Evolution of the Carabiner

Make a cladogram of the following "taxa". Place the synapomorphies at the nodes and the auta-pomorphies on the branches leading to the proper taxa. Start with a character matrix, and be sure to identify the symplesiomorphies (those primitive, irrelevant features) before you make your cladogram. The outgroup need not appear on your final cladogram.

Characters
1. Aluminum (bronze)
2. Titanium (blue)
3. Locking gate (threaded)
4. Oval
5. D-shaped

6. Fin-shaped (wider at top)
7. Solid gate
8. Hollow gate
9. Notch
10. No notch

Outgroup **A** **B** **C** **D**

C   A   D   B

3

8

6, 10

2

5