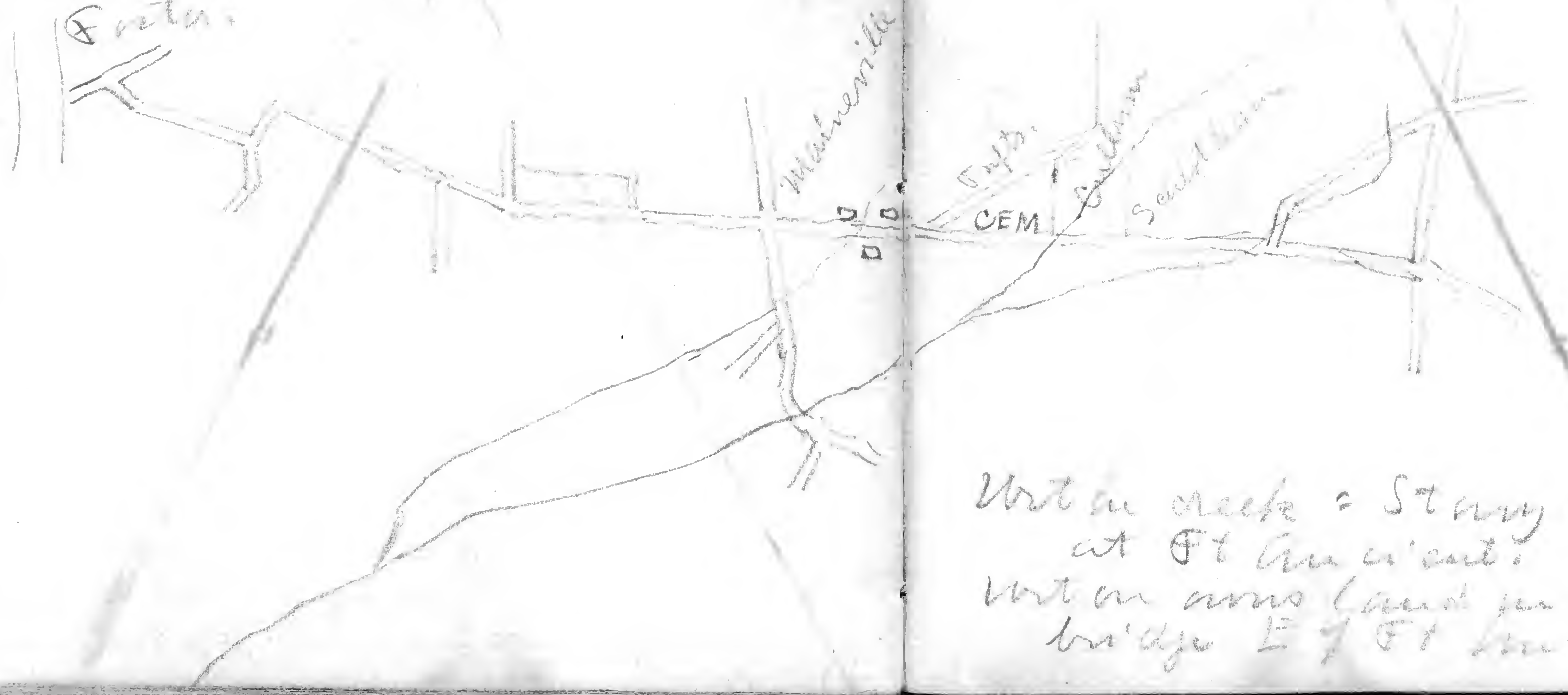
Station 47. The [illegible] [illegible],
E of S[illegible] [illegible] [illegible]
[illegible]
about 4 miles to [illegible] [illegible],

Station 48 E of [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible].

& T M, Williams,
William [illegible]
[illegible] C B [illegible] = [illegible]
m Ft [illegible] road,

[illegible] = creek 2 miles
West of [illegible]

Second creek at B[illegible],



Unt on creek = Stony [illegible]
at Ft [illegible].
Unt on [illegible] [illegible] [illegible] N side of
bridge E of Ft [illegible].

Lexington.
At [illegible] Belt line.

12 ft Winchester exposure at my return section of railroad, Partial exposure of same beds in cut going section.

Apparently, in contact of Winchester and Lexington in quarry immediately this side.

Collected from supposed Winchester base at this quarry.

Mount Vernon, York up.
Fire clay directly above coal.

Dr. A. G. Lovell.

Sand-stone just below Mount Vernon somewhere Pine Hill.
L. & N. R.R.

½ mi. West of Greendale station to bridge up creek, and up road [illegible] pike southward,

47 ft up to top of Duffin rock

{5 ft [illegible] Connersville [illegible]
{5 ft dense massive limestone exposure
{60½ ft creek under bridge up to
[illegible] down creek down to Greendale [illegible] at level measured at base of Bellevue. The pseudo [illegible] top of Fairmount next below. Then massive limestone with [illegible] under [illegible] common.
{Then [illegible] limestone with [illegible] [illegible] [illegible] in Fairmount. Strophomena [illegible] [illegible]
(= ½ mile E of [illegible] station)

---

1 mi. S of road south of Shelby City, where Leptaena [illegible] to [illegible]. Incorrect I think [illegible]

Dev. limestone.
[illegible] 5 ft down.
[illegible] [illegible] about 5-6 ft.
Collected also SE of bridge in hillside.

West of
Rt. [illegible], 1 mi. N. of
[illegible]

[illegible]
1 ft 6 in, [illegible]
4 ft. [illegible]
[illegible], soft, shaly, [illegible]
[illegible]

In front Jim Jackson Edwards

5 ft Dev. limestone, massive, one
chert layer [illegible] top. Corals few
not [illegible] (top [illegible])
6 in. [illegible] of [illegible] ½ to
¾ inch. [illegible] 1–4 inches.
[illegible]

---

up stream from J. J. Edwards.
2 [illegible] layer [illegible]
[illegible] = 1 ft above,
Beneath this [illegible]
fossils few. Thin [illegible]
limestone [illegible] is 2 ft
to 3 feet probably.

⅛ mi. SW of Jim J. Edwards,

Black shale.
2 ft 6 in Dev. limest. corals few, [illegible]
[illegible].
5 in. cherty layer.
1 ft Clinton.
large crinoid heads.
[illegible] & [illegible]
14 ft 6 in Clinton, with [illegible] about
2 ft above base of exposure
base of [illegible]

{Farther down stream [illegible]
of creek = ~~[illegible]~~, at 55 ft below
limestone [illegible] Clinton & D[illegible]
nian not examined.

Better section on [illegible] side of stream
Black shale
1 ft massive, cherty, [illegible], Duffin [illegible]
2 ft massive, little chert; [illegible] layer.
7 ft thin bedded chert, [illegible]
3 ft 3 in. massive [illegible] Parks, [illegible]
44 ft interval. Clay [illegible] shaly,
Platy [illegible] base

Rileys

Will Isaac, 1/4 mile N of Riley

Fairmount with Strop. maysvillensis NE of house, along west bank of small stream, 33 feet below Devonian at exposure near Riley station, = immediately north of station,

Dip strongly southward hence this part of Fairmount is probably at least 66 ft below Devonian if not more.

Immediately below Devonian dense blue clay limestone as south east of Givens station, up the road from the bridge,

---

Near cave 1 mi W of Riley

Plasmopora fauna in nodular limestone in clay rock, like nodules at [illegible] at SE Lebanon, Here at 10 ft below Dev. l.

Columnaria alveolata! occurs 5 ft lower [illegible] before, but not more

Devonian [illegible] road going south SW of [illegible] not [illegible] thick.

Farther south [illegible] Columnaria was found [illegible] above [illegible] of 03 [illegible] black shale [illegible]

The strong south dip carries the Black shale below the road going south as far as beyond the first house which is on west side of road, 1 mi from R.R.

Streptelasma just below Dev. l.
Columnaria, canadensis

11 ft below Black shale farther south [illegible] of Columnaria alveolata! layer 2 ft thick. Columnaria abundant, evidently the source of loose specimens

Streptelasma canadensis immediately below Columnaria layer, in fossiliferous strata 3 ft thick, guessed at, since amount of southward dip is not known

Then Tetradium and Calapoecia (many large) Streptelasma canadensis + Columnaria halli; possibly also alveolata but this not certain, in layers at least 2 ft thick.

The Tetradium in layers 1 ft thick or large specimens 2 ft across.

100 yds farther S is school at mouth of branch.

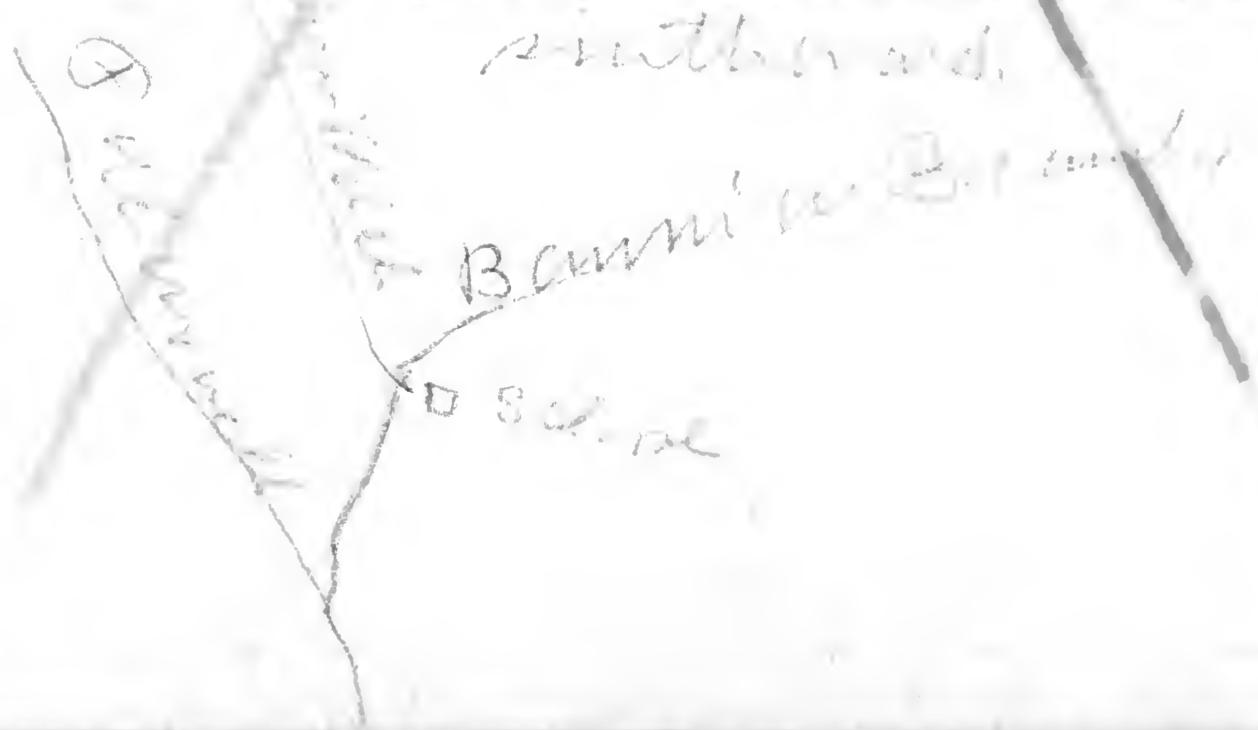
Dip of rock is gently southward. No exposure then for 1/8 mile where rocks dip very gently northward. Here is Richmond clay rock.

50 ft exact measurement above point where branch enters from west is Columnaria bed [illegible], exposed SW up hill.

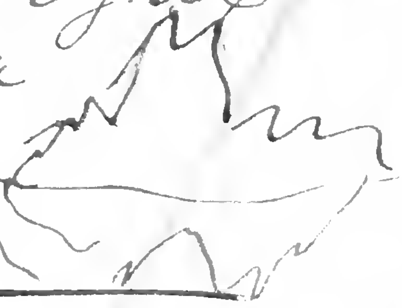
Follow well RR [illegible] Valley View.

Nodular limestone as at Cave with Prasopora abundant occur about 10 ft lower.
All species bet[ween] Colee [illegible] + nodular layers [illegible] fossiliferous [illegible] Madison.

1 ft Nodules abundant
14 in. Nodules + Prasopora hospitalis abundant,
2 ft fossiliferous with Platystrophia but not lynx, Hebertella.
9 ft not fossiliferous [illegible] Mad. clay [illegible],
5 ft Platy lynx abundant,
14 ft to 14" ft [illegible] with lynx [illegible] less common, at least not seen, but [illegible] [illegible], seen large and [illegible] in number
2 ft Then lynx, [illegible] Prasopora, large [illegible] and [illegible] branches, Plectambonites.
section with fossils [illegible] 3 ft,
J. W. Isaacs, [illegible] View,
5 ft Plat. lynx Hebert. + C [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] creek at J. T. Crews,
[illegible] [illegible] [illegible] [illegible] southward.



Moreland pike, 1 mi. S of Shelby City. Prasopora hospitalis
Platystrophia lynx
Platystrophia



Cave. 1 mi. W from Riley's.
Prasopora hospitalis
Batostoma varians.
nodular limestone in clay

½ mi. NE of Jim Lamb
½ mi. SW of J. J. Edwards.

Robt. G. Edwards.

10 – 30 ft below massive clay rock below Dev. limestone.
Prasopora hospitalis
Batostoma varians.
Plat. lynx
Plat.

Heterotrypa frondosa?

Plate 1.2, Upper Richmond, W of Indian Fields. [illegible]
Black level. Strophomena [illegible]
Rafinesquina alternata
[illegible]
[illegible]
Hebertella [illegible]
Byssonychia [illegible]

Collected.
Upper Richmond from 3 ft below Clinton limestone to 4 ft above R R level at the Hornback curve.
Collected [illegible] from 4 ft above R R [illegible] at Hornback curve to base of first cut west of Hornback curve. At west end of this cut, the path leads down to John Hornback's house.

Collected from Clinton limestone [illegible] 3 ft above R R level, at 2nd big cut west of Hornback curve. Plectambonites [illegible]. This is [illegible] [illegible], [illegible] [illegible] 8-10 [illegible] [illegible] [illegible] [illegible] Middle [illegible] = base [illegible] of this cut [illegible] 20 ft [illegible]

Also collected [illegible] [illegible] cut, [illegible] west of Hornback curve. [illegible]
= 3 [illegible] [illegible] [illegible]
[illegible]
[illegible]

Collected, from Richmond, Upper half, Indian Fields clay, [illegible] [illegible] bedded limestone, [illegible] [illegible] from [illegible] limestone at base of Middle Richmond and [illegible] [illegible] [illegible] cut east of Tom McLemore's; [illegible] together, Section fully 20 ft.

At [illegible] [illegible] just west of Lawrence [illegible] there is [illegible] 25 ft [illegible] of the [illegible] 45 feet of [illegible] [illegible] [illegible]. [illegible] [illegible] clay, [illegible] [illegible] bedded limestone. [illegible] [illegible] [illegible].

At McLemore's [illegible] [illegible] [illegible] [illegible] [illegible] clay [illegible] [illegible] [illegible] [illegible] 20 [illegible] rubble limestones [illegible] considerable [illegible].
[illegible] 4 [illegible] of Winchester, about [illegible] E of [illegible] Station, [illegible] [illegible] [illegible] [illegible] Indian Field clay [illegible] here.

Rock [illegible] [illegible] from cut at Winchester, just west of depot, [illegible] [illegible] [illegible] [illegible] limestone.

1

Meek.

Rafinesquina fracta	Strophomena
Rafinesquina loxorhytis.	Strophomena
Plectambonites rugosa	Leptaena
Strophomena sinuata	
Strophomena nutans	
Strophomena plicata	
Plectorthis triplicatella	Orthis
Dalmanella multisecta	Orthis
Dalmanella bellula	Orthis
Platystrophia profundo-sulcata	Orthis
Platystrophia laticosta	Orthis
Platystrophia crassa ?	Orthis
Retzia granulifera,	Rhyn
Zygospira cincinnatiensis	
Proetus spurlocki	Dysn
Acidaspis cincinnatiensis	
Dalmanites carleyi	

March 22. 1907. Richmond

Newland station 300 ft west of station [illegible] in [illegible] [illegible] in [illegible] Fern[illegible]
xxx [illegible]

Photo 1. [illegible]

Photo 2. [illegible]

[illegible] Era [illegible]

[illegible]

Emmons

Strophomena alternistriata 1855

Strophomena nasuta 1842. p. 403

Strophomena sinuata,

Orthis crispata, —

Orthis striatula 1842 p. 392

Calymmene Conradi —

Trinucleus Caractaci

Shaler

Rafinesquina anticostiensis.
= Leptaena.

Leptaena quadrilatera

Platystrophia regularis

Clitambonites diversus

Safford

Tetradium fibratum

Tetradium minus.

Cyathophyllum Loveni.
30 large + 30 small septa, bearing numerous strong marginal denticulations. breadth 4 or 5 lines.

Wenlock shale near Dudley and in Gothland.

British Stromatoporoids
H. A. Nicholson, 1886.
Contains Labechia [illegible]
Labechia shropshirensis. Pl II
Wenlock Shale, fig 1.

Orthis inflata, Salter.
[illegible] limestone, Westmoreland, looks like Orthis retrorsa in fig 18 in plate 31 of Davidson's [illegible]
Salter ~~Quart. Jr. Geol. Soc.~~
Mem. Geol. Survey, vol II, p. 372 and var β retrorsa p. 373 pl. XXVII figs. 3.4. 1848.

Orthis anticostiensis Shaler should be retrorsa according to Davidson but he thus unites many species together

5

Dyer Coll.

Heliophyllum stelliforme Miller & Dyer.

Hindia gregaria — Miller & Dyer.

Leptobolus lepis. Hall

Trematis dyeri. Miller.

Trematis quincuncialis Mill & Dy.

Ammia dyeri Miller.

Ragia granulifera. Meek,

Proetus spurlocki. Meek,

Dalmanites carleyi. Meek

Acidaspis Cincinnatiensis, Miller.

Dystactospongia insolens. Miller.

Pattersonia difficilis Miller

Ed R Quick

Trematis [illegible]. Miller.

Brachiospongia occurs in fine cherty nodular limestone above Orthis biforata, which is immediately the top of Trenton at Cedar Run. Near Bridgeport Franklin Co. 3 miles above Benson Stat. on Benson creek. near base of Winchester.

2½ mi S of [illegible]

Strobilospongia aurita tuberosa

Hindia parva.
Brachiospongia [illegible]

Strobilospongia tuberosa.
Turner's Station.

Under the name Trichotella typica Ulrich has catalogued similar bundles of spicules from the tops of the hills at Cincinnati. Ohio.

James

[illegible]

10/ [illegible]

3/ [illegible]

6 [illegible]

—124

– [illegible]

– [illegible]

– [illegible]

– Rh. [illegible]

[illegible]

124
64

91 [illegible]

28 / [illegible] 10 [illegible]

[illegible]

Am Mus.

Poecilus albers.

Ptilodictya Cincinnatiensis

Conrad

Stropheodonta tenuilineata, 1842

" nasuta Rome Trent[?]

Orthis [illegible] [illegible] a [illegible]

Atrypa [illegible] Calym. senaria

Lyceum

Isotelus gigas. De Kay

Cryptolithus [illegible] a Green ?

Albany

Schizocrinus [illegible] Hall & Cl.

Ptilodictya cincinnatiensis Hall.

Am Mus.

Mus. number of Calymm. senaria, fig. 3 b, plate 64, scarcely hirsute at all = 843-1, [illegible] [illegible] tubercle Beecher,

[illegible] [illegible] Hall, Intermediate ditto,

Rept 2nd Dist. 1842,

Pleurotomaria fissicosta
Compare with my types, &c

Orthis [illegible]
Compare with my types

1

Schuchert

Leptopterium mammiferum Ulrich,
Strobilospongia tuberosa Beecher.
Lingula procteri Ulrich
modesta "
whitfieldi "
bisulcata "
elderi Whitfield ?
Schizambon bockii W & Sch.
Trematis fragilis Ulrich
crassipunctata "
oblata "
umbonata "
Discina tenuistriata "
Crania percarinata "
parallela "
socialis "
Leptaena plicatella "

Plectorthis sectostriata Ulrich
Zygospira concentrica "
Glossina schucherti "

Chicago.

Chirospongia faberi. Miller.

Pattersonia difficilis. Miller.

Alveolites granulosa. James

Streptelasma richmondensis Miller

Stromatopora papillata James

Stromatopora scabra James

Rominger.

Calapoecia huronensis Rominger

Columnaria huzoni Rominger

G. K Greene

Lafoeia monilifera. Whit.

McChesney

Dinorthis kennicotti

" kankakeensis

Trematis punctostriata Hall

23rd Rept State Cab. p. 243. Pl Fig

Not listed but marked by green label.

Plectorthis fissicosta. Hall.

4490. Type is a triplicata and not my fissicosta.

Nat Museum

Orodolites typicalis.

Actinospongia aspera. Whit.

Anthony

Acidaspis ceralepta.

Locke

Isotelus maximus. Locke

megistos "

Acidaspis crosota "

Wetherill Coll.

Isotelus stegops

17

Paris

Pentamera verneuili Edw. & Haime
Columnaria multiradiata Castleman
Orthis [illegible] Castlenau
Orthis [illegible] Castlenau
Orthis alternans Castlenau
Strophomena sulcata Verneuil
Strophomena rugosa Blainville
Platystrophia biforata Schlotheim
Spirifer sheppardi Castlenau
Terebratula [illegible] Castlenau

Bonn

Columnaria alveolata Goldfuss
Platystrophia biforata Schlotheim
Leptaena rhomboidalis Wilckens
Delthyris von Buch.

Rauff's address

England

Plectambonites sericea Sowerby.
Leptaena transversalis Sowerby
Dinorthis inflata
Dinorthis retrorsa Salter,
Isotelus platycephalus Stokes
Sweden

Dalmanella testudinaria Dalman
Leptaena rhomboidalis Wilckens.

Russia
Platystrophia lynx Eichwald,

Agnes Craine's Address

Nicholson

Labechia ohioensis. Nicholson. Dates

Palaeophyllum divaricans

Calapoecia cribriformis.

Columnaria calicina

Columnaria halli

Bean Coll.

Stromatopora [illegible],

Billings

Hebertella borealis

Ceraurus icarus.

Maryland survey reports.
under Hampshire Co. W.Va

Wilckens.

Lhwyd.

Von Buch.

Ferd. Schmidt
? Russia

Lindström
Sweden

? Boule
Paris. France

H. C. Cleland
Williams Mass

Albany		9
Am. Mus.		9
Anthony		15
Bean		21
Billings		21
Brown	address	17
Chicago		13
Conrad		9
— Dyer		5
England	address	19
Emmons		3
Greene G.K.		13
James		7
— Lyceum		9
Locke		15
Meek		1
Miller		5
McChesney		13
Nat. Mus.		15
Nicholson	address	21
Paris	— address	17
Quick		5
— Rominger		13
Russia	— Address	19
Safford		3
— Shaler		3
— Schuchert		11
Whitfield to Philad.		

5,30 at 101 Graham

Figures for photography,
Am Mus,

Hebertella occidentalis
sinuata
subjugata
Plectorthis sordida
aequivalvis.

Rhynchotrema [illegible]
Zygospira [illegible]

Platystrophia, [illegible]

Pauciplicate form occurs in Iowa beds at [illegible] with Dalmanella which is related to dentata and laticosta.

laticosta dentata Meek dentata Pander
crassa James
costata Pander
[illegible] Eichwald
1 in sinus. 2 in sinus

Chas Natanchet.
James S. Hine,
Columbus. O.

Academy of Scienc.
M.C. Wells.
Page Bros.
Columbus O.

Fred. Schmidt

Gothenburg,
Sweden.

J. J. Earle
Sierra. Nevada,
N. H. Dist.

Hartnayle
Salem
Cambridge
Medicine
Richmond
Albany N.Y.
Medicine quadrupeds
Skeleton quadrupeds

Boule
Paris.
Fishes
Reptiles & Insects

Señor Jose Aguilera
Pres. Interm. Geol. Congress
City of Mexico

$4.00

Syntrophia multicosta,
Syntrophinis Hall & Clarke's genus,
looks exactly like Clitambonites
See Bull. 80, 1905, N. York Surv,
pl. 5,

Paleozoic Appalachia
Md. Geol. Surv. Vol IV. 1902

Physical Features of Md. 1906. Rept.

39 & Broadway, 1412 No.
N.Y. Electric Music Co.

Dr. Jackson
List of Dyes.

Carl Rominger,
Ann Arbor.

Hobbs at Ann Arbor.

Winchell's Coll,
Alma. Mich,

F. A. Bather
British Museum
Brachiopods

S. S. Buckman.
Brachiopods
triplicate all big and in a bag.

Plectorthis aequivalvis Hall,

Hebertella occidentalis
sinuata Hall
subjugata Hall

Dalmanella macerata.

Salina = Shales, Is this my
wish on Rokomo = marine
equivalent of aerial Salina,
Or is Kokomo = Cobbleskill

Plicochus Albers,

Say

* Zygospira modesta Hall Type.

Is not the Richmond modesta but the Cincinnatian Utica form & suggests cincinnati ensis. Rather distinct sinus with fairly isolated median plication.

// 4 ———

Syntrophia multicosta. ?
Syntrophia's Hall & Clarke's genus, Includes exactly, like Clitambonites
See Bull, 80, 1905, N.Y. State Surv. pl. 5,

Paleozoic Appalachia
Md Geol. Surv. Vol IV, 1902

* Plectorthis fissicosta = my fig 9E at least near it,

Plectorthis kankakensis.
Secondary plications few, added usually nearer the margin than the middle. Usually added anterior-laterally rather than anteriorly, or laterally. Large ny valves.

"Ann Arbor."

// Hobbs at Ann Arbor

Leptaena ponderosa Hall.

Orthis cristata Hall,

Plectorthis dichotoma, Lot ?

Plectorthis jamesi Hall, Plications triplicate along anterior half,

Plectorthis aequivalvis Hall,

Hebertella occidentalis

sinuata Hall

subjugata Hall

Dalmanella emacerata.

Rhynchotrema dentata ~~[illegible]~~
J J Crooks Coll.

Zygospira ~~[illegible]~~ Pl. 64 Fig 36.
What number?

Rhynchotrema dentata

Paraceltus Albers,

My species is not an Ceraphyllum
but a Ptychophyllum stipinea,
practically identical with
Ptychophyllum patellatum,
Schl.

What is Lepidophyllum lovenii
Edw + Haime. Wisby Gothland
= my Ptychophyllum ?

4 end. 0 ups. Heb. sinuata
Heb. occidentalis. 5B?
Heb. subjugata = 16 5A?
Raf. pundereza.
1 ups Pleci. jamesi.
Pl. nodida.
Orth. costata.
Pl. aequivalvis = middle
of group in 4490.
Zyg. modesta.
Rhyn. dentatum

W.A. Parks – University of Toronto.

Librarian,
Legislative Library
Toronto.

Schuchert says
Rokano = Bertie division of
the Salina of N.Y.

Williams Brown + Earle
Reflectoscope
Philadelphia Pa.

Tully quadrangle.
Buffalo quadrangle.

Sp. vanuxemi
Fossils are scarce at top. Fossils.
Waterlime holes like
Sandy shale & scattered app.
thin bedded almost laminated layers
in Manlius, near top, and scattered at lower levels, upper ⅓.
Manlius
Blue and black (carbonaceous) layers in lower ⅔

Manlius Group

Leperd. scal.
Water lime at Rondout.
Round out argillaceous shales, magnesian grey dolomites
Lep. scalaris
Fossils toward the east.
Cobbleskill, full of holes where corals were once. limestone grey dolomite.

Fossils toward west.
Bertie is similar lithology
ditto, without the holes

Lep. scalaris.
Spirifer.
Salina
Leperditia layer Spirifer.
Camillus shales. Gypsum
40-60 ft. thick.
25-40 ft thin bedded dolomitic limestone.
¼ in to 2 in in thickness.

Syracuse salt group
argillaceous shales.
salt beds, grey to olive green shale.

Vernon shales red.

53-1 Porambonites uncella Dalman.
244-1 Stricklandinia uncella, Dalman.
Middle Silurian. Pulkova.
Near St Petersburg, Russia.
Looks like Catazyga close to Lundi.

223-2 Atrypa imbricata Sowerby.
Middle Sil. Stora-Carlsö, Sweden
= like n. sp. of Nettelroth which is found at [illegible] as good limest.
= marginalis.

165-2. Dalmanella elegantula. Dalm.
Distinctly more finely striated than Silurian D. [illegible]. Also very evenly striated.

134-2 Lepidophyllum lovenii. Edw. & Haime. Middle Sil. Wisby Gottland. Cylindrical.

134-1. Lepidophyllum lovenii
Edw & Haime Wisby Gottland.
Widely spreading
Not even similar
to 134-2

126-1 Ptychophyllum patellatum.

86-1 Halysites conferta. Ed & H.

Cy all[illegible] here built with [illegible] 6,

441-1 One specimen or other form as in my Sil. & Dev. species.

41-1 Orthis elegantula Dalm. Lower Sil. Pulkova St Petersb. Sheridly Dal. testudinaria ? Grandview Different species.

34-1 and 2. Echinosphaerites aurantium. Caught that in the Preceding hall ?

642-1. Protarea vetusta, type. bottom of case.

---

11 = $\frac{843}{7}$ Calymene callicephala. Green Middleville N.Y.

Strongly Nasute form well marked. Why is this not callicephala. Believe this specimen better is found out.

---

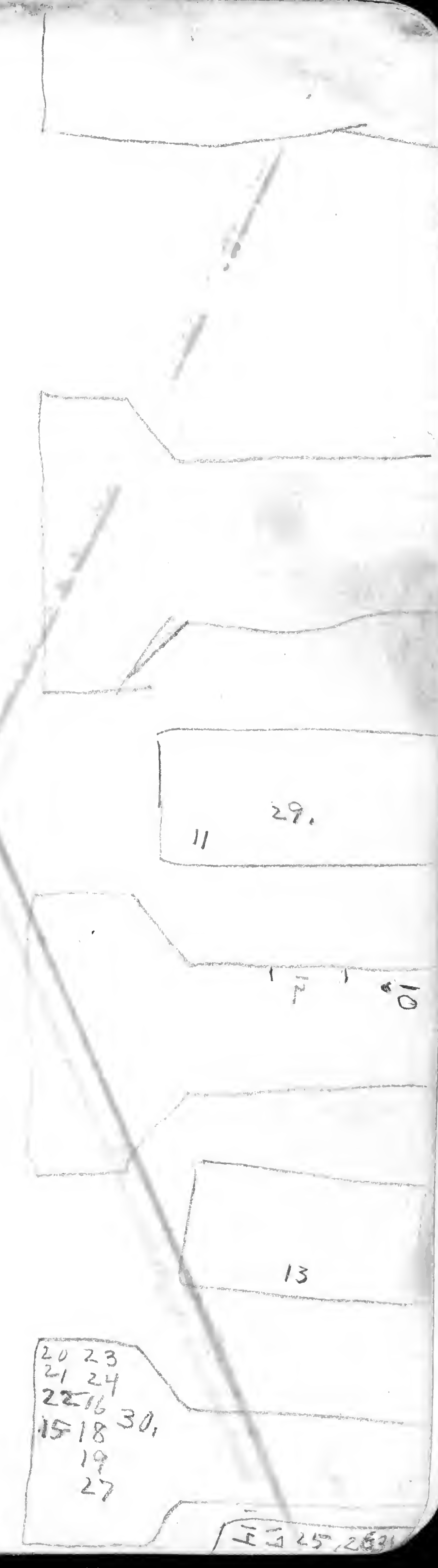
12. = $\frac{693}{1}$ Platystrophia biforata. Only upper left hand specimen with 6 plications as a fold is wanted.

---

13 = $\frac{697}{17}$ Ref. alternata = nasuta rusty brown rock Pal. N.Y. Vol 1. Pl. 79. Fig. 2a
& Ref. alternata Lindsay Bay near Pulaski N.Y. Cypt. ornatus.

14. = 1350 Leptaena alternistriata. Hall. Pl. 31B. fig 1 b. c.

+ Catazyga erratica in rusty brown rock Wayne & Seneca Co.



15 = 597-18. Leptaena ponderosa.
Pl. 31, fig. 11.
bottom of case.

16 = 4441 Orthis costata.

17 = 4490 Plectorthis fissicosta.

18 = 4489 = Plectorthis Jamesi.

19 = 4490 = Plectorthis aequivalvis
only the middle specimen of
this group.

20 = 1342-1 Ex[illegible] only in outer
21 " " Hebertella sinuata
22 " " occidentalis
subjugata

23 Plect. [illegible] 1354
24 Plect. ella. 1056-3

25 Dal. [illegible] 1339-2

26 Orthis [illegible] not type

27 Rhy. dentata 1358-1
28. Rhy. dentata J. J. Crooke Coll. [illegible]

29. Zyg. recurvirostra. Hall
Trenton.

30 Zyg. modesta Hall.
1356-1 = type.

31 Zyg. modesta. Hall. 1356-1
not typed = 20116

32 Same case as 31. –
Cat. of a [illegible] Ojib. Three
Rivers Canada = both
[illegible] and [illegible] =
1122-3.

very important.

Calymmene senaria
Hudson River group of Trenton, Pal. N.Y. Vol 1, p. 238, pl 64, fig 3, 13.
also fig 3, a 12, Pulaski, N.Y.
= Calymene callicephala [illegible] enrolling.

Stromatopora indianensis, n. sp.
Cin. Soc. of Nat. History, XV, p. 92.
There is a second specimen of Stromatopora in the U.S. National Museum, also without a name. This is a massive species, about 8 inches long, 6 inches wide and 5 inches high. The mamelons are very numerous and quite large and prominent. The internal structure can not be ascertained, because of the presence of calcite in a crystallized form, but at one point the character of the layers of Stromatopora can be observed. To this specimen the name S. indianensis is proposed, provisionally, as it seems to be undescribed. In its present imperfect condition it bears considerable resemblance to S. tuberculata, Nicholson, but that species is parasitic, while the present one is massive.
Locality.— Near Connersville, Indiana, with upper layers of the Cincinnati group, associated with Beatricea nodulosa and Bellerophon bilobatus. Collected by A. C. Benedict.

Rhynchotrema capax. The figured
= very obese form =

Goldfuss Petrefacta, Pterinea carinata. Vol. II, pg. 136, pl. 119, fig 8.

[illegible] Mill S of West Alexandria.
Hutsmann hill on Millville pike from Hamilton & Lebanon fossils.

Furnace [illegible]

Ringgold [illegible] Middletown [illegible]

Lang's hill on [illegible] creek

Oberndorf [illegible]

---

31 W. 8th Street.
Floor 4. Tunnel [illegible]

between
6–7. Sound on Race
between Canal & 12th

Dr. [illegible] description of Lake [illegible]
[illegible], Ann. & Mag. Nat. Hist.
p. 145, 1886. p. 13.
[illegible] [illegible] [illegible]
the [illegible] first [illegible] the
[illegible] [illegible] [illegible] 32
first [illegible], + pl. II fig. 1 [illegible], 1885

Museum of Geol. [illegible] [illegible]
[illegible], [illegible], 1865.
[illegible] [illegible], Lake Huron, Dr. R. Bell
collected 1859, described 1865.
There [illegible] [illegible] [illegible] described
one in the U.S. National Museum, [illegible]
with not a name. This is a massive
species, about 8 inches long, 6 inches
wide and 5 inches high. The [illegible]
[illegible] are very numerous and quite
large and prominent. The internal
structure can not be ascertained, be-
cause of the presence of calcite in a
crystallized form, but at one point
the character of the layers of Stroma-
toporas can be observed. [illegible] [illegible]
[illegible] [illegible], near the [illegible],
near Bright's mill.
Scyphia digitata described here,
for first time.
[illegible] [illegible] not far above [illegible]
to [illegible] abundant, since the
latter are [illegible] farther down
stream.
= 70 ft. below Orthis [illegible]?
for [illegible] by [illegible].
Top of Eden [illegible]
[illegible] [illegible]. [illegible] [illegible] at top of [illegible]
St, [illegible] in lower [illegible] [illegible] common.

Cyffe [illegible] = top of Middle Eden.

---

1 mi. above Woodville on Stony Creek
Lower H. [illegible] with [illegible] in upper part,
1 mi. N. of Woodville, + crossing of pike over Stony
[illegible] = Raf. [illegible] [illegible] of Waynesville.
[illegible] + [illegible] road station,

---

a very good [illegible] [illegible].

Barrett's Mills [illegible]
[illegible] [illegible],
= [illegible] Camden.
[illegible] [illegible] mill S of New Alexand,
[illegible] [illegible] hill on [illegible]
pike from Hamilton [illegible]
fossils.

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible],

[illegible] [illegible] near [illegible] St,

[illegible] [illegible] [illegible] creek

1 mi. N of Collinsville. on E side of creek

2 in. up = Pl. lynx.
1 ft 10 in above creek = Leptaena rhomb.
2 ft. above creek = Platystrophia lynx.
A = 3 ft above ck. = Pl. lynx.
5 ft. up. = Leptaena rhomboidalis.

2 ft. Nodular clay limestone ?
11 ft 6 in. interval. Byssonychia + Rafinesquina common.
Top of Dalmanella as far as exposure shows, but exp. is rather scanty here.
3 1/2 ft interval. base, D. in. retrorsa. excellent specimens. [illegible] but above this [illegible]

Top of [illegible] limestone.
7 ft, 4 in, interval.
6 ft 8 in, interval with Dalmanella common.
6 ft 9 in interval.

Mt Auburn type of rock but not the real Auburn bed.
4 ft 6 in. interval.
Top of Pl. lynx.
9 in interval.
Pl. lynx abundant. = A
For about 3 ft Pl. lynx and Leptaena rhomboidalis are [illegible]
The Amheim [illegible] are abbreviated.

lynx
A

Excellent exposure 1/4 mi S of Collinsville, E side of [illegible] creek.

1 mi W. McGonigles
Plectambonites sericeus abundant
8 ft interval poorly exposed. Plectamb. ?
Leptaena rhomboidalis common,
1/2 ft. interval.
3 1/2 ft. Hebertella insculpta + Rhyn. [illegible] and Rhyn. capax.
4 ft H. insculpta + Lept. rhomboidalis, down to base,
11 ft interval
Rafinesquina very abundant.
3 ft Slab with Dalmanella abundant at base. with Leptaena rhomboidalis.
8 ft interval,
22 ft interval.
clayrock with Leptaena rhomboidalis + Dalm. jugosa.
15 ft interval.
11 ft interval.
Coarse limestone Dalmanella abundant = Waynesville drift, 7-8 ft below insculpta, + [illegible]
5 ft coarse limestone in [illegible]
15 ft interval, D. in. retrorsa at about this level opposite large glacial boulder E of stream. Retrorsa abundant but good specimens are rare,

Sdmonds Rev. Wil. Philip Brown
Runs in Indian creek 3 1/2 mi farther [illegible]

Summit

Wingenes [illegible] lower Devon, or Stroph.
Amboceolia, Leptaena [illegible] [illegible]
26 ft of [illegible], 30 ft limestone [illegible]
13 ft [illegible] yellow [illegible] brown
Cordania

[illegible] Ambocoelia, Leptaena [illegible]

Moscow

Delthyris [illegible] [illegible]
Zygospira [illegible] [illegible]
Phacops [illegible]
Stropheodonta [illegible]
[illegible] [illegible] – [illegible]
[illegible] [illegible] ?
Dalmanites
[illegible] spine 3/4 in. long
Bellerophon [illegible]

Heterospongia subramosa.
Canal apertures about 5 in 5 mm.
No oscula. Miami & Lincoln Co.

Heterospongia Krausei.
Canal apertures 6 to 8 in 5 mm.
Oscula scarcely circular, 1.5 mm. at intervals of 8 to 20 mm. surrounded by radiating channels.
Lebanon. Ky.

Heterospongia aspera.
Very irregular growth, strongly undulated, lobate or subramose masses, several inches in length.
Canal apertures often subquadrate, about 7-8 in 5 mm. Pores regularly arranged and more nearly equal in size than in preceding species.
Mouths of canals in some areas frequently dispersed in a radial manner, but no oscula in centers. Miami & Lincoln Co.

Hindia parva. Colby. McKinney.

Streptospongia labyrinthica.

Labyrinthically intertwining vertical lamellae, .3 mm. thick, separated by tortuous, almost linear interspaces, with here & there an open space 1 mm. in length. Vertical fracture shows that intertwining is produced by connecting processes on sides of laminae. There are usually rounded incisions of very unequal size, and occur at frequent but irregular intervals. Numerous small punctures.
Lebanon. Ky.

R P Whitfield, Bull. Am. Mus. N.H.
(1891?) Vol. 3. p. 27.

So far as I can ascertain there is no New York locality known where the so-called Birdseye limestone beds are found in connection with beds containing Machura magna in such a condition as to prove satisfactorily that the Birdseye of the Mohawk Valley and the Black River region belongs stratigraphically above the true Chazy limestone; and one may ask if the limestones called Birdseye in the Mohawk Valley do not represent all the limestones in Lake Champlain which occur between those holding Aplidota complanata and those bearing the Stromatocerium rugosum and Columnaria alveolata and recognized as equivalents of the Black river limestones, and if the Birdseye fauna, whatever may be it does not properly belong below the Machurea magna beds of Lake Champlain?

Columnaria alveolata.
Black River. Stromatocerium rugosum
Birdseye.
Chazy Machurea magna.

Fort Cassin. Many cephalopods & gasteropods. = Quebec of Billings in large part?

Calciferous. Aplidota complanata typical

Potsdam

C. alveolata
Str. rugosum

Birdseye fauna of New York — Birdseye limestone of Mohawk Valley

Calciferous

Pres. E. Brainard +
Prof. H. M. Seely,
Middlebury College, Vt.

J. C. C. Mayo
Paintsville, Ky,
Photo of coal vein.

0	Maysville
4.3	Summit
6.6	Mouth Creek
11.1	Mill Creek
12.7	Helena (18)
15.5	Johnson
18.1	Hopkins (293)
19.6	Ewing (365)
21.5	Curran (544)
24.9	Pleas. Val.
27.4	Myers (42)
33.0	Calhoun (1150)
40.5	Williamsburg (860)
42.6	Porter
46.2	New Forest
49.5	Paris

Prof Montana State College 1012
A. M. Miller

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Carnegie Hall
Authors Club.
Chess "
between 56 + 57 th St.
56th St entrance.

[illegible]
[illegible]

Tom Cummins
[illegible]

1 Block E Old P. O.