

BRYOZOAN SURVEY IN SELECTED ILLINOIS WATERSHEDS

Final Report

for

The Illinois Nongame Wildlife Conservation Fund,  
Small Project Program

Submitted to:

Natural Heritage Division  
Department of Conservation  
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# BRYOZOAN SURVEY IN SELECTED ILLINOIS WATERSHEDS

## Final Report

This is the final report of a one-year project, Bryozoan Survey in Selected Illinois Watersheds, supported by the Nongame Wildlife Conservation Fund, 1990-1991.

The project objectives, as stated in the initial proposal, included the following:

1. Preparation. Examine public and private collections of Illinois bryozoans; identify suitable collection sites within the Fox-DesPlaines, Sangamon, Vermilion-Embarras, and Big Buddy watersheds, including at least one site in each of the 44 counties.
2. Field work. Conduct a thorough survey of each site, taking a representative sample of every bryozoan and sponge species encountered, and recording detailed habitat information. Retain interesting living material for laboratory culture and separate study. Send sponges to Dr. Joe Beatty, SIE-Carbondale.
3. Lab work. Use collected bryozoan specimens to obtain and analyze descriptive groups; analyze final taxonomic and ecological data.
4. Conclusion. This is the first part of a state-wide survey. At its conclusion, we intend to publish our findings and deposit specimens with the Illinois Natural History Survey.

In addition, we were interested in obtaining more complete information about three particular species: *Lophopus crystalinus*, *Plumatella fungosa*, and *Plumatella reticulata*.

Historical Collections. Bryozoan records and specimens were examined from the following collections:

Illinois Natural History Survey, including collections of Mark Wetzel and Ed Lisowski;  
Joe Beatty, Southern Illinois University, Carbondale;  
Donal Gene Myer, Southern Illinois University, Edwardsville.

The old collections of the Illinois Natural History Survey included the following ten species:

*Paludicella articulata*, 22 specimens, taken mostly from the Illinois River during 1922-25;  
*Pectinatella magnifica*, 26 specimens collected between 1984

and 1940;  
*Cristatella mucedo*, one specimen taken at Havana in 1894;  
*Hyalinella punctata*, one specimen, 1927;  
*Plumatella casmiana*, one specimen;  
*Plumatella emarginata*, 22 specimens, mostly from the  
Illinois River in the early 1920's.  
*Plumatella fungosa*, 3 specimens from the Rock River, 1925;  
*Plumatella repens*, two specimens;  
*Plumatella reticulata*, five specimens;  
*Urnatella gracilis*, five specimens.

Mark Wetzel's collections had the following:

*Fredericella australiensis* (Whiteside County)  
*Fredericella indica* (Fulton, Peoria Counties)  
*Plumatella casmiana* (Peoria County)  
*Plumatella emarginata* (Ogle County)  
*Plumatella fungosa* (Perry County)  
*Plumatella repens* (Fulton, Lawrence, Perry Counties)  
*Plumatella reticulata* (Coles, Perry, Whiteside Counties)

From Donal Myer's collection:

*Fredericella indica* (Madison County)  
*Pectinatella magnifica* (  
*Plumatella emarginata* (Madison County)  
*Plumatella emarginata* (Greene County)  
*Plumatella repens* (Greene County)  
*Urnatella gracilis* (

From Joe Beatty's collection:

*Fredericella australiensis* (Whiteside County)  
*Fredericella indica* (Jackson, Madison, Peoria, Williamson  
Counties)  
*Paludicella articulata* (Williamson County)  
*Plumatella casmiana* (Peoria County)  
*Plumatella emarginata* (Jackson, Madison, Ogle, Williamson  
Counties)  
*Plumatella fungosa* (Jackson, Perry Counties)  
*Plumatella repens* (Fulton, Jackson, Lawrence, Perry,  
Williamson Counties)  
*Plumatella reticulata* (Coles, Greene, Jackson, Whiteside,  
Williamson Counties)  
*Pectinatella magnifica* (Alexander, Franklin, Jackson, Pope,  
Williamson Counties)  
*Urnatella gracilis* (Greene, Williamson Counties)

#### Field Work.

Field studies were conducted in collaboration with Dr. Terrence Marsh, Professor of Biology at North Central College in Naperville, Illinois. Assisting in the field surveys were R. Billings, D. Horner, A. Marsh, R. Newman, D. Schmutz, F. Weber, and L. Wood. So far, we have visited 124 sites in 53 Illinois counties, somewhat exceeding the number originally planned. Those

counties added to the itinerary include Carroll, Clinton, Fayette, Hancock, Jo Daviess, Macon, McLean, Monroe, Sangamon, St. Clair, Stephenson, Will, Whiteside, and Woodford.

The field teams encountered all but two species known from historical accounts and previous collections. Missing so far from our inventory are *Cristatella mucedo* and *Lophopus crystallinus*, both last reported from the Illinois River at Havana in 1894. One new record we established for the state is *Pottsiella erecta*, a relatively uncommon species in the midwest.

The most frequently encountered species in Illinois were *Plumatella repens*, *P. reticulata*, and *Fredericella indica*. Among the more rare species were *Fredericella australiensis*, *Hyalinella punctata*, and *Pottsiella erecta*. A complete list of species and collection sites appears as an appendix to this report.

From the field data, patterns of distribution and environmental relations are beginning to emerge. These should become more clear as more areas of the state are surveyed.

#### Laboratory analysis.

Lab analysis of Illinois collections involve standard measurements, light and SEM photography, and in some cases, lab rearing of living material and karyotyping. Already it is apparent that species identified as *Plumatella repens* actually comprises two or more distinct species. The species which we are calling *Plumatella fungosa* is not the same as *Plumatella fungosa* Pallas in Europe, but the relationship between the two yet to be clarified. This work is expected to continue for several more years.

ILLINOIS BRYOZOAN COLLECTION (Revised July 12, 1991)

| No. | Species                       | Site                             | County    | State    | Date            |
|-----|-------------------------------|----------------------------------|-----------|----------|-----------------|
| 568 | <i>Fredericella indica</i>    | Mississippi River                | Alexander | Illinois | August 14, 1990 |
| 500 | <i>Fectinatella magnifica</i> | Horseshoe Lake                   | Alexander | Illinois | August 14, 1990 |
| 499 | <i>Plumatella repens</i>      | Horseshoe Lake                   | Alexander | Illinois | August 14, 1990 |
| 553 | <i>Plumatella reticulata</i>  | Mississippi River                | Alexander | Illinois | August 14, 1990 |
| 517 | <i>Plumatella reticulata</i>  | Horseshoe Lake                   | Alexander | Illinois | August 14, 1990 |
| 633 | <i>Hyalinella punctata</i>    | Mississippi R at Lock/Dam 13     | Carroll   | Illinois | June 20, 1991   |
| 638 | <i>Plumatella emarginata</i>  | Plum River                       | Carroll   | Illinois | June 20, 1991   |
| 634 | <i>Plumatella repens</i>      | Mississippi R at Lock/Dam 13     | Carroll   | Illinois | June 20, 1991   |
| 637 | <i>Plumatella repens</i>      | Plum River                       | Carroll   | Illinois | June 20, 1991   |
| 568 | <i>Paludicella articulata</i> | Sangamon R at SR 78              | Cass      | Illinois | August 28, 1990 |
| 491 | <i>Plumatella ?</i>           | Mound Lake                       | Cass      | Illinois | August 28, 1990 |
| 567 | <i>Plumatella reticulata</i>  | Sangamon R at SR 78              | Cass      | Illinois | August 28, 1990 |
| 569 | <i>Urnatella gracilis</i>     | Sangamon R at SR 78              | Cass      | Illinois | August 28, 1990 |
| 490 | <i>Urnatella gracilis</i>     | Mound Lake                       | Cass      | Illinois | August 28, 1990 |
| 394 | <i>Plumatella casmiana</i>    | Homer Lake                       | Champaign | Illinois | June 15, 1990   |
| 395 | <i>Plumatella repens</i>      | Homer Lake                       | Champaign | Illinois | June 15, 1990   |
| 544 | <i>Plumatella casmiana</i>    | Lake Sangchris                   | Christian | Illinois | August 1, 1990  |
| 519 | <i>Plumatella casmiana</i>    | Kincaid Village Park Lake        | Christian | Illinois | August 1, 1990  |
| 535 | <i>Plumatella emarginata</i>  | Lake Sangchris                   | Christian | Illinois | August 1, 1990  |
| 520 | <i>Plumatella repens</i>      | Kincaid Village Park Lake        | Christian | Illinois | August 1, 1990  |
| 545 | <i>Plumatella reticulata</i>  | Lake Sangchris                   | Christian | Illinois | August 1, 1990  |
| 406 | <i>Fredericella indica</i>    | Mill Creek Lake                  | Clark     | Illinois | June 16, 1990   |
| 403 | <i>Plumatella casmiana</i>    | Mill Creek Lake                  | Clark     | Illinois | June 16, 1990   |
| 404 | <i>Urnatella gracilis</i>     | Mill Creek Lake                  | Clark     | Illinois | June 16, 1990   |
| 618 | <i>Fredericella indica</i>    | Kaskaskia R. at Cox Bridge       | Clinton   | Illinois | June 13, 1991   |
| 614 | <i>Fredericella indica</i>    | Lake Carlyle above dam           | Clinton   | Illinois | June 12, 1991   |
| 617 | <i>Plumatella emarginata</i>  | Kaskaskia R. at Cox Bridge       | Clinton   | Illinois | June 13, 1991   |
| 612 | <i>Plumatella emarginata</i>  | Kaskaskia R. by Lake Carlyle dam | Clinton   | Illinois | June 12, 1991   |
| 616 | <i>Plumatella fungosa</i>     | Lake Carlyle at Boulder cmpgrnd  | Clinton   | Illinois | June 13, 1991   |
| 613 | <i>Plumatella reticulata</i>  | Lake Carlyle above dam           | Clinton   | Illinois | June 12, 1991   |
| 615 | <i>Plumatella reticulata</i>  | Lake Carlyle at Boulder cmpgrnd  | Clinton   | Illinois | June 13, 1991   |
| 409 | <i>Fredericella indica</i>    | Fox Ridge Lake                   | Coles     | Illinois | June 17, 1990   |
| 408 | <i>Plumatella casmiana</i>    | Charleston Lake                  | Coles     | Illinois | June 17, 1990   |
| 389 | <i>Plumatella repens</i>      | Hog Branch in NE Oakland         | Coles     | Illinois | May 22, 1987    |
| 407 | <i>Plumatella repens</i>      | Charleston Lake                  | Coles     | Illinois | June 17, 1990   |
| 410 | <i>Plumatella repens</i>      | Fox Ridge Lake                   | Coles     | Illinois | June 17, 1990   |
| ?   | ?                             | Sag Bridge Quarries              | Cook      | Illinois | June 29, 1990   |
| ?   | ?                             | Jackson Park north marina        | Cook      | Illinois | June 29, 1990   |
| 425 | <i>Fredericella indica</i>    | Jackson Park north marina        | Cook      | Illinois | June 29, 1990   |
| 482 | <i>Fredericella indica</i>    | Lake Michigan                    | Cook      | Illinois | August 23, 1990 |
| 588 | <i>Paludicella articulata</i> | Lake Michigan                    | Cook      | Illinois | August 23, 1990 |
| 561 | <i>Plumatella ?</i>           | North Pond, Lincoln Park         | Cook      | Illinois | July 12, 1990   |
| 427 | <i>Plumatella ---?</i>        | Maple Lake                       | Cook      | Illinois | June 29, 1990   |
| 557 | <i>Plumatella emarginata</i>  | Diversey Harbor, South Lagoon    | Cook      | Illinois | July 12, 1990   |
| 426 | <i>Plumatella fungosa</i>     | Jackson Park north marina        | Cook      | Illinois | June 29, 1990   |
| 428 | <i>Plumatella repens</i>      | Maple Lake                       | Cook      | Illinois | June 29, 1990   |
| 481 | <i>Pottsiella erecta</i>      | Lake Michigan                    | Cook      | Illinois | August 23, 1990 |
|     |                               | Shabbona Lake                    | DeKalb    | Illinois | June 30, 1990   |

|    | 431  | <i>Fredericella australiensis</i> | Shabbona Lake, below spillway     | DeKalb   | Illinois June 30,          |
|----|------|-----------------------------------|-----------------------------------|----------|----------------------------|
|    | 433  | <i>Fredericella indica</i>        | Shabbona Lake, above spillway     | DeKalb   | Illinois June 30, 1990     |
|    | 435, | <i>Paludicella articulata</i>     | Shabbona Lake                     | DeKalb   | Illinois June 30, 1990     |
|    | 436  | <i>Pectinatella magnifica</i>     | Shabbona Lake                     | DeKalb   | Illinois June 30, 1990     |
|    | 551  | <i>Plumatella emarginata</i>      | South Branch Kishwaukee R         | DeKalb   | Illinois July 25, 1990     |
|    | 432  | <i>Plumatella emarginata</i>      | Shabbona Lake, below spillway     | DeKalb   | Illinois June 30, 1990     |
|    | 434  | <i>Plumatella repens</i>          | Shabbona Lake, above spillway     | DeKalb   | Illinois June 30, 1990     |
|    | 437  | <i>Plumatella repens</i>          | Shabbona Lake                     | DeKalb   | Illinois June 30, 1990     |
|    | 508  | <i>Fredericella indica</i>        | Weldon Spgs Lake                  | DeWitt   | Illinois July 30, 1990     |
|    | 552  | <i>Plumatella ?</i>               | Weldon Springs Lake below dam     | DeWitt   | Illinois July 30, 1990     |
|    | 543  | <i>Plumatella emarginata</i>      | Clinton Lake above spillway       | DeWitt   | Illinois July 30, 1990     |
|    | 542  | <i>Plumatella reticulata</i>      | Clinton Lake above spillway       | DeWitt   | Illinois July 30, 1990     |
|    | 411  | <i>Plumatella fungosa</i>         | Walnut Point Lake                 | Douglas  | Illinois June 18, 1990     |
|    | 430  | <i>Plumatella casmiana</i>        | Herrick Lake                      | DuPage   | Illinois June 29, 1990     |
|    | 555  | <i>Plumatella repens</i>          | Egerman Woods (temporary) Pond    | DuPage   | Illinois July 12, 1990     |
|    | 429  | <i>Plumatella---</i> ?            | Herrick Lake                      | DuPage   | Illinois June 29, 1990     |
|    | 621  | <i>Plumatella emarginata</i>      | Vandalia Lake                     | Fayette  | Illinois June 13, 1991     |
|    | 619  | <i>Plumatella fungosa</i>         | Ramsey Lake                       | Fayette  | Illinois June 13, 1991     |
|    | 620  | <i>Plumatella reticulata</i>      | Vandalia Lake                     | Fayette  | Illinois June 13, 1991     |
| 0  | 446  | <i>Fredericella indica</i>        | Old West Frankfurt Reservoir      | Franklin | Illinois September 27, 199 |
|    | 541  | <i>Paludicella articulata</i>     | Rend Lake above dam               | Franklin | Illinois July 18, 1990     |
| 0  | 447  | <i>Pectinatella magnifica</i>     | Old West Frankfurt Reservoir      | Franklin | Illinois September 27, 199 |
|    | 506  | <i>Plumatella emarginata</i>      | Rend Lake, below spillway         | Franklin | Illinois July 18, 1990     |
| 0  | 467  | <i>Plumatella emarginata</i>      | Old West Frankfurt Reservoir      | Franklin | Illinois September 27, 199 |
|    | 541  | <i>Plumatella reticulata</i>      | Rend Lake below spillway          | Franklin | Illinois July 18, 1990     |
| 0  | 445  | <i>Plumatella reticulata</i>      | Old West Frankfurt Reservoir      | Franklin | Illinois September 27, 199 |
|    | 540  | <i>Plumatella reticulata</i>      | Rend Lake below spillway          | Franklin | Illinois July 18, 1990     |
|    | 511  | <i>Plumatella reticulata</i>      | Rend Lake above dam               | Franklin | Illinois July 18, 1990     |
|    | 512  | <i>Fredericella indica</i>        | Horseshoe Pond                    | Gallatin | Illinois July 16, 1990     |
|    | 507  | <i>Pectinatella magnifica</i>     | Pounds Lake                       | Gallatin | Illinois July 16, 1990     |
|    | 524  | <i>Plumatella repens</i>          | Pound Lake                        | Gallatin | Illinois July 16, 1990     |
|    | 525  | <i>Plumatella repens</i>          | Horseshoe Pond                    | Gallatin | Illinois July 16, 1990     |
|    | 503  | <i>Plumatella repens</i>          | Yellowbank Slough                 | Gallatin | Illinois July 16, 1990     |
|    | 502  | <i>Plumatella reticulata</i>      | Yellowbank Slough                 | Gallatin | Illinois July 16, 1990     |
|    | 480  | <i>Plumatella reticulata</i>      | Mississippi River                 | Hancock  | Illinois October 17, 1990  |
|    | 550  | <i>Plumatella emarginata</i>      | Big Creek                         | Hardin   | Illinois July 17, 1990     |
|    | 646  | <i>Fredericella indica</i>        | Hennepin Canal                    | Henry    | Illinois June 21, 1991     |
|    | 644  | <i>Pectinatella magnifica</i>     | Hennepin Canal                    | Henry    | Illinois June 21, 1991     |
|    | 645  | <i>Urnatella gracilis</i>         | Hennepin Canal                    | Henry    | Illinois June 21, 1991     |
|    | 478  | <i>Fredericella indica</i>        | Fountain Bluff Fish Farm          | Jackson  | Illinois April 18, 1982    |
| 0  | 461  | <i>Fredericella indica</i>        | Kinkaid Lake, below spillway      | Jackson  | Illinois September 29, 199 |
| 0  | 462  | <i>Pectinatella magnifica</i>     | Kinkaid Lake, below spillway      | Jackson  | Illinois September 29, 199 |
| 90 | 466  | <i>Plumatella casmiana</i>        | Lake Murphysboro                  | Jackson  | Illinois September 29, 19  |
|    | 472  | <i>Plumatella emarginata</i>      | SIU Fisheries tanks               | Jackson  | Illinois July 18, 1976     |
| 0  | 460  | <i>Plumatella emarginata</i>      | Kinkaid Lake, below spillway      | Jackson  | Illinois September 29, 199 |
|    | 476  | <i>Plumatella fungosa</i>         | Fountain Bluff Fish Farm Pond #10 | Jackson  | Illinois May 2, 1976       |
|    | 474  | <i>Plumatella repens</i>          | Cedar Lake                        | Jackson  | Illinois May 14, 1982      |
|    | 473  | <i>Plumatella repens</i>          | Fountain Bluff Fish Farm          | Jackson  | Illinois May 12, 1975      |
|    | 471  | <i>Plumatella repens</i>          | Strip mine                        | Jackson  | Illinois May 26, 1971      |
|    | 475  | <i>Plumatella reticulata</i>      | SIU Aquaculture Facility          | Jackson  | Illinois August 3, 1975    |
|    | 402  | <i>Fredericella indica</i>        | Sam Parr Lake                     | Jasper   | Illinois June 16, 1990     |
|    | 401  | <i>Plumatella repens</i>          | Sam Parr Lake                     | Jasper   | Illinois June 16, 1990     |

| 1990 | 449 | Hyalinella punctata        | Rend Lake                          | Jefferson  | Illinois | September          |
|------|-----|----------------------------|------------------------------------|------------|----------|--------------------|
| 0    | 451 | Pectinatella magnifica     | Rend Lake                          | Jefferson  | Illinois | September 27, 1991 |
| 0    | 450 | Plumatella casmiana        | Rend Lake                          | Jefferson  | Illinois | September 27, 1991 |
| 0    | 448 | Plumatella emarginata      | Rend L. @ Casey Fork Sub. Dam      | Jefferson  | Illinois | September 27, 1991 |
|      | 635 | Paludicella articulata     | Apple River                        | Jo Daviess | Illinois | June 20, 1991      |
|      | 636 | Plumatella emarginata      | Apple River                        | Jo Daviess | Illinois | June 20, 1991      |
|      | 630 | Plumatella emarginata      | Mississippi R. at Blanding Landing | Jo Daviess | Illinois | June 20, 1991      |
|      | 629 | Plumatella repens?         | Mississippi R. at Blanding Landing | Jo Daviess | Illinois | June 20, 1991      |
|      | 546 | Fredericella australiensis | Lake of Egypt                      | Johnson    | Illinois | August 16, 1990    |
|      | 547 | Hyalinella punctata        | Lake of Egypt                      | Johnson    | Illinois | August 16, 1990    |
|      | 537 | Paludicella articulata     | Cache R at Dutchman Creek          | Johnson    | Illinois | August 15, 1990    |
|      | 527 | Pectinatella magnifica     | Lake of Egypt                      | Johnson    | Illinois | August 16, 1990    |
|      | 526 | Plumatella casmiana        | Dutchman Lake                      | Johnson    | Illinois | August 15, 1990    |
|      | 548 | Plumatella casmiana        | Lake of Egypt                      | Johnson    | Illinois | August 16, 1990    |
|      | 536 | Plumatella reticulata      | Cache R at Dutchman Creek          | Johnson    | Illinois | August 15, 1990    |
| 0    | 459 | Plumatella spp.            | Dutchman Lake below spillway       | Johnson    | Illinois | September 28, 1991 |
|      | 562 | Fredericella indica        | Fox River                          | Kane       | Illinois | July 10, 1990      |
|      | 560 | Paludicella articulata     | Fox River                          | Kane       | Illinois | July 10, 1990      |
|      | 556 | Plumatella fungosa         | Fox River                          | Kane       | Illinois | July 10, 1990      |
|      | 438 | Paludicella articulata     | Fox River below Palmer Dam         | Kendall    | Illinois | June 30, 1990      |
|      | 437 | Plumatella emarginata      | Fox River below Palmer Dam         | Kendall    | Illinois | June 30, 1990      |
|      | 440 | Plumatella fungosa         | Fox River below Palmer Dam         | Kendall    | Illinois | June 30, 1990      |
|      | 441 | Plumatella repens          | Silver Spring SP, NE pond          | Kendall    | Illinois | June 30, 1990      |
|      | 415 | Fredericella indica        | Deep Lake                          | Lake       | Illinois | June 28, 1990      |
|      | 418 | Fredericella indica        | Grass Lake access                  | Lake       | Illinois | June 28, 1990      |
|      | 419 | Hyalinella punctata        | Grass Lake access                  | Lake       | Illinois | June 28, 1990      |
|      | 393 | Paludicella articulata     | Dead River                         | Lake       | Illinois | March 21, 1990     |
|      | 420 | Plumatella casmiana        | Grass Lake access                  | Lake       | Illinois | June 28, 1990      |
|      | 421 | Plumatella fungosa         | Grass Lake access                  | Lake       | Illinois | June 28, 1990      |
|      | 417 | Plumatella repens          | Deep Lake                          | Lake       | Illinois | June 28, 1990      |
|      | 416 | Plumatella....?            | Deep Lake                          | Lake       | Illinois | June 28, 1990      |
|      | 400 | Fredericella indica        | Red Hills Lake                     | Lawrence   | Illinois | June 16, 1990      |
|      | 398 | Pectinatella magnifica     | Red Hills Lake                     | Lawrence   | Illinois | June 16, 1990      |
|      | 399 | Plumatella repens          | Red Hills Lake                     | Lawrence   | Illinois | June 16, 1990      |
|      | 501 | Hyalinella punctata        | Lake Decatur                       | Macon      | Illinois | July 3, 1990       |
|      | 565 | Pectinatella magnifica     | Lake Decatur                       | Macon      | Illinois | July 3, 1990       |
|      | 564 | Plumatella casmiana        | Sangamon R below Lake Decatur      | Macon      | Illinois | July 7, 1990       |
|      | 559 | Plumatella repens          | Lake Decatur                       | Macon      | Illinois | July 31, 1990      |
|      | 493 | Fredericella indica        | Slough W of Wolf Lake              | Mason      | Illinois | August 28, 1990    |
|      | 489 | Pectinatella magnifica     | Matanzas Lake                      | Mason      | Illinois | August 28, 1990    |
|      | 492 | Pectinatella magnifica     | Slough W of Wolf Lake              | Mason      | Illinois | August 28, 1990    |
|      | 412 | Plumatella casmiana        | Quiver Lake                        | Mason      | Illinois | June 27, 1990      |
|      | 494 | Plumatella casmiana ?      | Slough 6, Wolf Lake                | Mason      | Illinois | August 28, 1990    |
|      | 413 | Plumatella emarginata      | Quiver Lake                        | Mason      | Illinois | June 27, 1990      |
|      | 414 | Plumatella repens          | Quiver Lake                        | Mason      | Illinois | June 27, 1990      |
|      | 513 | Pectinatella magnifica     | Mermet Lake                        | Massac     | Illinois | August 15, 1990    |
|      | 589 | Plumatella ?               | Mermet Lake                        | Massac     | Illinois | August 15, 1990    |
|      | 405 | ?                          | Spring Grove Fish Pond             | McHenry    | Illinois | June 28, 1990      |
|      | 422 | Paludicella articulata     | Nippersink Creek                   | McHenry    | Illinois | June 28, 1990      |
|      | 423 | Plumatella emarginata      | Nippersink Creek                   | McHenry    | Illinois | June 28, 1990      |
|      | 424 | Plumatella repens          | Spring Grove Fish Pond             | McHenry    | Illinois | June 28, 1990      |
|      | 483 | Fredericella indica        | Lake Bloomington                   | McLean     | Illinois | August 27, 1990    |

| 1990 | 487 | Fredericella indica    | Evergreen Lake                      | McLean      | Illinois August 2         |
|------|-----|------------------------|-------------------------------------|-------------|---------------------------|
|      | 572 | Fredericella indica    | Mackinaw R at Patton Creek          | McLean      | Illinois August 27, 1990  |
|      | 529 | Plumatella casmiana    | Dawson Lake                         | McLean      | Illinois July 30, 1990    |
|      | 488 | Plumatella casmiana    | Evergreen Lake                      | McLean      | Illinois August 27, 1990  |
|      | 484 | Plumatella casmiana    | Lake Bloomington                    | McLean      | Illinois August 27, 1990  |
|      | 518 | Plumatella repens      | Dawson Lake below spillway          | McLean      | Illinois July 30, 1990    |
|      | 528 | Plumatella repens      | Dawson Lake above dam               | McLean      | Illinois July 30, 1990    |
|      | 485 | Plumatella repens      | Lake Bloomington                    | McLean      | Illinois August 27, 1990  |
|      | 486 | Plumatella repens      | Evergreen Lake                      | McLean      | Illinois August 27, 1990  |
|      | 573 | Plumatella ?           | Sangamon R                          | Menard      | Illinois                  |
|      | 571 | Plumatella emarginata  | Sangamon R under Athens Rd bridge   | Menard      | Illinois August 2, 1990   |
|      | 604 | Pectinatella magnifica | Moredock Lake                       | Monroe      | Illinois June 11, 1991    |
|      | 605 | Plumatella casmiana    | Moredock Lake                       | Monroe      | Illinois June 11, 1991    |
| 90   | 463 | Hyalinella punctata    | DuQuoin Lake                        | Perry       | Illinois September 29, 19 |
| 90   | 464 | Plumatella reticulata  | DuQuoin Lake                        | Perry       | Illinois September 29, 19 |
| 90   | 465 | Plumatella spp.        | DuQuoin Lake                        | Perry       | Illinois September 29, 19 |
|      | 510 | Plumatella casmiana    | Sangamon R @ Allenton Park          | Piatt       | Illinois July 31, 1990    |
|      | 515 | Plumatella casmiana    | 4-H Lake                            | Piatt       | Illinois July 3, 1990     |
|      | 510 | Plumatella reticulata  | Sangamon R @ Allenton Park          | Piatt       | Illinois July 31, 1990    |
|      | 516 | Plumatella reticulata  | 4-H Lake                            | Piatt       | Illinois July 3, 1990     |
|      | 533 | Plumatella ?           | Lusk Creek                          | Pope        | Illinois July 17, 1990    |
|      | 509 | Plumatella reticulata  | Avery Lake                          | Pope/Massac | Illinois July 18, 1990    |
|      | 554 | Plumatella reticulata  | Ohio River                          | Pulaski     | Illinois August 14, 1990  |
|      | 609 | Fredericella indica    | Kaskaskia R. in Lock/Dam #1         | Randolph    | Illinois June 11, 1991    |
|      | 599 | Hyalinella punctata    | Slough of Mississippi R.            | Randolph    | Illinois June 10, 1991    |
|      | 601 | Plumatella repens      | Slough of Mississippi R.            | Randolph    | Illinois June 10, 1991    |
|      | 607 | Plumatella repens      | Kaskaskia R. in Lock/Dam #1         | Randolph    | Illinois June 11, 1991    |
|      | 598 | Plumatella repens?     | Slough of Mississippi R.            | Randolph    | Illinois June 10, 1991    |
|      | 600 | Plumatella repens?     | Slough of Mississippi R.            | Randolph    | Illinois June 10, 1991    |
|      | 606 | Plumatella reticulata  | Kaskaskia R. in Lock/Dam #1         | Randolph    | Illinois June 11, 1991    |
|      | 608 | Potsiella erecta       | Kaskaskia R. in Lock/Dam #1         | Randolph    | Illinois June 11, 1991    |
|      | 397 | Plumatella repens      | East Fork Lake                      | Richland    | Illinois June 16, 1990    |
|      | 521 | Plumatella casmiana    | Sam O. Jones Lake                   | Saline      | Illinois July 18, 1990    |
|      | 470 | Plumatella repens      | Rte 13 @ Bankston Park, Bridge 319  | Saline      | Illinois April 16, 1976   |
|      | 522 | Plumatella reticulata  | Sam O. Jones Lake                   | Saline      | Illinois July 18, 1990    |
|      | 534 | Plumatella reticulata  | Sam O. Jones Lake                   | Saline      | Illinois July 18, 1990    |
|      | 532 | Paludicella articulata | Lake Springfield                    | Sangamon    | Illinois August 1, 1990   |
|      | 531 | Plumatella repens      | Lake Springfield below dam          | Sangamon    | Illinois August 1, 1990   |
|      | 530 | Plumatella reticulata  | Lake Springfield below dam          | Sangamon    | Illinois August 1, 1990   |
|      | 531 | Plumatella reticulata  | Lake Springfield below dam          | Sangamon    | Illinois August 1, 1990   |
|      | 563 | Plumatella reticulata  | Lake Springfield                    | Sangamon    | Illinois August 1, 1990   |
|      | 603 | Hyalinella punctata    | Lake in Holten State Park           | St. Clair   | Illinois June 11, 1991    |
|      | 602 | Plumatella reticulata  | Lake in Holten State Park           | St. Clair   | Illinois June 11, 1991    |
|      | 623 | Fredericella indica    | Lake Le-Aqua-Na (St. Park)          | Stephenson  | Illinois June 19, 1991    |
|      | 624 | Plumatella repens      | Lake Le-Aqua-Na (St. Park)          | Stephenson  | Illinois June 19, 1991    |
|      | 626 | Plumatella repens      | Slough at Richland Creek            | Stephenson  | Illinois June 19, 1991    |
|      | 622 | Plumatella reticulata  | Oxbow by Pecatonica R.              | Stephenson  | Illinois June 19, 1991    |
|      | 625 | Plumatella reticulata  | Waddams Creek below Lake Le-Aqua-Na | Stephenson  | Illinois June 19, 1991    |
|      | 523 | Fredericella indica    | Spring Lake (State Park)            | Tazewell    | Illinois August 2, 1990   |
|      | 587 | Paludicella articulata | Mackinaw R                          | Tazewell    | Illinois August 29, 1990  |
|      | 585 | Plumatella emarginata  | Mackinaw R                          | Tazewell    | Illinois August 29, 1990  |
|      | 586 | Plumatella reticulata  | Mackinaw R                          | Tazewell    | Illinois August 29, 1990  |



| 1990 |     |                                   |                                     |            |                            |
|------|-----|-----------------------------------|-------------------------------------|------------|----------------------------|
|      | 495 | <i>Plumatella reticulata</i>      | Maraldo Lake                        | Tazewell   | Illinois August 2          |
|      | 566 | <i>Paludicella articulata</i>     | Dutch Creek at SR 146               | Union      | Illinois August 13, 1990   |
|      | 539 | <i>Plumatella casmiana</i>        | Dutch Creek at SR 146               | Union      | Illinois August 13, 1990   |
|      | 549 | <i>Plumatella emarginata</i>      | Dutch Creek at SR 146               | Union      | Illinois August 13, 1990   |
|      | 504 | <i>Plumatella repens</i>          | Bluff Lake                          | Union      | Illinois August 13, 1990   |
|      | 505 | <i>Urnatella gracilis</i>         | Dutch Creek @ SR146                 | Union      | Illinois August 13, 1990   |
|      | 594 | <i>Fredericella australiensis</i> | Vermilion River at Ellsworth Park   | Vermilion  | Illinois May 12, 1991      |
|      | 396 | <i>Fredericella indica</i>        | Clear Fond                          | Vermilion  | Illinois June 15, 1990     |
|      | 595 | <i>Paludicella articulata</i>     | Vermilion River at Ellsworth Park   | Vermilion  | Illinois May 12, 1991      |
|      | 596 | <i>Plumatella emarginata</i>      | Vermilion River at Ellsworth Park   | Vermilion  | Illinois May 12, 1991      |
|      | 387 | <i>Plumatella fungosa</i>         | Bluegrass Creek                     | Vermilion  | Illinois June 3, 1988      |
|      | 597 | <i>Urnatella gracilis</i>         | Vermilion River at Ellsworth Park   | Vermilion  | Illinois May 12, 1991      |
|      | 610 | <i>Plumatella reticulata</i>      | Washington Co. Lake                 | Washington | Illinois June 12, 1991     |
|      | 611 | <i>Urnatella gracilis</i>         | Washington Co. Lake                 | Washington | Illinois June 12, 1991     |
|      | 590 | <i>Fredericella australiensis</i> | Rock Creek above STP                | Whiteside  | Illinois Sept 4, 1976      |
|      | 631 | <i>Fredericella indica</i>        | Lake Carlton below spillway         | Whiteside  | Illinois June 20, 1991     |
|      | 643 | <i>Hyalinella punctata</i>        | Hennepin Feeder Canal               | Whiteside  | Illinois June 21, 1991     |
|      | 640 | <i>Plumatella emarginata</i>      | Hennepin Feeder Canal at Rock River | Whiteside  | Illinois June 21, 1991     |
|      | 642 | <i>Plumatella emarginata</i>      | Hennepin Feeder Canal               | Whiteside  | Illinois June 21, 1991     |
|      | 632 | <i>Plumatella repens</i>          | Lake Carlton below spillway         | Whiteside  | Illinois June 20, 1991     |
|      | 639 | <i>Plumatella reticulata</i>      | Rock River                          | Whiteside  | Illinois June 21, 1991     |
|      | 641 | <i>Plumatella reticulata</i>      | Hennepin Feeder Canal at Rock River | Whiteside  | Illinois June 21, 1991     |
|      | 442 | <i>Fredericella australiensis</i> | West Branch DuPage River            | Will       | Illinois June 30, 1990     |
|      | 576 | <i>Fredericella indica</i>        | Kankakee R /Kankakee cutoff         | Will       | Illinois July 6, 1990      |
|      | 496 | <i>Fredericella indica</i>        | Lake Renwick                        | Will       | Illinois August 9, 1990    |
|      | 570 | <i>Pectinatella magnifica</i>     | Kankakee R cut-off                  | Will       | Illinois August 19, 1990   |
|      | 443 | <i>Plumatella casmiana</i>        | West Branch DuPage River            | Will       | Illinois June 30, 1990     |
|      | 575 | <i>Plumatella casmiana</i>        | Kankakee R /Kankakee cutoff         | Will       | Illinois July 6, 1990      |
|      | 582 | <i>Plumatella emarginata</i>      | Kankakee R /Kankakee cutoff         | Will       | Illinois July 6, 1990      |
|      | 584 | <i>Plumatella fungosa</i>         | Lockport Prairie Pond               | Will       | Illinois August 19, 1990   |
|      | 497 | <i>Plumatella fungosa</i>         | Lake Renwick                        | Will       | Illinois August 9, 1990    |
|      | 514 | <i>Plumatella repens</i>          | Lake Renwick                        | Will       | Illinois August 9, 1990    |
|      | 581 | <i>Plumatella repens</i>          | Kankakee R /Kankakee cutoff         | Will       | Illinois July 6, 1990      |
|      | 583 | <i>Plumatella repens</i>          | Kankakee R /Kankakee cutoff         | Will       | Illinois July 6, 1990      |
|      | 498 | <i>Plumatella reticulata</i>      | Lake Renwick                        | Will       | Illinois August 9, 1990    |
|      | 577 | <i>Urnatella gracilis</i>         | Kankakee R /Kankakee cutoff         | Will       | Illinois July 6, 1990      |
| 0    | 456 | <i>Fredericella indica</i>        | Little Grassy Lake                  | Williamson | Illinois September 28, 199 |
|      | 468 | <i>Fredericella indica</i>        | Crab Orchard Lake                   | Williamson | Illinois May 2, 1982       |
|      | 479 | <i>Fredericella indica</i>        | Crab Orchard Lake near Hwy 13       | Williamson | Illinois May 9, 1982       |
| 0    | 458 | <i>Pectinatella magnifica</i>     | Little Grassy Lake                  | Williamson | Illinois September 28, 199 |
| 0    | 454 | <i>Plumatella emarginata</i>      | Little Grassy Creek @ Fish Hatchery | Williamson | Illinois September 28, 199 |
| 0    | 457 | <i>Plumatella emarginata</i>      | Little Grassy Lake                  | Williamson | Illinois September 28, 199 |
| 0    | 452 | <i>Plumatella reticulata</i>      | Little Grassy Creek @ Fish Hatchery | Williamson | Illinois September 28, 199 |
|      | 469 | <i>Plumatella reticulata</i>      | Crab Orchard Lake spillway          | Williamson | Illinois October 12, 1978  |
|      | 477 | <i>Plumatella reticulata</i>      | Crab Orchard Lake at Rte 13 bridge  | Williamson | Illinois October 23, 1980  |
| 0    | 453 | <i>Plumatella spp.</i>            | Little Grassy Creek @ Fish Hatchery | Williamson | Illinois September 28, 199 |
| 0    | 455 | <i>Plumatella spp.</i>            | Little Grassy Fish Hatchery         | Williamson | Illinois September 28, 199 |
|      | 579 | <i>Fredericella indica</i>        | Evergreen Lake below spillway       | Woodford   | Illinois August 27, 1990   |
|      | 580 | <i>Plumatella emarginata</i>      | Evergreen Lake below spillway       | Woodford   | Illinois August 27, 1990   |
|      | 578 | <i>Urnatella gracilis</i>         | Evergreen Lake below spillway       | Woodford   | Illinois August 27, 1990   |