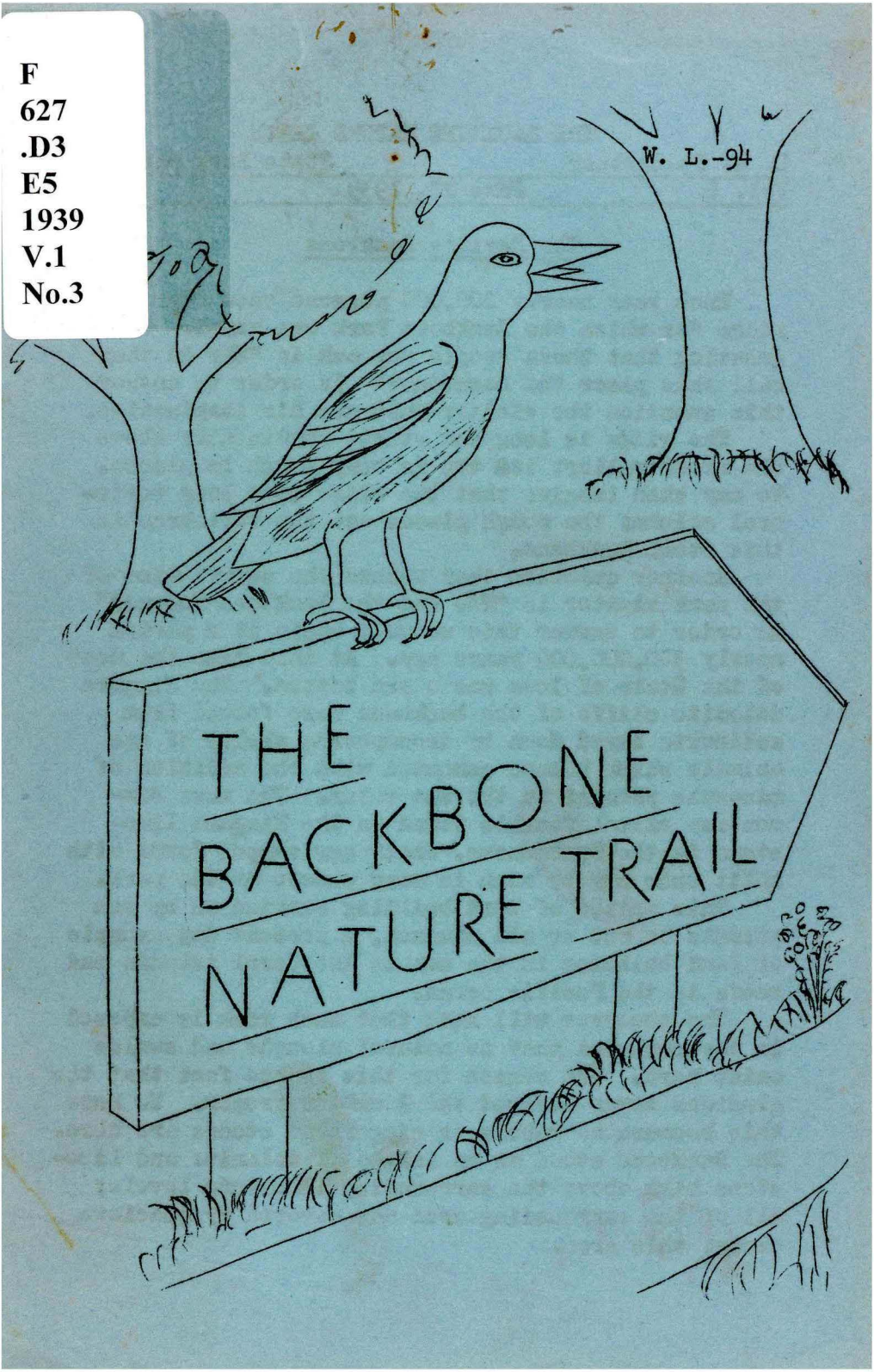


THE BACKBONE NATURE TRAIL
E. B. Polderboer State Park Naturalist
Vol. I June 20, 1939 No. 3

The Devil's Backbone

Each year nearly 200,000 persons pass over the ridge for which the Backbone Park was named. One question that these people may ask is "Why do they call this place the Backbone?" In order to answer this question the visitor must use his imagination.

The ridge is long and stands prominently above the river valley; its top is very rough in places. We may then imagine that the ridge is a long vertebral column; the rough places are the vertebrae in this stone backbone.

Another question that enters the active mind of the park visitor is "How was the backbone formed?" In order to answer this we must begin at a period nearly 300,000,000 years ago. At that time the most of the State of Iowa was a sea bottom. The Niagara dolomite cliffs of the backbone were formed from sediments layed down by decomposing shells of sea animals which became cemented with the addition of minerals present in the sea water. The most common sea animal fossils found in the Niagara limestone is the Pextamarus, their egg shaped forms with split ends may be seen in many places in the park.

This action of land building carried on by sea animals is not at all unusual, a present day example of land building in the sea is the coral islands and reefs in the Pacific ocean.

The observer will note that much rock is exposed in the park and that no natural sloughs and swales exist here. The reason for this is the fact that the glaciers never covered the Backbone proper. We know this because no rubble or niggerhead stones are here. The Backbone stood as an island of dolemite and limestone high above the surrounding limestone levels; all of the surrounding area was covered by glaciers except this area.

A crevice started in the dolemite thousands of years ago and the Maquoketa river followed this crevice and by shifting its course from time to time a wide gulley was formed; parts of rock walls tumbled down and the water of the stream dug holes under the rocks and around the rocks to make the valley deeper. Now this giant gulley makes up the Maquoketa valley as we know it in the park today.

As you walk the Backbone you will see the river on both sides of the high ridge. The river makes a horse-shoe bend just south of the ridge, thus we have a current of water eating out a steep valley on each side of the cliff. Since the dolemite in the Backbone ridge is very hard, as compared with other rock in the area, it did not cut under very deeply, thus it left relatively vertical cliffs, towers, buttresses and chimneys in a narrow ridge high above the river valley on either side.

What the Backbone Has to Offer

1. Fishing for the angler.
2. Picnic areas and tables for the use of thousands of visitors.
3. A State Trout Hatchery containing five kinds of trout.
4. A cave 300 feet long in the north end of the park.
5. Richmond Springs, one of the largest springs in northeast Iowa. They supply the fish hatchery with water and feed small branch of the Maquoketa river as well.
6. A balanced rock, a large limestone boulder perched on a pinnacle just south of the fish hatchery.
7. Cabins, boating and bathing beach on the lower end of Backbone Lake.
8. Backbone ridge; a unique narrow ridge with an abundance of peculiar rock formations and scenery.
9. Abundant wildlife, 30 mammals, 100 summer birds, 2000 insects, 50 fishes, 75 trees and shrubs, numerous herbs, 15 ferns and numerous other forms of life.

10. A Naturalist who will show the public, free of charge, the many interesting plants, animals and features of the park. Self guided nature trails and exhibits are provided by the Naturalist.

Bird Language

Those who take the Wednesday morning 7:00 o'clock bird hikes may learn the language of many of our feathered friends who are not obliging enough to give the observer a long look at them.

As we follow the river valley we may hear the beautiful flute-like "tweedle-dee" of the woodthrush that hides in the underbrush of the maple-basswood timber. On the oak covered ridge the oven bird answers "teacher, teacher, teacher" when we approach the clearings a bluejay cries out "thief, thief" and a crested flycatcher on a dry branch on top of a basswood adds to the insult by crying "twirp, twirp, twirp". From the top of a maple a wood pewee wails out a plaintive "peewee"; a chickadee then demonstrates the correct way to say "pewee" more clearly than the pewee can pronounce it. As we pass a boulder in a shady dell a phoebe flies upon a dead twig and with a wag of its tail identifies itself with a coarse "phobe". Along the river path a kingfisher flies past with a loud rattling "rickeity, rickity, rickity". Upon the Backbone ridge we hear a high pitched "chipp, chipp" and find the chipper to be a small blue fellow perched high on a pine stub; he is the indigo bunting. A towhee perches upon a pine stub and greets the hiker with a "chewink, chip, chip towhee" or perhaps "chip, chip towhee-he". The sweet ascending and descending "cheerup, cheerup" in the maples below the ridge is the rose breasted grosbeak. The clucking sound followed by "kow, kow, kwop,kwop, kwop" is the yellow billed cuckoo; he flies from one maple to another as we look upon the tree tops

from one position on the bluff. These voices and many others may be heard in the early morning.

In the evening other bird voices may be heard. On the edge of the park where the open lands and woods meet the field sparrows bid the sun goodby, with a series of notes that sound like "sweet - sweet - swea - swea - swea - ee". Later the whip-poor-will will repeat its name in continuous syllables and never seems to stop for breath for a period of five minutes or more. As darkness descends the song of the whip-poor-will is interrupted by the wail of the screech owl and the deep voiced "who-hoo-hoo-hoo-oo" of the great horned owl.

How We May Recognize Plant Families

1. The Mint Family

Flowers with two lips, square stems, leaves opposite each other and usually a pungent smell when the leaves are crushed. Look for these characters on horse mint, catnip, self-heal, peppermint and spearmint; they are members of this family.

2. The Daisy Family

Flowers arranged in large numbers upon a platform at the end of a fruiting stem, flowers at the outer edge of the platform appear to have larger single petals. Look at the dog fennel, dandelion, thistle, wild lettuce, ox-eye daisy and sunflower, they belong in this group.

3. The Bean or Legume Family

Flowers are all shaped more or less like the sweet pea flower with a large top petal, two side wing petals and the bottom two petals fused together in a boat shape. The fruit is a bean pod. These plants usually

have nodules on the roots where bacteria are at work taking nitrogen from the air and adding it to the soil in the form of nitrates. Most of these plants are valuable in soil conservation and improvement. Look for these characters on the locust tree, false indigo, beans, peas, vetches, clovers, and alfalfa. The leaflets in this family are either in threes at the end of the leaf stalk or arranged in a series opposite each other on a leaf stalk.

4. The Rose Family

Flowers usually have five petals and five sepals (small guards found under each petal). A bulb shaped receptical is found below the petals. The fruit grows below the petals which fall off when the fruit begins to form. A hard shelled seed is found either in or on the fruit. Members of this family are apples, roses, cherries, plums, strawberries, raspberries, hawthorns and ninebark.

5. The Mustard Family

Flowers have four petals arranged in a form of a greek cross. The family name is Cruciferal which refers to the word crucifix or cross shaped. The seeds are born in pods called silicles. A membrane passes through the center of the pod and the seeds line up on both sides of the membrane. Some members of this family are mustard, watercress, shephards, puree pepper grass, penny wort and radishes.

The July Nature Trail

July 5 - The Lutheran Ministerial Association members enjoyed a hike to the beaver dam. 30 trees and shrubs and 8 ferns were seen on this hike.

July 6 - In spite of record heat 55 persons took nature trails. A fleeting glimpse of a pileated woodpecker was seen by Miss Wilma Menold and Rev. McLain of Strawberry Point during a bird hike up

the Maquoketa valley. A woodcock was flushed but couldn't be found again on this hike.

July 7 - Iowa State Teachers College 6th & 7th grade summer school classes toured the park nature trails and visited the cave, springs and fish hatchery. The unusual happened when a woodchuck and a chipmunk both climbed the same tree so that 30 persons could observe them.

July 8 - While looking for ruffed grouse in the park, 12 ginseng plants were found. The ginseng is very scarce due to intensive digging for the chinese herb markets in years past.

July 9 - 75 people were guided on nature trails, over 300 people used the self guiding trails and the small mammal exhibit attracted many Sunday visitors.

July 10 - The second brood of phoebes hatched under the roof of the park store shelter house.

July 11 - A group of ant lion traps was found under a ledge along a trail near the cabins by Mrs. Ebert, a visitor from Nebraska. These insects were so interesting that she spent nearly one half an hour catching ants for the lions.

July 12 - The ladies from the cabins took a nature tour in the region west of the central picnic. A yellow throated verio prothonotary warbler and a scarlet tanager were among the birds seen on the hike.

July 13 - A tanager's nest was found along the trail leading from the fish hatchery to the mouth of the Spring Branch.

July 14 - 31 Boy Scouts from Galena, Illinois took the self guided trails in the park. They were greatly interested in the native pines and yews growing in the park.

July 15 - Melvin Hoffman reported seeing five beavers along the south shore of the Lake above the dam about 100 rods. The mother beaver and young beavers live on the lake shore; dad beaver lives alone on the river during the summer.

July 16 - New metal signs to be placed on trees along the nature trails, in place of cards used on some trails; arrived today. They are to be placed on the Backbone, catacombs, Richmond Springs and Fish Hatchery trails.

Schedule of Hikes

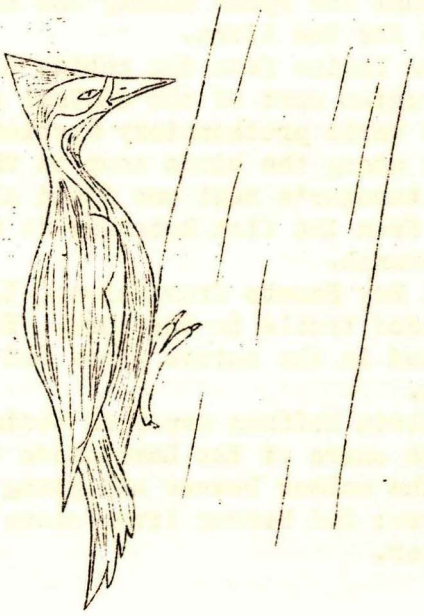
Daily hikes will be taken from the picnic grounds each day at 1:30 p.m. except on Mondays.

Each Wednesday at 7:00 a.m. during July and August bird trips will be conducted from the central picnic area.

Each Friday at 9:00 a.m. during July and August plant hikes will be conducted from the Central Picnic Area.

Special hikes or tours may be arranged with the Naturalist.

The Iowa Wildlife School will be at McGregor July 31 to August 11. The school will be held at Backbone State Park on August 9.



"The Iowa State Conservation Commission, and the Works Progress Administration - Division of Recreation, in cooperation with the Iowa State College, present this circular for the information of the guests of Backbone State Park.

"It is prepared for your information in order that the recreational and educational opportunities of an unspoiled primitive area may be more fully appreciated, utilized and protected."
