

BINARY KEY TO IDENTIFICATION OF  
HAMILTON GROUP BRACHIOPODS  
FROM WESTERN NEW YORK  
- by Dr. Rick Batt

1. a) Shell smooth or with concentric lines only..... 2  
b) Shell with radiating ribs, lines, or bumps  
(may also have concentric lines)..... 14
2. a) Beak at margin of shell..... 3  
b) Beak not at margin of shell..... 12
3. a) Shell small (less than 1 inch), nearly flat,  
nearly smooth, either tear-drop shape or long  
rectangular with pointed beak at end..... Lingula  
b) Shell not fitting description in choice a..... 4
4. a) Hingeline wide, at or near widest part of shell... 5  
b) Shell round or widest near front (away from  
hingeline)..... 7
5. a) Beak projects beyond hinge, leaving "shoulders"  
to either side..... 6  
b) Shell broadly rectangular, usually with brassy or  
almost pearly luster..... Pholidostrophia
6. a) Shell long or equidimensional. Convex valve  
usually has groove down middle; other valve  
flat. Beak sticks far past hingeline... Ambocoelia  
b) Shell wider than long, but may be equi-  
dimensional. Both valves at least slightly  
convex. Beak shorter..... Emanuella
7. a) Shell nearly round or equidimensional..... 8  
b) Shell longer than wide..... 10
8. a) Beak small, pointed..... 9  
b) Beak larger; shell gradually widens to widest part  
closer to front..... Meristella haskinsi
9. a) Shell usually at least one inch in size, with  
short but straight hingeline. Good specimens  
show low fold and sulcus..... Athyris  
b) Shell smaller, more circular..... Nucleospira
10. a) Shell with fairly high fold and sulcus seen on  
end view..... Meristella barrisi  
b) Shell with straight edge view or at most low  
fold and sulcus..... 11

11. a) Shell long rectangular, widest near middle  
..... Cryptonella  
b) Shell small, more oval..... Craenena
12. a) Beak close to (less than 1/3 of shell length)  
shell margin..... Craniops  
b) Beak closer to center of shell..... 13
13. a) Shell fairly low, shield-like..... Orbiculoidea  
b) Shell higher..... Petrocrania
14. a) Shell with bumps or short raised lines, no ribs.. 15  
b) Shell with ribs, many extending from near beak  
all the way to shell margin..... 16
15. a) Shell usually broader than long, relatively  
flat..... Spinulicosta  
b) Shell closer to square, often tiny..... Truncalosiä
16. a) Shell nearly equidimensional (often round), with  
relatively short hinge. Widest near middle.... 17  
b) Shell with wide hingeline..... 22
17. a) Ribs fine ..... 18  
b) Ribs coarse ..... 19
18. a) Ribs very fine; hinge area angled or narrow;  
valves typically flatter..... Rhipidomella  
b) Hingeline medium length; valves often higher  
(more inflated)..... Pseudoatrypa
19. a) Ribs fairly numerous..... 20  
b) Ribs wide, often angular; edge of shell zigzag  
(but may be compressed)..... 21
20. a) Ribs dominant feature..... Pseudoatrypa  
b) Ribs crossed by raised concentric ridges.. Spinatrypa
21. a) A few strong ribs. Shell often inflated  
..... "Camarotoechia"  
b) Shell usually flattened; ribs slightly less  
pronounced..... "Leiorhynchus"
22. a) No prominent fold and sulcus; ribs fairly uniform  
across entire shell..... 23  
b) Prominent fold and sulcus..... 31
23. a) Relatively few, wider ribs. One valve flat or  
slightly concave, the other convex... Tropidoleptus

	b)	Ribs numerous, relatively fine.....	24
24.	a)	Shell nearly flat.....	25
	b)	Shell more convex (one valve concave).....	27
25.	a)	Shell broadly rectangular (wide).....	<u>Schuchertella</u>
	b)	Shell more equidimensional (nearly square).....	26
26.	a)	Shell small to medium-sized.....	<u>Prototeptostrophia</u>
	b)	Shell quite large (more than 2 inches). <u>Leptostrophia</u>	
27.	a)	Shell quite large, very convex.....	<u>Megastrophia</u>
	b)	Shell moderately convex or small and convex.....	28
28.	a)	Shell nearly equidimensional.....	29
	b)	Shell wider than long (broadly rectangular).....	30
29.	a)	Typically larger than one inch. Some ribs stick up more than others near beak.....	<u>Strophodonta</u>
	b)	Tiny (less than 1/2 inch usually); may see tiny spines or bumps along hingeline.....	" <u>Chonetes</u> "
30.	a)	Widest at hingeline, with hinge ends often extending beyond as points. Larger than 1/2 inch.....	<u>Protodouvillina</u>
	b)	Often wider near middle, typically tiny, with tiny bumps or spines along hingeline....	" <u>Chonetes</u> "
31.	a)	Ribs few, broad, indistinct.....	32
	b)	Ribs more numerous and pronounced.....	33
32.	a)	Beak wide; ribs crossed by fine lines.....	<u>Elita</u>
	b)	Beak almost flush with very straight hingeline; one valve flat.....	<u>Pustulatia</u>
33.	a)	Ribs uniformly found even in fold and sulcus area	34
	b)	Ribs developed to either side but not in fold and sulcus.....	37
34.	a)	Ribs fine, numerous.....	<u>Parazyga</u>
	b)	Ribs coarse, often angular, producing zigzag shell edge.....	35
35.	a)	Ends of hingeline pointed; beak short (does not extend much past shell edge)....	<u>Megakozlowskiella</u>
	b)	Shell widest just below hingeline.....	36
36.	a)	Few strong ribs (3 or 4 per side).....	<u>Trematospira</u>
	b)	Ribs more numerous.....	" <u>Camarotoechia</u> "

37. a) Shell very wide, often extended into "wings" or points at hinge ends..... 38  
b) Shell broadly rectangular or equidimensional..... 39
38. a) Valves nearly equal in height; fossils often compressed nearly flat..... Mucrospirifer  
b) One valve has high flat triangular area between beak and hinge..... "Brachyspirifer" angustus
39. a) Shell generally small (up to 1 inch)..... 40  
b) Shell often large..... 43
40. a) One valve very high (large flat triangular area between beak and hinge)..... 41  
b) Triangular area between beak and hinge only moderately high or narrow..... 42
41. a) Shell tiny (less than 1/2 inch), nearly equidimensional; few ribs on either side..... Cyrtina  
b) Shell wider, with more numerous ribs "Spirifer" asper
42. a) Hinge ends often pointed, groove along fold; concentric lines..... "Mucrospirifer" consobrinus  
b) Hinge ends not pointed, sulcus wide near beak, no groove down fold..... Allanella
43. a) Shell often quite large, more equidimensional; faint groove along fold; surface covered by tiny bumps..... Spinocyrtia  
b) Shell often large; no groove along fold; rib surfaces smooth..... 44
44. a) Ribs somewhat rounded, often crossed by a few more prominent growth lines..... Mediospirifer  
b) Ribs quite numerous, flattened; triangular area between beak and hinge very high.  
..... "Brachyspirifer" macronatus