Diatom Morphology Matching Cards

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|   **Centric*** Valve is organized around a point (radial symmetry)
* Lack significant motility (ability to move around)
* Oogamous sexual reproduction (the female gamete is large & non-motile and the male gamete is small & motile.)
 | http://huey.colorado.edu/diatoms/images_morphology/01_centric1.jpg http://huey.colorado.edu/diatoms/images_morphology/01_centric2.jpg |
| **Araphid*** Valve is organized around a line (bilateral symmetry)
* Lack a raphe (movement) system, and therefore lack motility
* Rimoportulae (labiate process or opening) may be present
 |  http://huey.colorado.edu/diatoms/images_morphology/02_araphid1.jpg |
| **Eunotioid*** Valve is organized around a line (bilateral symmetry)
* Valves often asymmetrical to the apical axis
* Raphe (movement) system is weak, with raphe located on valve mantle and face
* Only raphid group with 2 or more rimoportulae (labiate processes or openings)
 |  http://huey.colorado.edu/diatoms/images_morphology/04_eunotiod1.jpg |
| **Naviculoid*** Valve is organized around a line (bilateral symmetry)
* Valves symmetrical to both apical and transapical axis
* Raphid (movement) system well developed, raphe on each valve makes cells highly motile
* **This group has the greatest diversity among the freshwater diatoms**
 | http://huey.colorado.edu/diatoms/images_morphology/05_naviculoid1.jpg  |
| **Cymbelloid*** Valve is organized around a line (bilateral symmetry)
* Valves symmetrical to transapical axis, asymmetrical to apical axis
* Raphid (movement) system well developed
* Valves with apical porefields that secrete mucilaginous (thick, gluey substance) stalks or tubes
 |   http://huey.colorado.edu/diatoms/images_morphology/06_cymbelloid1a.jpg http://huey.colorado.edu/diatoms/images_morphology/06_cymbelloid2.jpg |
| **Epithemioid*** Valve is organized around a line (bilateral symmetry)
* Valves symmetrical to transapical axis, asymmetrical to apical axis
* Raphid (movement) system well developed, and enclosed within a canal
 | http://huey.colorado.edu/diatoms/images_morphology/07_epithemioid1.jpg http://huey.colorado.edu/diatoms/images_morphology/07_epithemioid2.jpg  |
| **Amphoroid*** Valve is organized around a line (bilateral symmetry)
* Valves symmetrical to transapical axis, asymmetrical to apical axis
* Raphid (movement) system positioned eccentrically (irregularly), near the valve margin
* Primarily a marine genus, with a few freshwater representatives
 |  http://huey.colorado.edu/diatoms/images_morphology/08_amphora1.jpg |
| **Nitzschioid*** Valve is organized around a line (bilateral symmetry)
* Valves usually symmetrical to both apical and transapical axes
* Raphid (movement) system well developed, and positioned near the valve margin
* Raphe is enclosed within a canal and raised onto a keel
 |   http://huey.colorado.edu/diatoms/images_morphology/09_nitzschioid2.jpg http://huey.colorado.edu/diatoms/images_morphology/09_nitzschioid1.jpg |
| **Surirelloid*** Valve is organized around a line (bilateral symmetry)
* Raphid (movement) system extremely well developed, and positioned around the entire valve margin
* Raphe is enclosed within a canal and raised onto a keel
 |  http://huey.colorado.edu/diatoms/images_morphology/10_surielloid1.jpg http://huey.colorado.edu/diatoms/images_morphology/10_surirelloid2.jpg |
| **Monoraphid*** Valve is organized around a line (bilateral symmetry)
* Raphe (movement) system present on one valve
* Heterovalvar: one valve with a raphe (movement) system and one without
 |  http://huey.colorado.edu/diatoms/images_morphology/03_monoraphid.jpg |