***Primary Peristomial Cover Plates***

1. Peristomial Cover plates sutured to theca: (0) Absent; (1) Present
2. PPCP size and differentiation: (0) Small and undifferentiated; (1) Large and differentiated
3. PPCP arrangement on the summit: (0) Plates are flat/flush with summit surface; (1) Plates are elevated above the summit surface

***Ambulacra***

1. Distal ambulacra length to width relationship: (0) Length is greater than width; (1) Length is much greater than width (more than double); (2) Width is subequal to length
2. Proximal ambulacral length: (0) Short and restricted adorally; (1) Elongate - a thin extension that the food groove sits on prior to reaching the floor plates and lancet
3. Main food groove placement: (0) Oral-oral suture to floor plates; (1) Oral-oral suture to lancet; (2) Oral-oral suture to lancet and floor plates
4. Ambulacral outline: (0) Parallel sided; (1) Lanceolate; (2) Oblanceolate; (3) Rhombiform
5. Shape of the ambulacral, proximal to distal in lateral view: (0) Straight; (1) Convex
6. Abaxial surface of ambulacra, perpendicular to primary body axis: (0) Flat; (1) Concave; (2) Convex
7. Interambulacral shape in summit view: (0) Flat; (1) Concave; (2) Convex
8. Ambulacral position with respect to surrounding thecal plates: (0) Below; (1) In-line; (2) Above
9. Reduced D ambulacrum: (0) Absent; (1) Present
10. Ambulacra recumbent: (0) Absent; (1) Present
11. Lateral food grooves curve: (0) Straight; (1) Adorally; (2) Aborally
12. Ratio of plates surrounding the ambulacra: (0) Radial > Oral; (1) Radial = Oral; (2) Radial < Oral

***Lancet Plate***

1. Lancet shape: (0) Button, circular; (1) Restricted, elongate; (2) Extends for entire ambulacrum
2. Lancet interaction with ambulacral floor plates (often referred to as side plates in blastoid taxa): (0) Side plates overlap lancet completely; (1) Partial exposure; (2) Lancet exposed for length of ambulacra
3. Lancet plate is a facetal plate for erect ambulacra: (0) Absent; (1) Present

***Oral + Radial Plate Interactions***

1. Oral (referred to deltoid in blastoid text) and radial plate overlap: (0) Oral plates overlap radial plate; (1) Oral plates abut radial plates; (2) Radial plates overlap oral plates
2. Relative size comparison of oral and radial plates: (0) Oral plates are larger than radial plates; (1) Oral plates are approximately equal in size to radial plates; (2) Oral plates are smaller than radial plates
3. Oral and radial suture shape: (0) Flat; (1) V-shaped; (2) Lobate

***Oral Plates***

1. Oral plate body: (0) Absent; (1) Present
2. Oral plate crest: (0) Absent; (1) Present
3. Oral plate septum: (0) Absent; (1) Present
4. Oral plate growth lines: (0) Straight-fine growth lines; (1) Straight-coarse growth lines; (2) Wavy growth lines
5. Oral plate ornamentation, surface modification: (0) None present; (1) Nodes in linear arrays; (2) Nodes in random orientation, no clear pattern; (3) Large protrusions along ambulacra
6. Oral plates project above the summit/oral surface: (0) Flat on the surface; (1) Raised above the surface
7. Spiracles penetrate the oral plate body: (0) Absent; (1) Present

***Anal Area Oral Plating***

1. Oral plate 1 (O1; commonly referred to as epideltoid): (0) Absent; (1) Present
2. Oral plate 1 borders anus: (0) Absent; (1) Present
3. Oral plate 7 (O7; commonly referred to as hypodeltoid): (0) Absent; (1) Present
4. Oral plate 7 possesses a hood or extension away from the surface created by surrounding thecal plates: (0) Absent; (1) Present
5. Oral plate 6 (O6; commonly referred to as cryptodeltoids): (0) Absent; (1) Present and fused (previously called subdeltoid); (2) Present and split (cryptodeltoids).
6. Oral plate 6 exposure in anal area: (0) Hidden, not exposed; (1) Exposed in anal area; (2) Exposed and elongate (down theca)
7. Anus bordered by: (0) O1 and O7; (1) O1, O7, and O6; (2) O1, O6, O7, and ambulacral plating, (3) O1, O7, and ambulacral plating

***Radial Plate Circlet***

1. Radial-oral plate sutures: (0) Flat suture; (1) Recessed suture
2. Radial sinus development, the sinus holds the ambulacra and often has a defined end at the aboral most end of the sinus: (0) No development at aboral most end; (1) Development of lip or extension of radial plate; (2) Sinus extends far from thecal axis and has a projection at the aboral end of sinus
3. Radial plate growth lines: (0) Straight-fine growth lines; (1) Straight-coarse growth lines; (2) Wavy
4. Radial plate ornamentation, surface modification: (0) None present; (1) Nodes in linear arrays; (2) Nodes in random orientation, no clear pattern
5. Radial prongs, extensions of the radial sinus that protrude from the summit and body axis: (0) Absent; (1) Present
6. Radial plates project above the summit/oral surface: (0) Absent; (1) Present
7. The widest portion of the radial plate: (0) Limbs; (1) Ambulacral sinus end; (2) Middle of plate
8. Radial plates project below the basal plate circlet: (0) Absent; (1) Present
9. Secondary thickening on radial plates: (0) Absent; (1) Present

***Basal Plate Circlet***

1. Position of azygous basal plate: (0) AB; (1) DE
2. Secondary thickening around stem facet: (0) Absent; (1) Present
3. Basal-radial plate suture: (0) Flat; (1) Recessed
4. Basal-radial relative size: (0) B>R; (1) B=R; (2) B<R
5. Basal circlet orientation: (0) Flat; (1) Invaginated/concave; (2) In line with thecal plates (3) Small angle (4) large angle
6. Basal plate ornamentation, surface modification: (0) None present; (1) Nodes in linear arrays; (2) Nodes in random orientation, no clear pattern
7. Distal basal shape from basal view: (0) Circular; (1) Triangular; (2) Pentagonal

***Respiratory Structures***

1. Endothecal respiratory structures: (0) Absent; (1) Present
2. Exothecal respiratory structures: (0) Absent; (1) Present
3. Number of respiratory fields: (0) 8 fields; (1) 9 fields; (2) 10 fields
4. Respiratory structures exposed above ambulacral floor plates: (0) Absent; (1) Present
5. Respiratory slits: (0) Absent; (1) Present
6. Respiratory pores: (0) Absent; (1) Poorly developed; (2) Well-developed
7. Coronal canals: (0) Absent; (1) Present
8. Spiracle development: (0) None; (1) Underdeveloped; (2) Well-developed
9. Non-anal side spiracle manifestation: (0) Single; (1) Paired
10. Anus position with spiracles: (0) Separate; (1) Confluent
11. Spiracle shape: (0) Tear drop; (1) Bean-shaped; (2) Circular; (3) Elliptical
12. Respiratory pore location: (0) Between floor plates and radial or oral plate; (1) Pore punctures radial or oral plate
13. Respiratory pores extend for the duration of the ambulacra: (0) Absent; (1) Present
14. Number of respiratory pores per floor plate set: (0) One; (1) Two; (2) Three+
15. Respiratory slit length in comparison to ambulacral length: (0) Slit(s) extend for 50% or more of ambulacral length; (1) Slit(s) extend for approximately 50% of ambulacral length; (2) Slit(s) extend for less than 50% of ambulacral length
16. Placement of respiratory slit: (0) Slit(s) are situated on oral and radial plates subequally; (1) Slit(s) are situated primarily on oral plates (>50%); (2) Slit(s) are situated primarily on radial plates (>50%)
17. Respiratory slit exposure: (0) Concealed by floor plates; (1) Partially exposed; (2) Completely exposed
18. Number of respiratory slits per field: (0) 1-2; (1) 3-5; (2) 6+
19. Number of respiratory folds per field: (0) 1; (1) 2-3; (2) 3+ folds
20. Change in respiratory folds per field depending on location in theca: (0) Absent; (1) Present
21. Anal area folds differ from other fields: (0) No folds (1) No difference; (2) Reduction of folds
22. Hydrospire occupation of thecal space: (0) Little; (1) Moderate; (2) Full
23. Hydrospire cleft enlargement: (0) Absent; (1) Present
24. Hydrospire fold to spiracle transitions through theca: (0) No shifts; (1) 1 shift; (2) 2 or more shifts
25. Individual folds reach the exterior of the theca: (0) Absent; (1) Present

***Miscellaneous Characters***

1. Stem sutured to basals: (0) Absent; (1) Present
2. Columnal type: (0) Holomeric; (1) Polymeric
3. Widest part of theca: (0) Summit; (1) Middle; (2) Base
4. Ridges that extend from ambulacral sinus across radials and basals: (0) Absent; (1) Present