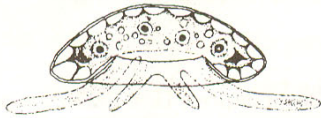


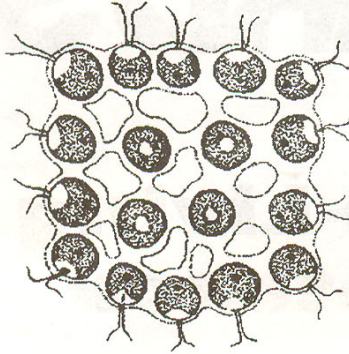
Top View

Side View



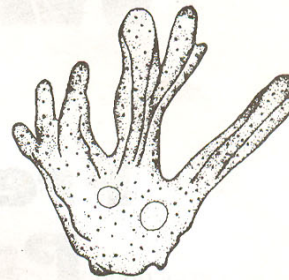
Arcella

45–100 μm in diameter



Gonium

Colony up to 90 μm in diameter



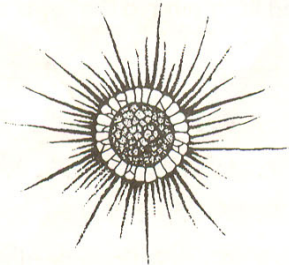
Pelomyxa

1–5 mm, monopodal length



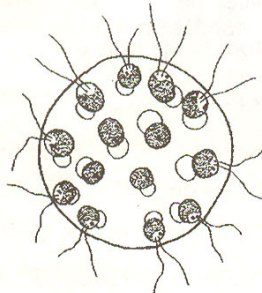
Spirostomum

1–3 mm in length



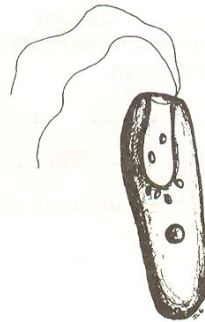
Actinosphaerium

70–80 μm in diameter



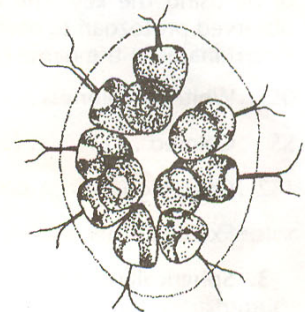
Eudorina

10–24 μm in diameter



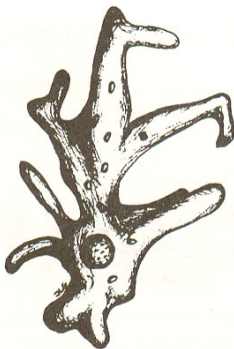
Chilomonas sp.

20–40 μm



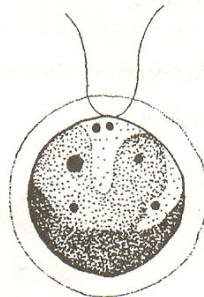
Pandorina

colony from 20–250 μm in diameter



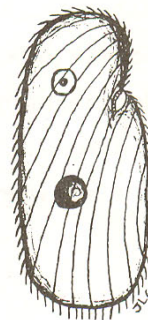
Ameoba proteus

up to 600 μm or more, elongated



Chlamydomonas

5–12 μm in length



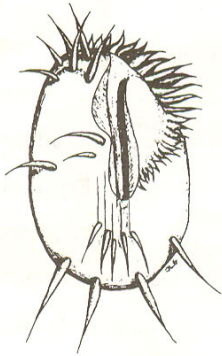
Colpidium sp.

50–70 μm in length



Diffugia

60–580 μm by 40–240 μm



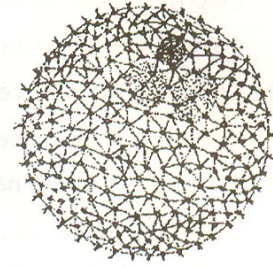
Euplotes sp.
100–200 μm
in length



Euglena
35–55 μm
in length



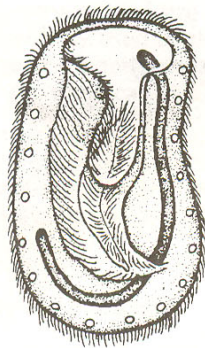
Peranema sp.
20–70 μm
in length



Volvox
colony from
350–500 μm in
diameter



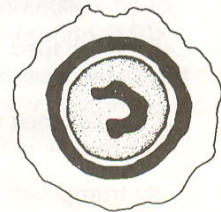
**Stentor
coeruleus**
1–2 mm, extended



**Bursaria
truncatella**
500–1000 μm
in length



Didinium
80–200 μm
in length



Didinium Cyst

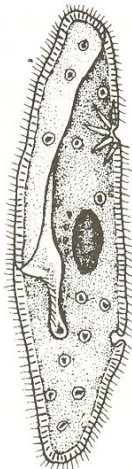
Paramecium Species



Vorticella
50–15 μm
in length



Blepharisma sp.
400–600 μm
in length



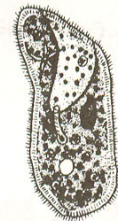
**Paramecium
multimicronucleatum**
200–300 μm in length



**Paramecium
aurelia**
120–180 μm
in length



Paramecium caudatum
180–300 μm in length



**Paramecium
bursaria**
70–110 μm
in length

WARD'STM

Free-Living Protozoa

Instructions:

This key will aid students in the identification of protozoa normally encountered in our cultures. Line drawings of each protozoan, along with designations of size range, are included inside this sheet. It is suggested that DETAIN, WARD'S protozoan slowing agent, be used to slow the faster-moving protozoa. A wet mount preparation should first be scanned under low power magnification to initially locate protozoa for observation and identification. In some cases, identification will be made easier if cells are examined under "high-dry" magnification (450X).

Identification of a protozoan may be made by either comparing the observed cell to the illustrations on this sheet or by using the key. The key gives the student two choices per number. Start at number 1, comparing the observed protozoan to each of the characteristics stated per number in the key. Proceed according to the key until it terminates in the name of the protozoan.

1. White or colorless 2
Colored 8
2. Creeping (sliding) slowly or floating without apparent motion 3
Exhibits other motion 7
3. Spherically shaped with radiating "spines" Actinosphaerium
Not spherical in shape 4
4. Shape remains constant 5
Shape constantly changes 6
5. Possesses flattened test or shell without embedded or
attached material; pale to brown in color Arcella
Possesses dome-shaped test or shell with attached particles,
usually of sand Diffflugia
6. Small; creeps using pseudopodia (false feet); single disc-shaped nucleus Amoeba
Large; creeps using pseudopodia; many (100's) of small nuclei Pelomyxa
7. Cell has hair-like structures (cilia) 16
Cell's organ of locomotion is long whip-like flagella (no cilia) 9
8. Green color 9
Color not green 23
9. Colony of many cells 11
Single, motile cells 10
10. One observed locomotor flagella 15
Two observed locomotor flagella 14

- 11. Colony flat, disc-shaped, usually containing sixteen cells. Gonium
 Colony spherical in shape 12
- 12. Colony contains 32 cells or less 13
 Colony contains more than 32 cells. Volvox
- 13. Colony contains 32 cells Eudorina
 Colony contains sixteen cells Pandorina
- 14. Cell elongated with narrowed posterior Chilomonas
 Cell oval-shaped Chlamydomonas
- 15. Cell elongated, green in color Euglena
 Cell elongated, colorless, with a broad, rounded or truncate posterior during locomotion;
 highly plastic when stationary, often appears to vibrate when in motion. Peranema
- 16. Body has specialized groups of cilia, or cilia in specific areas 17
 Body entirely covered with cilia 19
- 17. Cell not on stalk 18
 Cell on stalk; cells contract (stalk appears to contract like a spring) Vorticella
- 18. Cell oval-shaped with distinct point-like projections termed cirri (fused cilia);
 travels by "walking" using cirri Euplates
 Cell oval-shaped with two distinct ciliary bands, one anterior and one
 in the middle of the body; swims with spiral motion. Didinium
- 19. Body trumpet-shaped or elongated 20
 Body oval-shaped 22
- 20. Body elongated; never attached to substrate 21
 Body trumpet-shaped; usually attached to substrate Stentor
- 21. Large cell with elongated, flattened body with blunt ends;
 contracts to ¼ of its body length when stimulated Spirostomum
 Small cell with elongated body, "cigar-shaped," with rounded ends;
 swims rapidly in a corkscrew fashion Paramecium*
- 22. Small body, oval shaped, with small mouth; fast swimmer. Colpidium
 Extremely large body (visible with the naked eye), with large, wide mouth *Bursaria truncatella*
- 23. Pink or rose-colored (ciliate) Blepharisma
 Dark bluish-green (ciliate). Stentor

*many species, see diagram



WARD'S Natural Science
 5100 West Henrietta Road
 P.O. Box 92912
 Rochester, New York 14692-9012

Fax: **1-800-635-8439**
 Phone: **1-800-962-2660**
 Website: **www.wardsci.com**
 E-mail: **customer_service@wardsci.com**