Biol 366        Quiz 3        Spring 2011
Keys through Monocots 1 (30 points)

Name: _______KEY____________________ TA: _____________________

Part I: KEY OUT (5 points). Using the appropriate keys in your lab manual, key out
the sample you have been assigned to species. Please write your way through the key
(use couplet numbers).

A. 1 → 2 → 3 → 5 → 6 → 7 → Pinaceae (1 point)
1 → 3 → 4 → 5 → Picea (2 points)
1 → 3 → P. abies (2 points)

B. 1 → 2 → 3 → 5 → 6 → 7 → Pinaceae (1 point)
1 → 2 → Pinus (2 points)
1 → 3 → 4 → 5 → 6 → 7 → P. sylvestris (2 points)
**Part II: MATCHING (9 points)**

Match the taxon in the right-hand column to the best or most appropriate feature in the left-hand column by writing the letter next to each definition in the blank central column just to the left of that term. Use each letter only once.

<table>
<thead>
<tr>
<th>Elongated receptacle</th>
<th>H</th>
<th>A. Pinaceae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petaloid styles</td>
<td>F</td>
<td>B. Alliaceae</td>
</tr>
<tr>
<td>Dichotomous venation</td>
<td>I</td>
<td>C. Yucca</td>
</tr>
<tr>
<td>Corona</td>
<td>E</td>
<td>D. Cupressaceae</td>
</tr>
<tr>
<td>Seeds with a long terminal wing</td>
<td>A</td>
<td>E. Narcissus</td>
</tr>
<tr>
<td>Aquatic, beetle pollination</td>
<td>G</td>
<td>F. Iris</td>
</tr>
<tr>
<td>Sulphur-containing compounds</td>
<td>B</td>
<td>G. Nymphaeaceae</td>
</tr>
<tr>
<td>Moth pollination</td>
<td>C</td>
<td>H. Magnoliaceae</td>
</tr>
<tr>
<td>Scale-like leaves</td>
<td>D</td>
<td>I. Gingkoaceae</td>
</tr>
</tbody>
</table>

**Part III. Use one sentence to explain the evolutionary significance of Amborellaceae.**

(5 points)

*The Amborellaceae represent the oldest living lineage of flowering plants.*

*Or*

*The Amborellaceae are sister to all other angiosperms.*
Part IV. Write a dichotomous key to the following families: Araceae, Liliaceae, Amaryllidaceae. You must include two characters per couplet. (7 points)

1. Flowers very small (< 5 mm), arranged in a spadix subtended by a spathe.....Araceae
1. Flowers > 5 mm, typically showy, solitary to ca. 20 in an inflorescence, but never in a spadix subtended by a spathe.................................2

   2. Perianth parts typically spotted; ovary superior.......................Liliaceae
   2. Perianth parts lacking spots; ovary inferior.........................Amaryllidaceae

(Other versions are possible)

Part V. Briefly describe the pollination syndrome these flowers exhibit, including information on what kind(s) of pollinators are attracted, how they are attracted, and how pollination is effected. (4 points)

Refers to the Aristolochia flowers on display:
The elaborate sepals look like dead meat, which attracts flies. The flies enter the flower and are helped through the S-shaped tube to the reproductive parts by the downward-pointing hairs. The flies are essentially trapped in the innermost part of the floral tube until pollination occurs, typically by means of the flies crawling around on the stigma and the picking up new pollen from the closely associated anthers. Upon pollination, the hairs relax and allow the flies to escape to visit other similar flowers.

Extra Credit (2 points)
A) Name this family. Orchidaceae

B) What is the term that describes flower orientation in this family? resupinate