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A BRYOLOGICAL SURVEY 
OF THE SOUTHERN PANHANDLE OF NEBRASKA

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Moss collections made in Arthur, Banner, Cheyenne, Deuel, Garden, Grant, Keith, Kimball, Morrill, and Scotts Bluff counties of Nebraska during the summer of 1981 comprised 19 species. The number of moss species now known in the southern Panhandle of Nebraska is 34 in addition to three liverworts.

INTRODUCTION

During the summer of 1981, moss collections were made in Arthur, Banner, Cheyenne, Deuel, Garden, Grant, Keith, Kimball, Morrill, and Scotts Bluff counties of the southern Panhandle of Nebraska. Previously Koch (1971 and 1975), Churchill (1977, 1979, 1982a, and 1982b), and Churchill and Redfearn (1977) reported mosses and liverworts from Banner, Cheyenne, Garden, Grant, Keith, Kimball, and Scotts Bluff counties, but there is no known report from Arthur, Deuel, or Morrill counties.

Arthur, Banner, Cheyenne, Deuel, Garden, Grant, Keith, Kimball, Morrill, and Scotts Bluff counties are located in the southern Panhandle region of Nebraska. Soils in Banner, Cheyenne, Kimball, Morrill, and Scotts Bluff counties are sandy loam (Alice, Anselmo, Dunday-Valentine, Otero-Bayard, and Valentine), loam (Atvan and Keith), and silty loam (Mitchell). Canyons and rock outcrops consisting of gray sandstone, which may be covered by a thin layer of soil (Rosebud and Tassel-Anselmo), may be found in Scotts Bluff, Banner, and northern Kimball counties. Arthur, Garden, Grant, and Keith counties are located in the Sand Hills region of Nebraska with the soils (Valentine-Thedford) being of sandy texture with quartz sand as the parent source (Keech and Bentall, 1971). The major river of the southern Panhandle is the North Platte with Lake McConaughy occurring primarily in Keith County but extending into Garden County. Several Sand Hills lakes occur in Arthur, Garden, and Grant counties. The annual precipitation for the southern Panhandle region is approximately 38.1 cm with low relative humidity. The area is virtually treeless except in the canyons and along the North Platte River. The native vegetation consists mainly of short and mid-grasses.

Moss collections were made along river, stream, and lake banks; in sheltered wooded areas; city parks where periodic irrigations occurred; sheltered rock outcrops; and other sheltered areas.

Nineteen species of mosses were collected and represent range extensions for the known Nebraska bryophyte flora. All collections have been identified, catalogued, and placed in the Kearney State College collections. Species previously reported from the region but not collected in this survey are listed with those from the present collection to make the checklist complete. Collection numbers for voucher specimens from the present collection are those of the author, and county records are indicated by an asterisk (*) preceding the site number. Nomenclature follows Crum et al. (1973) and Stotler and Crandall-Stotler (1977).

COLLECTIONS

Sites

2. Banner County: Banner County Courthouse, Hartington.
3. Cheyenne County: Sidney City Park.
4. Deuel County: Chappell City Park.
5. Garden County: Ash Hollow State Recreation Area, picnic and campground area on US 26.
6. Garden County: Ash Hollow Visitor Center, trails to springs and caves.
7. Grant County: City street of Hyannis.
8. Keith County: Ogallala City Park.
9. Keith County: Lake Ogallala State Recreation Area, east bank.
10. Keith County: Lake Ogallala State Recreation Area, west bank.
11. Kimball County: Kimball City Park.
12. Morrill County: City street of Bridgeport.
17. Scotts Bluff County: Sands Motel, Scottsbluff.

Musci

Aloina rigida (Hedw.) Limpr.
Keith and Scotts Bluff counties (Churchill, 1979).

Amblystegium serpens (Hedw.) B. S. G.

A. varium (Hedw.) Lindb.

Barbula acuta (Brid.) Brid.
Cheyenne County (Koch, 1975).

B. caespiticium Hedw.
*Site 1: 7113, on moist (irrigated) soil on east side of concrete wall.

B. caespiticium Hedw.
*Site 1: 7113, on moist (irrigated) soil on east side of concrete wall.

B. convoluta Hedw.
*Site 3: 7292, on moist (irrigated) soil on north side of building. *Site 12: 7138, on dry, concrete sidewalk (periodically irrigated).

B. fallax Hedw.
*Site 1: 7099, on moist (irrigated) soil on north side of building. *Site 3: 7297, on moist (irrigated) soil on north side of building. *Site 6: 7071, on shaded, dry rock.

B. unguiculata Hedw.
*Site 3: 7285, on moist (irrigated) soil on north side of building. *Site 8: 7003, on moist (irrigated) soil under Spirea sp. bush. Site 10: 7027, on moist, shaded soil.

Brachythecium collinum (Schleich. ex C. Muell.) B. S. G.
Keith and Scotts Bluff counties (Churchill, 1979).

B. salebrosum (Web. and Mohr) B. S. G.
*Site 10: 7013, on moist (irrigated) soil in drainage ditch. *Site 13: 7143, on moist (irrigated) soil under picnic bench.

Bryum algovicum Sendtn. ex C. Muell.

B. argenteum Hedw.

B. caespiticium Hedw.
*Site 1: 7113, on moist (irrigated) soil on east side of concrete wall.

B. pseudotriquetrum (Hedw.) Gaertn., Meyer, and Scherb.
*Site 3: 7309, on moist soil by edge of creek. *Site 14: 7141, on moist (irrigated) soil under picnic table.

Desmatodon heimii (Hedw.) Mitt.
Banner County (Koch, 1971). This taxon was reported as Pottia heimii (Hedw.) Fuernr. ex Hampe.

D. obtusifolius (Schwaegr.) Schimp.
*Site 1: 7092, on moist (irrigated) soil on north side of
building. *Site 3: 7307, on moist, shaded soil at edge of creek.

*Dicranella varia* (Hedw.) Schimp.
*Site 1: 7095, on moist (irrigated) soil on north side of building.

*Didymodon tophaceus* (Brid.) Lisa
Keith County (Koch, 1971).

*Eurhynchium pulchellum* (Hedw.) Jenn.
Scotts Bluff County (Churchill, 1979).

*Grimmia apocarpa* Hedw.
*Site 1: 7107, east side of concrete wall; dry. *Site 6: 7075, on dry, shaded rock.

*G. rauii* Aust.
Keith County (Churchill, 1982b). This taxon was reported as *Jaffueliobryum raui* (Aust.) Thér.

*G. plagiopoda* Hedw.

*Hypnum vaucheri* Lesq.
Garden and Keith counties (Churchill, 1977). This taxon was originally reported as *H. cupressiforme* Hedw.

*Leptodictyum riparium* (Hedw.) Warnst.
*Site 1: 7093, on moist (irrigated) soil on north side of building. *Site 3: 7296, on moist (irrigated) soil on north side of building.

*Mnium punctatum* Hedw.
Garden County (Koch, 1975).

*Orthotrichum diaphanum* Brid.
Scotts Bluff County (Churchill, 1982a).

*O. pumilum* Sw.
Banner County (Churchill, 1977).

*Physcomitrium pyriforme* (Hedw.) Hampe
*Site 3: 7313, on moist (irrigated) soil on north side of building.

*Pohlia natans* (Hedw.) Lindb.
*Site 3: 7318, on moist (irrigated) soil on north side of building.

*Bryophytes of Nebraska Panhandle 79*

*Pseudoleskeella tectorum* (Funck ex Brid.) Kindb. ex. Broth.
Scotts Bluff County (Churchill, 1982a).

*Pterygoneurum ovatum* (Hedw.) Dix.
Keith County (Koch, 1971).

*P. subsessile* (Brid.) Jur.
Keith County (Koch, 1971).

*Tortula mucronifolia* Schwaegr.
*Site 1: 7112, east side of concrete wall; dry. *Site 4: 7323, on moist, shaded concrete by water fountain.

*T. muralis* Hedw.
Cheyenne County (Koch, 1975).


Hepaticae

*Marchantia polymorpha* L.

*Riccia cavernosa* Hoffm.
Kimball County (Churchill and Redfearn, 1977). This taxon was reported as *R. crystallina* L.

*R. frostii* Aust.
Keith and Kimball counties (Churchill and Redfearn, 1977).

**SUMMARY**

Several habitats were investigated in ten counties of the southern Panhandle of Nebraska: river, stream, and lake banks; sheltered, wooded areas; city parks; and sheltered outcrops of rock. *Bryum argenteum*, a cosmopolitan moss, was found most frequently at almost all sites. *Barbula fallax*, *B. unguiculata*, and *Bryum algovicum* were often found in dryer habitats. *Amblystegium serpens*, *A. varium*, *Brachythecium salebrosum*, and *Leptodictyum riparium* were found only in the wettest habitats. *Grimmia apocarpa* and *G. plagiopoda* were found on rocks or concrete. No corticolous taxon was found during this study.

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REFERENCES


