

Noteworthy Plants of the North Dakota Prairie Coteau Forest

W. Carter Johnson

Department of Botany

North Dakota State University, Fargo 58102

The Coteau des Prairies, commonly known as the Prairie Coteau, is a dead ice moraine extending north and south through eastern South Dakota. It is characterized by deeply dissected, erosional ravines that support dense forests in northeastern South Dakota and contain many species that are found west of their normal range in the deciduous forest to the east. The extreme northern limit of this landform enters North Dakota in Sargent County (Secs. 17, 18, and 19, T.129N., R.54W.; 7 miles east of Havana, N. D.). The ravines of the North Dakota Prairie Coteau, because of less relief, are narrower and more shallow than those farther south. The ravines are oriented in a southwest-northeast direction and contain ephemeral streams. Native prairie occupies the rolling uplands of the region and the ravines support a dense upland forest with an overstory consisting of American elm (*Ulmus americana*)¹, basswood (*Tilia americana*), green ash (*Fraxinus pennsylvanica* var. *lanceolata*), bur oak (*Quercus macrocarpa*), boxelder (*Acer negundo*), ironwood (*Ostrya virginiana*), and slippery elm (*Ulmus rubra*).

Ten species found in the Coteau forest are of considerable interest floristically and ecologically. They are all rare in North Dakota, occurring only in extreme eastern and southeastern regions, usually associated with flood-plain forests. The Coteau forest is situated on upland sites and is associated with neither floodplains nor permanent surface water.

Slippery elm, first collected by Duane L. Green (NDA, August 28, 1956) in this region, is a rare tree species in North Dakota. The only other collections of this species have come from the floodplain forests of the Red River in Cass, Traill, and Grand Forks counties in extreme eastern North Dakota.

Dutchman's breeches (*Dicentra cucullaria*), bloodroot (*Sanguinaria canadensis*), and large bellwort (*Uvularia grandiflora*) are all common early spring flowers in the ravine forests. The only other region where Dutchman's breeches is known in North Dakota is in Ransom County on the Sheyenne River floodplain, and only one specimen has been reported (NDA Bergman: 1386). Bloodroot has been collected in the floodplain forests of the Red and Sheyenne Rivers in Cass and Richland counties, at Turtle River State Park, the University of North Dakota Biological Area at Inkster, and the Red River floodplain forest in Grand Forks County. Large bellwort has been collected on the floodplains of both the Red and Sheyenne in eastern North Dakota.

Broad-leaved goldenrod (*Solidago flexicaulis*) and white snakeroot (*Eupatorium rugosum*), both late flowering composites, are common in the Coteau forest but are uncommon in other forests in southeastern North Dakota.

Wood leek (*Allium tricoccum*), pale touch-me-not (*Impatiens pallida*),

¹Nomenclature follows Stevens, O. A. 1963. *Handbook of North Dakota Plants* (with revision appendix). Fargo, N. Dak. Inst. Reg. Studies. 324 p.

blackseed ricegrass (*Oryzopsis racemosa*), and prickly ash (*Zanthoxylum americanum*) are present in the ravine forests but elsewhere are usually restricted to the permanent stream and river valleys in extreme eastern and southeastern North Dakota.

The Prairie Coteau forest of North Dakota contains many plant species located on the western fringe of their ranges. Floristically and ecologically this region is unique, containing a flora uncommon in our state. It definitely should be studied more thoroughly.

LITERATURE CITED

- Stevens, O. A. 1963. *Handbook of North Dakota Plants* (with revision appendix). Fargo, N. Dak. Inst. Reg. Studies. 324 p.



Note

DUCK MORTALITY CAUSED BY WIND. Avian mortality caused by collisions with man-made structures such as tall buildings, TV towers and transmission lines is considered fairly common and has been documented by many observers. This note records natural mortality caused by a bird being blown onto the ground by the wind. At 4 p.m. on May 18, 1967, I was making a breeding waterfowl census on a quarter-section of gently rolling land located 8 miles north of Goodrich, Sheridan County, North Dakota. I estimated the wind to be from the northwest at 20-25 mph with gusts to 30 mph. Visibility was unrestricted. As I approached from the south to within about 75 yards of a small pond, a pair of shovelers (*Anas clypeata*) flushed and flew east, the drake about 15 yards high and the duck about 5 yards high, slightly behind the drake. The duck suddenly lost altitude as she approached a low saddle of ground separating the watershed of the pond from which she flushed and an adjacent small pond. With wings beating normally, the duck struck the ground in a stubble field at a point just below the top of the saddle, bounced once, and rolled end over end for several yards. The drake began circling around the area where the injured duck lay. Just before impact there was no indication of any attempt by the duck to recover lost altitude and avoid hitting the top of the saddle. I picked up the bird, which died a few seconds later, apparently of a broken neck. I believe a gust of wind was directly responsible for the unusual death of this bird. A similar type of mortality was reported by Rate (1957, *Auk* 74:391) who witnessed deaths among redheads (*Aythya americana*) caused by a sudden downdraft which forced them onto the ice of a reservoir. —Harold Kantrud, Northern Prairie Wildlife Research Center, Jamestown, North Dakota 58401.