

RATTLESNAKES IN EARLY WISCONSIN

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The first mention of rattlesnakes (*serpens sonnettes*) in Wisconsin was by Hennepin (1903:222) during his voyage on the upper Mississippi in 1680. Le Sueur (1902:184) in 1700 reported it was dangerous to enter the caverns near Lake Pepin because of rattlesnakes. He saw some which were six feet long, but generally they did not exceed four feet.* According to Owen (1852:57) they inhabited the bluffs below Lake Pepin.

While descending the lower Wisconsin River in 1814, Anderson (1882:192) allowed his men to stop at sand banks to collect turtle eggs and kill rattlesnakes. These he thought beautiful with their bright golden color crossed with black markings. In descending the same stream, Marryat (1839:105) considered it dangerous to wander far from the bank because of the rattlesnakes. He believed that there was probably no place in America where the two species of rattlesnakes were larger and more numerous than in Wisconsin. Brunson (1872, II:172) in 1843 made an overland trip from Prairie du Chien to La Pointe, his route running to Cashton, Tomah, Black River Falls, and Chippewa Falls (McManus, 1919). Before reaching the Black River his party saw both species of rattlesnakes, and between the Black and Chippewa Rivers, a few "massasaugers" only. They saw none beyond the Chippewa.

SPECIES

Wisconsin has only two species of rattlesnakes, the timber rattlesnake (*Crotalus horridus horridus*) and the massasauga (*Sistrurus catenatus catenatus*). The timber rattlesnake, also known as the banded, yellow, mountain, and rock rattlesnake, is rarely found far from rock outcrops, and in Wisconsin rock rather than timber would be a more appropriate name. Although Pope (1930:282) reports western diamondbacks (*Crotalus atrox atrox*) in Vernon County in 1928, these were probably timber rattlesnakes with aberrant markings, or the progeny of an escape.

* Evidently the lengths are estimates. The French foot was 12.789 inches.

The massasauga* was also known as the prairie, and spotted rattlesnake. Its habitat is marsh, low prairie, and the low banks of streams. Bunnell (1897:323) records that in the region of the upper Mississippi the massasauga was quite local in distribution, being found in the swampy meadows along creeks; it occupied the bottoms of the Mississippi River only above flood level. Less resistant to the ecological changes produced by man than the timber rattlesnake, it is now the rarer of the two species. The *Sistrurus catenatus kirtlandi* Holb., a dark form said to have occurred in Walworth County (Higley, 1889:161), is a synonym.

SIZE

The maximum length of the timber rattlesnake is six feet two inches (Klauber, 1956:149). George Knudsen has informed me that he captured a specimen near Gotham in the spring of 1965 which was four feet five inches. Breckenridge (1944:159) mentions a "very large rattler," taken in southeastern Pierce County in 1929, which was four and one-half feet long, with fifteen rattles and a button. A supposed diamondback, killed near Viroqua in 1928, was four feet, ten and one-half inches (Pope, 1930:282). The largest rattler ever captured by Elmer Keitel in Sauk County was close to five feet. Even a snake four feet long is considered large (MacQuarrie, 1941:83). The longest rattler found by Messeling (1953:23) was four feet three inches, and the greatest number of rattles 23. A rattler five feet long with 26 rattles was once reported from Alma (Alma, 1878:2). The number of rattles is indicative only of age. A new rattle is grown each time that the skin is shed, which may be two or three times a year.

The massasauga is much smaller, the maximum length being 37.5 inches (Klauber, 1956:144). The usual length is about 24 inches. A female captured near Nelson, Buffalo County, was 23 inches (Breckenridge, 1944:152). Two specimens from Portage were 22 and 26.5 inches (Pope, 1926).

ABUNDANCE

The data available give only a faint idea of the abundance of rattlesnakes in the last century. At Dodgeville, 48 timber rattlesnakes, all but one being young, were once found under a large rock and killed (Dodgeville, 1878). Two parties killed 42 at Devil's Lake (Reedsburg, 1872). On the ridge near Ash Creek, town of Orion, Crawford County, 38 were killed at a den (Richland, 1869).

* Derived from a branch of the Chippewa living on a stream of this name on the north shore of Lake Huron. There are many variants in the spelling. According to F. W. Hodge (Handbook of Indians north of Mexico) the proper spelling is missasauga.

Three men killed 66 rattlesnakes in a meadow in the town of Harmony, Vernon County (Viroqua, 1882). During a rattlesnake and spermophile hunt at Gilmanton, 99 snakes were killed (Alma, 1962). The Cooke family, which settled near Gilmanton in 1856, kept a careful record of the number: 150 rattlesnakes killed during the first year (Cooke, 1940:286). Messeling (1953:23) stated that he collects annually for the bounty about 1000 rattlesnakes, counting old, young, and unborn.

Massasaugas, in 1835, were abundant in the marshes which then existed on the site of the city of Milwaukee. Of that time Olin (1930:214) wrote: "The first day we mowed we killed any quantity of rattlesnakes. I will not say a thousand for fear some one will think it a snake story." In 1845, they "swarmed" on the prairie of northeastern Walworth County (Burlington, 1882). When Rodolph (1900:354) settled in the town of Gratiot, Lafayette County, snakes were more abundant than he had ever seen them elsewhere. He killed hundreds of rattlesnakes. Conrad Colipp when he came to Portage in 1849 killed "thousands in the spring and summer, often averaging a few hundred a day" (West. Hist. Co., 1880:885), in which case he must have done little else than kill snakes. While breaking prairie near River Falls, two men killed 39 rattlesnakes in one day (River Falls, 1873).

The following data on the number of snakes bountied in Crawford County, furnished by Milo C. Cooper, County Clerk, show that the timber rattlesnake is still by no means rare:

Year 1964:	4,382 mature snakes
	6,086 young or unborn
Year 1965:	4,086 mature snakes
	7,952 young or unborn.

YOUNG

The young are born in early fall from eggs held within the female. A timber rattlesnake, four feet in length, killed on the lower Wisconsin River on August 14, 1820, was opened by the Indians, who removed eleven young (Schoolcraft, 1821:363). A massasauga found at Portage on July 12, 1926, contained ten embryonic eggs (Pope, 1926). A female taken near Nelson, Wisconsin, gave birth on August 6, 1933, to eight young which were slightly under eight inches in length. A second female taken in the same locality on July 22 contained five young about 6.75 inches long (Beckenridge, 1944:152). The young when born have a button on the end of the tail. Rattles develop later. For September 9, 1875, there is a report of nine young massasaugas on display in Watertown (Watertown, 1875). Four young were said to have entered the mother's mouth

when closely pursued, and to have been killed simultaneously with the mother. Carver (1838:297). who was in Wisconsin in 1766, affirms that he once killed a female containing seventy fully formed young which entered her mouth when pursued. That the female swallows her young when in danger is an old and persistent myth.

HABITS

In denning, the timber rattler is not exclusive in its associations. It is recorded for Licking County, Ohio: "Dens were found containing very discordant materials, twenty or thirty rattle-snakes, black-snakes and copper-heads, all coiled up together" (Howe, 1847:297). At the mouth of a den in Richland County in May, 1874, rattlesnakes and bull snakes (*Pituophis*) were living together (Richland Center, 1874). Messeling (1953) found in southwestern Wisconsin the same den occupied by seven or more species of snakes, along with skunks and raccoons. In a den in Sauk County, opened by blasting, Elmer Keitel found 35 snakes, rattlers, bull snakes, garter snakes, and other species, well intermingled (MacQuarrie, 1941:83).

George Knudsen has informed me that in Wisconsin the massasauga winters in decayed stumps, foundations of deserted buildings, mammal burrows, and piles of old slabs. In Pennsylvania it is said to hibernate in fissures in the earth, burrows of mammals, beneath heavy moss, and under overturned trees (Miller, 1938:17).

Rattlesnakes disperse in summer. According to Klauber (1956:402), they sometimes wander two miles from the den, but usually less than a mile. Experts in Wisconsin think that the timber rattlesnake usually travels less than 1000 feet from the winter den.

Neither species always gives warning by rattling, nor is it necessary to be within two or three feet of the reptile to produce it. Messeling (1953:22) reports that about half the time the rattlesnake gives no warning before striking, and he has known them to rattle when distant twenty feet. The rattle of the massasauga is weak. When McKenney (1868:181) was at Portage, he likened the sound to the ticking of a watch. The rattle is more like the buzz of an insect.

Rattlesnakes are excellent swimmers. When Pond (1908:335) descended the Wisconsin in September, 1740, he wrote: "As we Descended it we saw Maney Rattel Snakes Swimming across it and Kild them." At the large den on Mount Trempealeau, the yellow rattlesnakes swam from it in spring and returned by the same method in fall (Brunson, 1855:114).

Rattlesnakes can climb well. They have frequently entered buildings in Wisconsin, even reaching the second floor. Audubon started considerable controversy when he painted a rattlesnake in a tree

containing the nest of a mockingbird. Examples of these snakes in trees and shrubs are not rare. Many times Keitel has found timber rattlesnakes in trees where presumably they had gone for birds (MacQuarrie, 1941). George Knudsen, who has caught many hundreds of timber rattlesnakes, has never found one in a tree.

A peculiar habit which does not appear in the scientific literature is the rattlesnake's tendency to go over an obstruction rather than around it. Pope (1923:25) kept some timber rattlesnakes in a cage two feet high. When the lid was removed and a snake could place its head over the edge, it could draw up its body. Garland (1917:33), lived on a farm near Onalaska, La Crosse County, where timber rattlesnakes were plentiful. One of the largest ever seen on the farm was killed in the act of climbing over a barrel in the farmyard. He wrote: "I cannot now understand why it tried to cross the barrel, but I distinctly visualize the brown and yellow band made as it lay an instant just before the bludgeon fell upon it, crushing it and the barrel together." Thomas Harry, who came to Racine County in 1849, saw massasaugas crawl over his men resting on the ground while breaking the prairie (Lake City Publ. Co., 1892:264). Two Germans hired to dig and curb a well on the old Frost farm near the outlet of Lake Monona, at Madison, reported a rattlesnake approaching from behind, had crawled up the back and over the shoulder of one of the men, presumably reclining, to disappear in the tall grass (Brown, 1934:8). There are several instances of rattlers crawling to the tops of beds in log cabins.

FOOD

Rattlesnakes feed principally on small mammals and birds. Little specific information exists on the food in Wisconsin. A large timber rattler captured in Pierce County had swallowed a fully grown gray squirrel (*Sciurus carolinensis*) (Breckenridge, 1944:159). The white-footed mouse (*Peromyscus*), cottontail (*Sylvilagus*), and young woodchuck (*Marmota*) (obtained by entering the burrow), are mentioned by Jackson (1961:117, 129, 219). Messling (1953:21) lists gophers (*Citellus*), mice, small birds, frogs, and blackberries. The inclusion of blackberries is inexplicable unless present in the prey. The very young feed on flies. According to Hoy (1883) the massasauga subsisted almost exclusively on meadow voles (*Microtus*). Other writers think frogs the common food. George Knudsen has known them to eat frogs, voles, short-tailed shrews (*Blarina*), and small snakes.

ENEMIES

Rattlesnakes have few natural enemies. There is an old tradition of enmity between the white-tailed deer and the rattlesnake, al-

though few encounters have been observed. This may be because of the largely nocturnal feeding habit of the rattlesnake, especially in hot weather. Seton (1929:288) mentions a hunter seeing in Coahuila, Mexico, a deer cut a rattlesnake to ribbons by jumping upon it several times with all four feet. A doe attacked a rattlesnake in Pennsylvania in the same way (Aldous, 1938). McDowell (1950:46) would not commit himself on the question of whether or not deer would kill snakes, but he did affirm that deer in pens showed the greatest terror towards snakes of all kinds. A piece of rope manipulated to simulate a snake would prevent a buck from charging when a club would not. Bunnell (1887:329) mentions that a deer would leap high into the air and, with its four feet bunched, come down on the rattlesnake. Keitel (MacQuarrie, 1941:83) felt certain that deer attack rattlers, although he never witnessed the act. He had, however, found many snakes with gouges in the backs which could have resulted only from the hoofs of a deer.

Badgers in South Dakota, according to Jackley (1938), will attack and eat rattlesnakes, especially during hibernation. A similar observation has not been made in Wisconsin, where badgers were once plentiful and are still not rare.

It is probable that birds are minor enemies. Bunnell (1897:326, 329) states that while rattlesnakes of all sizes were being killed at a den at Homer, Minnesota, "falcons or swift hawks of the Mississippi bluffs" would swoop down and bear off writhing snakes. The peregrine falcon (*Falco peregrinus*) is not known to capture snakes. Raptors, however, are greatly attracted to sick or injured animals. Bunnell also mentions eagles and hawks as enemies.

In 1873, a man hauling stone from a bluff at Trempealeau observed a domestic turkey gobbler battling four rattlesnakes, two old and two young ones. He killed the young snakes, but the old ones escaped. The turkey was completely exhausted (Trempealeau, 1873). Several accounts in the literature report wild turkeys attacking, if not killing, rattlesnakes.

Man has been the greatest enemy of the rattlesnake since the first European set foot in Wisconsin. He also imported an able assistant, the hog. Keitel has said that although he has never seen a pig killed by a rattler, he has often seen a hog kill and eat one (MacQuarrie, 1941:83). James Allen Reed, when he settled at Trempealeau in 1840, found the place so infested with rattlesnakes that it was called "The Rattle Snake Hills." The Winnebago called it Wa-kon-ne-shan-ah-ga, meaning "the place of the sacred snakes on the river." Bunnell (1897:184, 327) informed Reed of a breed of hogs noted for their skill in hunting snakes, some of which Reed brought from Prairie du Chien. In a short time the number of rattlesnakes was greatly reduced. Bunnell mentions that a hog, lean

from a scanty winter diet, rushed among the numerous snakes at a den. After killing several, the hog instead of eating them staggered away and took refuge in a mud hole. On recovery, she showed no further interest in rattlesnakes. The hog's lack of fat had enabled the snakes to inject their venom into the blood vessels, although it is generally assumed that hogs are immune to the venom since the normal layer of fat prevents the fangs from reaching the circulatory system.

It was not uncommon in Grant County at one time to find a rattler under an unbound bundle of wheat, or for a man loading the wheat to find that a snake had been pitched to him along with the bundle. When hogs became numerous, the snakes were largely destroyed (Holford, 1900:49). Green River, in northern Grant County, was once a good trout stream where the timid were warned not to frequent its banks until the hogs had exterminated the snakes (Platteville, 1854).

The Norwegian settlements in Dane, Jefferson, and Waukesha counties were visited by Lovenskjold (1924:88) in 1847. He wrote: "In some places, especially where there are large sloughs, there are poisonous snakes, but they are reduced in number year by year, as the land is being cultivated. Their worst enemy is the hog, and as the settlers keep large numbers of hogs because it costs but little to feed them in the summer, they devour the snakes wherever found."

Killing and eating rattlesnakes is not confined to the semi-feral animals which comprised the stock of the first settlers.

LETHAL EFFECTS OF THE VENOM

Many writers on Wisconsin have expressed surprise, in view of the abundance of rattlesnakes, that so few people have been bitten and that only a very small number have died. Of 70 Wisconsin cases which I have found in the literature before 1880, only 12 people were reported to have died. Nearly all the deaths occurred in areas occupied by the timber rattlesnake. The massasauga is so small that the amount of venom injected was rarely fatal. Some of the fatal cases are mentioned under the counties. Of the people bitten 30 were men, 29 children, and 11 women. The fatal cases comprised 5 men, 4 children, and 3 women. Six people were hospitalized for snake bites in Wisconsin in 1958 and 1959, with no deaths (Parrish, 1965). No fatalities occurred in Wisconsin during the ten-year period 1950-59, although the estimated number of snakebites was 15 annually.

Probably few large domestic animals fall victim to rattlesnakes. If the venom rarely kills a human being, the chances of horses and cattle dying are slender. Fonda (1868:281) relates that during the

removal of the Winnebago, just before making camp on the main Baraboo ridge on May 15, 1848, his horse was bitten on the nose by a rattlesnake. He thought that the horse, its head swelled to twice normal size, would certainly die. An old Frenchman offered to cure it. The next morning the horse was well, but he learned that all the Frenchman had done was to look at the horse and talk to it.

Information on the circumstances under which an animal died is meager, no mention being made of a snake having been seen or killed. In four cases where cattle were found dead, the deaths were attributed to snake bite. A colt 18 months old was found dead in the road soon after being bitten by a snake (Alma, 1877.2). A mule recovered from a bite, supposedly as a result of treatment with snakeroot (Augusta, 1878.1). One horse nearly died from a bite (Baraboo, 1871), and another succumbed twelve hours after being bitten (Prescott, 1866). A horse, bitten beside the Platte River in Grant County, swelled to an enormous size, but was cured with sage tea and milk (West. Hist. Co., 1881). Cooke (1940:286) says that when a fine horse was bitten on the nose, his father made it drink a quart of whiskey and it recovered.

ANTIDOTES

The early remedies were based on folklore. Most of the physicians of the period were on the same medical level as the country people, their treatments doubtfully efficacious. Often it is surprising that the patient survived the treatment rather than the snake's venom. By far the most popular treatment was the internal use of alcohol. Its general use must have been intensified by the report of Dr. Burnett (1854), who declared that because the venom was a depressant, the best antidote was alcohol, a powerful stimulant. His findings were widely copied. Many statements testify to the fact that regardless of the amount of alcohol taken, intoxication did not follow.

Some of the numerous external antidotes used in Wisconsin were: salt and onions; a mixture of gunpowder, salt and egg yolk; gall of any species of snake; black mud and tobacco; clay; tobacco applied to the wound and also eaten; freshly killed chicken; tincture of iodine; ammonia; whiskey, saleratus (sodium bicarbonate), and cornmeal; and alum taken internally. Dr. Ward's treatment for a child bitten at Madison was a poultice of wood ashes and copious draughts of whiskey punch. Since the child recovered, the treatment was recommended highly (Madison, 1855). The various snakeroots, of which *Polygala senega* was so popular elsewhere, were rarely used. Sometimes a slit was made in the wound, or a large piece of flesh cut from it, and suction applied by mouth. While at Portage, McKenney (1868:188) was told that the Indians ob-

tained immunity by rubbing over their bodies the dried, powdered flesh from the neck of the turkey vulture.

A man at Fennimore, bitten by a massasauga while binding grain, underwent heroic treatment. When questioned by Bishop Kemper, he replied that after reaching the house he drank half a pint of alcohol and camphor, then a quart of whiskey, followed by a quart of pure alcohol, and all this with no symptoms of intoxication. The following morning he drank a pint of alcohol and swallowed a quarter pound of finely cut tobacco boiled in milk (Lancaster, 1866). In a way, it is disappointing that he did not die.

The use of a tourniquet is of no value. If incision and suction are employed immediately, about 40 percent of the venom can be removed, but they are useless if more than one-half hour has passed since the snake bite. The only really effective treatment is with antivenin (Hyde, 1964).

RANGE

The formal papers on the reptiles of Wisconsin give only occasional places where rattlesnakes have been found. Most of my data on distribution has come from newspapers. Unfortunately the information is often insufficient to determine the species. Usually it is possible to determine species from the dimensions given for the snake, or from the habitat. Because the timber rattlesnake never occurred east of the longitude of Madison, any rattlesnake mentioned east of this line was the massasauga. Approximately 275 references to rattlesnakes, mostly before 1880, have been accumulated by the author. To cite all the references to the several counties would be superfluous. Only a few locations are spotted on the map (Fig. 1), but every reference is included for the border of the range. Maps showing the recent distribution occur in Knudsen (1954.1) and Spaulding (1965).

Adams.—A timber rattlesnake with eight rattles was killed on the west side of Hixson Bluff (Friendship, 1869), now known as Rattlesnake Mound, about five miles south of the village of Adams.

Buffalo.—Ira Nelson came to the town of Nelson in 1855. Among the first deaths was that of his daughter, who died from the bite of a rattlesnake (Curtiss-Wedge, 1919:98). Records of the timber rattlesnake exist for the towns of Alma, Dover, Gilmanton, Glencoe, and Mondovi. One killed in a field in Little Bear Creek Valley was reported to be six feet in length and four inches in diameter. The species was considered "quite scarce in this county" (Alma, 1874). A rattlesnake five feet long was killed in a vacant lot in the village of Alma (Alma, 1878.1), and one in a woodshed (Alma, 1878.4).

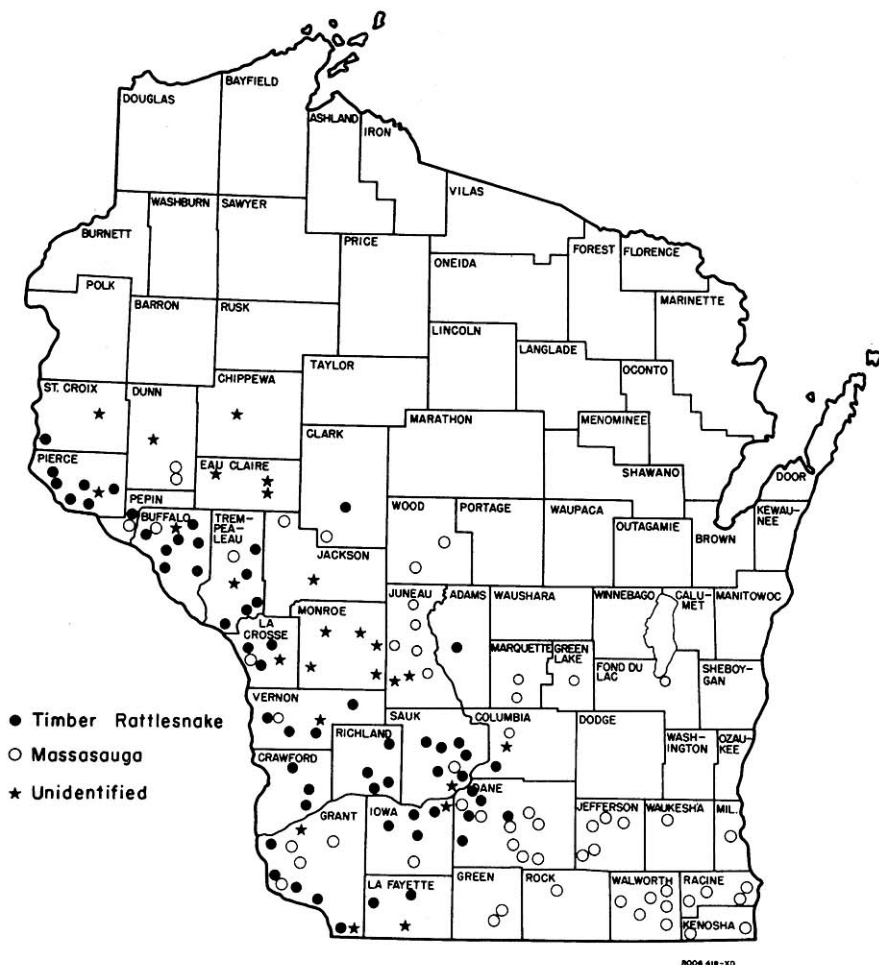


FIGURE 1. Range of the Timber Rattlesnake and Massasauga.

Seventeen rattlesnakes were killed in an oatfield, in a space of 10 acres, near Mondovi (Mondovi, 1877.1).

Two specimens of the massasauga were taken at Nelson, town of Nelson (Breckenridge, 1944:152).

Chippewa.—Records for the town of Eagle Point show several persons to have been bitten, probably by massasaugas (Chippewa Falls, 1872, 1876).

Clark.—Only one reference was found. On September 17, 1880, an "enormous" rattlesnake, 44 inches in length, was killed in Neills-

ville (Neillsville, 1880), the only one ever seen in the vicinity. The length shows that it was a timber rattlesnake.

A road-killed massasauga was found in the town of Dewhurst by George Knudsen. It is quite common in the southwestern part of the county.

Columbia.—Massasaugas were numerous, with many accounts of them by travelers who crossed at Portage. In 1926, Pope (1926) obtained two specimens which had been captured near by. One, killed on October 9 along the canal in Portage (Portage, 1869), gives some indication of the lateness of hibernation. Another was killed in a barn in Portage (Portage, 1870).

The timber rattlesnake occurred along the Wisconsin River. On September 26, 1886, a woman thrust her hand into a rock cavity in the town of Westpoint, expecting to find nuts stored by squirrels, and was bitten on a finger by a rattlesnake four feet long but with only one rattle (Prairie du Sac, 1886). Another killed in the same town had ten rattles (Prairie du Sac, 1877). A man was bitten in the Baraboo Bluffs in the town of Caledonia (Portage, 1878).

During a period of high water, while men were working on an improvement of the Wisconsin River at the mouth of the Baraboo River, town of Caledonia, they killed 14 rattlesnakes. Other people killed 12 in the same locality (Prairie du Sac, 1880).

Crawford.—Timber rattlesnakes have been found near Steuben (Pope and Dickinson, 1928:71), and in the towns of Utica and Wauzeka (Messeling, 1953).

Dane.—The timber rattlesnake occurred from Madison westward. James A. Jackson (1944:27), who came to Madison in 1853, encountered while walking in the woods, locality not stated, a coiled rattlesnake, sounding its rattle. Alvin R. Cahn, a student in zoology in the University in 1914-1917, told me that while canoeing along Maple Bluff, he found about a "peck" of rattlesnake bones in a cavity exposed by a fall of rock. Apparently a slippage of rock at some time had closed the cavity in which the snakes were hibernating. In the western part of Section 3 town of Dane, is Rattlesnake Bluff, so called from the former abundance of rattlesnakes (Cassidy, 1947:200). Following the battle of Wisconsin Heights in 1832, a wounded soldier was laid on the ground at night at East Blue Mounds, where the rattlesnakes gave warning (Parkinson, 1856:361). In 1879, six large "yellow" rattlesnakes were killed at Black Hawk Bluff (Lookout), town of Roxbury. There are other records for the towns of Black Earth and Vermont.

The marsh which formerly covered most of the area between the Yahara River and the capitol at Madison, contained massasaugas.

Several adults and children were bitten, but none died. On May 24, 1881, a large massasauga was killed in front of the post office in the village of Black Earth (Black Earth, 1881). This species occurred also in the towns of Burke, Cottage Grove, Dunkirk, Mazomanie, Oregon, Rutland, Springfield, Sun Prairie, and Westport. They were killed in the county at least as late as 1892 (Madison, 1892, 1892.1).

Dunn.—With one exception, the records are for the southeastern part of the county, and must pertain to the massasauga. Davis (1911:170) making a preliminary railroad survey in 1857, at Elk Creek found abundant a "variety of prairie rattlers." Near Falls City, town of Spring Brook, 35 rattlesnakes were once killed, the heavy rains having driven them from the swamps (Menomonie, 1879). When Eugene Wiggins arrived at Falls City in 1855, these snakes abounded (Curtiss-Wedge, 1925:238). A man from Menomonie, hunting prairie chickens, shot a rattlesnake which was pointed by his dog (Menomonie, 1877).

Eau Claire.—A rattlesnake was killed in Augusta in 1870 (Augusta, 1870) and later two people were bitten near this village (Augusta, 1878, 1880). A child and a woman were bitten at Eau Claire (Eau Claire, 1859, 1872). There were no fatalities.

Fond du Lac.—Haas (1943:38), after he purchased a farm in the town of Marshland in 1847, wrote that he had not met anyone who had seen a rattlesnake. A large one, however, was killed a mile east of Fond du Lac in June, 1875, undoubtedly a massasauga. There was the comment: "This is a rare occurrence, as a rattlesnake is seldom found in this section of the state" (Fond du Lac, 1875).

Grant.—Timber rattlesnakes, especially, were abundant. On August 24, 1845, on an island at Potosi, when a member of Moore's (1946:39) party killed a rattlesnake he was informed that the woods were full of them. There are several place names. Snake Diggings took its name from a cave at Potosi which contained rattlesnakes. A creek and a mound in the town of Hazel Green bear the name Sinsinawa,* meaning rattlesnake. Rattlesnake Creek rises in the northern part of the town of Bloomington and enters Grant River 2.5 miles south of Beetown. An early account reports

* The origin of the name is uncertain. The word does not occur in the languages of the Sioux, Chippewa, Winnebago, Fox, Sauk, or related Kickapoo. The Fox occupied the area prior to commercial lead mining. Very probably it is a corruption of the Menomini name for the rattlesnake, sināwāta. Schoolcraft (il. c. p. 346) used the spelling Sissinaway for the mound. Mr. Buford Morrison of the Horton Agency, Horton, Kansas, obtained the name Shen-weh-ah-gat from the resident Kickapoo. Mr. Bernhard Richert of the Shawnee Agency, Shawnee, Oklahoma, has informed me that the Sauk and Fox word for rattlesnake is Na'-to-we'-wuh, and Kickapoo, Na-to'-we'-a.

going from Beetown to Cassville, down Rattlesnake Valley and across the Massasauga (Lancaster, 1844).

The timber rattlesnake has been reported from the towns of Cassville, Hazel Green, Potosi, Waterloo, and Wyalusing.

The massasauga was found in the towns of Cassville, and Fennimore, and must have occurred in others. Doubtless it was a snake of this species which bit a farmer on Balke's Prairie, town of Bloomington (Lancaster, 1848). Undetermined species are mentioned for the towns of Marion, South Lancaster, Wingville, and Woodman.

Green.—Massasaugas, in 1836, raised their heads through the puncheon floor of the cabin of David Bridge, town of Jefferson. A Mr. Chadwick plowed a furrow 20 inches wide from his cabin to the schoolhouse so that his children would not become lost in the prairie, and: "On this furrow the children walked until the snakes, pleased with the soft ground, took up their abode there, and then they walked in the high grass by its side" (Bingham, 1877:167, 171). In 1875 A. W. Goddard, in Monroe, advertised for sale mens' heavy brogans which were proof against rattlesnakes (Monroe, 1875).

Green Lake.—When Richard Dart came to Green Lake in 1840, rattlesnakes were plentiful (Dart, 1910:255).

Iowa.—Timber rattlesnakes have been found in the towns of Arena, Dodgeville, Highland, and Wyoming, where they are still common locally. Specimens of the massasauga have been collected at Mineral Point (Pope and Dickinson, 1928:70).

Jackson.—Three people, two of them children, were bitten near Black River Falls (Black River Falls, 1867, 1871). Robert Ellarson has informed me that the massasauga is still common along Hall Creek, northwest of Merrilan.

Jefferson.—The massasauga has been recorded for the towns of Lake Mills, Milford, Sumner, and Watertown. One was found under a bed in Thure Kumlien's cabin near Bussyville (Main, 1943:38). S. W. Faville informed Hawkins (1940) that about 70 massasaugas were killed about 1850 at a rocky den within a mile or two of Faville Grove as they were coming out of hibernation.

Juneau.—Except for the southwestern corner, the remainder of the county was distinctly habitat of the massasauga. It occurred in the towns of Lemonwier, Lisbon, Orange, and Necedah. Bertha Thomson (1933:418) wrote of the vicinity of Necedah when a child: "The rattlers were usually in the leaves, or old stumps and logs, where the blueberries grew." Robert Ellarson found a dead

massasauga in the road in the town of Finley, near the county line. It is common along the Yellow River.

Rattlesnakes, species undetermined, occurred in the towns of Lindina and Plymouth.

Kenosha.—A boy, about 20 months of age, living south of Kenosha, was bitten on the foot by a "prairie" rattlesnake and recovered (Southport, 1842). A. M. Jönsson wrote on December 9, 1843, from the town of Wheatland that the rattlesnakes were by no means as large and venomous as they were thought to be in Sweden (Stephenson, 1937:119).

La Crosse.—Both species occurred, but little is recorded of their distribution. Haines (1848) in September, 1848, killed an "enormous" rattlesnake on a bluff of the Wisconsin shore opposite the mouth of Root River, Iowa. In 1852, Ethan Roberts was told of the attractiveness of the county, including "the large yellow rattlesnakes in the rocks and of massasaugas on the marshes" (Western Hist. Co., 1881.1:465). Although the timber rattlesnake was common, the only localities mentioned are La Crosse and Green's Coulee near Onalaska (Garland, 1917:32, 33, 49). Larson (1942:25), living on a farm in Jostad Coulee in the northern part of the town of Hamilton, never saw more than three rattlesnakes.

Lafayette.—Rodolph (1900:354) settled in the town of Gratiot in 1834. He wrote: "Another annoyance was the great abundance of snakes, particularly rattlesnakes. I have never before or since even in Florida or Louisiana seen anything like it." Brunson (1900:290) mentions that in winter a rattlesnake in a cave in West Platte Mound, near the county line in the town of Belmont, was crawling about as in summer. A rattlesnake three feet long with six rattles was killed near Darlington (Darlington, 1873). Smith (1838:25) traveled south from Mineral Point to the Pecatonica, where, probably in the town of Willow Springs, he found on the banks of the river a "brown and yellow" rattlesnake "*(Crotalus horridus)*" between four and five feet long, killed an hour or so previously.

Marquette.—On August 14, 1817, on ascending the Fox River and arriving at Buffalo Lake, Keyes (1920:351) was informed that rattlesnakes abounded in the country. Muir (1913:110) came to the county in 1849, and while living on the farm at Fountain Lake (now Ennis) in the town of Moundville, saw only one rattlesnake. He mentions seeing a copperhead, a species never known to occur in Wisconsin.

Milwaukee.—In the early days hundreds of massasaugas were killed on what was then a marsh at the foot of Mason Street in

Milwaukee (Olin, 1930:214). According to Haas (1943:38), they were common in the Milwaukee region. Mrs. Carpenter (n.d.) arrived in 1845. In going to school at Brookfield in the warm days in spring it was common to see massasaugas on the ends of the logs forming the corduroy road across a long swamp.

Monroe.—Cases of snakebite were reported from the towns of Glendale, Lafayette, Le Grange, and Oakdale. A woman in the town of Leon killed at her doorstep a rattlesnake with nine rattles (Sparta, 1881).

Pepin.—In the town of Frankfort, timber rattlesnakes occurred in the bluffs, while massasaugas abounded in the bottoms between Dead Lake, at the northeastern corner of the town, and the Chipewa River (Curtiss-Wedge, 1919:1031).

Pierce.—There are sixteen references to rattlesnakes in the county. The timber rattlesnake occurred in the towns of Clifton, Hartland, Isabelle, Oak Grove, Trenton, and Union. The locality and species of rattlesnake found along Rush River in a cabin belonging to Harvey Seely are uncertain (River Falls, 1859.1). At that time, a Harvey G. Seeley lived in the town of Salem, the only clue to the locality.

Racine.—The massasauga was formerly numerous. Two specimens collected by Dr. Hoy at Racine, about 1858, are in the U.S. National Museum (Pope and Dickinson, 1928:70). There are records for the towns of Burlington, Dover, and Mount Pleasant.

Richland.—Timber rattlesnakes were numerous in the northern part of the town of Orion and in the town of Buena Vista. In 1889 they were plentiful in the Pine River Valley (Dodgeville, 1889). Jackson (1961:117) killed one near Gotham, where it still occurs. One said to have been five feet in length was killed in the town of Westford (Reedsburg, 1874).

Rock.—The massasauga must have been more numerous than the single record indicates. When Sayre (1920:424) came to Fulton in 1849, his fear of rattlesnakes vanished after killing one at the bridge at Stebbinsville, a discontinued post office in the northern part of the town of Porter.

St. Croix.—The northern limit of rattlesnakes was in this county. Breckenridge (1944:154) in 1939 examined two sets of rattles of the timber rattlesnake in the possession of a farmer in the town of Troy, and taken years before. A man in Emerald captured a rattlesnake which refused food of any kind during its captivity of eleven weeks (Hudson, 1880).

Sauk.—Both the timber rattlesnake and massasauga were common at the time of settlement (Bühler, 1923:326; Canfield, 1870:40). The timber rattlesnake was especially numerous at Devil's Lake and along Honey Creek, town of Honey Creek. The first year that the Philip P. Grubb family lived in the town of Freedom, they killed over 60 rattlesnakes (Cole, 1918:583). J. B. Fowler, on August 3, 1877, shot a rattlesnake five feet three inches long. His attention had been called to the snake by his cattle circling the place where the snake was coiled (Baraboo, 1877.1).

The massasauga occurred on the prairies, and especially along Otter Creek. In the town of Sumpter Knapp (1947:14) was taught how to tear down an old rail fence and kill rattlesnakes.

Trempealeau.—There are 18 early references to rattlesnakes in the county. The timber rattlesnake was particularly abundant at Mount Trempealeau. It is recorded for the towns of Caledonia, Gale, Pigeon, and Preston. The snake mentioned for Tamarac (Trempealeau, 1873.3) may have been the massasauga. The latter occurred in the Trempealeau Valley, but there were no timber rattlesnakes (Heuston, 1890:52-54).

Vernon.—In 1859, both species occurred in the town of Harmony (Button, 1955:112). The timber rattlesnake was recorded for the towns of Forest, Liberty, and Sterling, but most frequently from the town of Kickapoo.

Walworth.—The massasauga was abundant in the town of East Troy (Burlington, 1882). Dwinell (1874), who settled on Spring Prairie, town of Spring Prairie, in 1836 killed seven rattlesnakes the first summer. They disappeared about 1850. During the harvest season, 18 were killed on a farm in the town of Bloomfield (Lake Geneva, 1876). It is mentioned also for the towns of Delavan and Lafayette. Specimens have been taken in the town of Richmond (Pope, 1930:277).

Waukesha.—Unonius (1950:297) killed two rattlesnakes while cutting wild hay at Pine Lake, town of Merton. He remarked that the warning was feeble; people and stock, however, were seldom bitten.

Wood.—On July 30, 1874, six rattlesnakes of the "black species," with four to seven rattles, were killed in the large marsh west of Wisconsin Rapids (Grand Rapids, 1874). A few days afterwards one entered the house of Silas Paine, although previously they were unknown except along the Yellow River.

REFERENCES

- ALDOUS, C. M. 1938. Deer kills rattlesnake. *Jour. Mam.* 19:111.
Alma Buffalo Co. Jour. 1862. June 5.
Alma Express. 1864. Aug. 6.
———. 1877. 2. Aug. 23.
———. 1878.1. May 30.
———. 1878.2. June 6.
———. 1878.4. Aug. 8.
ANDERSON, T. G. 1882. Narrative. *Wis. Hist. Colls.* 9:147, 192.
Augusta Herald and Madison State Jour. 1870. Aug. 10.
Augusta Eagle. 1878. June 1.
———. 1878.1. July 18.
———. 1880. July 10.
Baraboo Republic. 1871. July 19.
———. 1877.1. Aug. 8.
BINGHAM, HELEN M. 1877. History of Green County. Milwaukee. 310 p.
Black Earth Advertiser. 1881. May 26.
Black River Falls Jackson Co. Banner and Madison State Jour. 1867. Aug. 6.
Black River Falls Badger State Banner. 1871. July 17 and 22.
BRECKENRIDGE, W. J. 1944. Reptiles and amphibians of Minnesota. Minneapolis. 202 p.
BROWN, C. E. 1934. Prairie stories. Madison. 12 p.
BRUNSON, A. 1855. Wisconsin geographical names. *Wis. Hist. Colls.* 1:110-115.
———. 1872. A western pioneer. *Cincinnati.* II:418 p.
———. 1900. A methodist circuit rider's horseback tour from Pennsylvania to Wisconsin. *Wis. Hist. Colls.* 15:264-291.
BÜHLER, JACOB. 1923. A Swiss family in the new world. *Wis. Mag. Hist.* 6: 317-333.
BUNNELL, L. H. 1897. Winona and its environs. Winona, 694 p.
Burlington Free Press. 1882. Sept. 26.
BURNETT, DR. W. I. 1854. Notes on the rattle snake. *Proc. Boston Soc. Nat. Hist.* 1851-54. 4:311-315, 323-324.
BUTTON, G. W. 1955. A Vermonter in the west, 1859. *La Crosse Co. Hist. Soc. Ser.* 8:104-112.
CANFIELD, W. H. 1870. Outline sketches of Sauk County. Third sketch. Baraboo. 40 p.
CARPENTER, MRS. H. C. n.d. Recollections of early days. *Wis. Hist. Soc. MS.* 15 p.
CARVER, J. 1838. Carver's travels in Wisconsin. N. Y. 376 p.
CASSIDY, F. G. 1947. The place-names of Dane County. Greensboro. 255 p.
Chippewa Falls Democrat. 1872. Aug. 8.
Chippewa Falls Herald. 1876. Aug. 25.
COLE, H. E. 1918. A standard history of Sauk County. Wisconsin. Chicago. 1128 p.
COOKE, W. W. 1940. A frontiersman in northwestern Wisconsin. *Wis. Mag. Hist.* 23:281-303.
CURTISS-WEDGE, F. 1919. History of Buffalo and Pepin counties, Wisconsin. Winona. 1047 p.
———. 1925. History of Dunn County, Wisconsin. Minneapolis. 966 p.
Darlington Democrat. 1873. Aug. 29.
DART, R. 1910. Settlement of Green Lake County. *Proc. Wis. Hist. Soc.* for 1909. p. 252-272.
DAVIS, A. M. 1911. A preliminary railroad survey in Wisconsin, 1857. *Proc. Wis. Hist. Soc.* for 1910. p. 165-170.

Dodgeville Chronicle. 1878. Aug. 16.

———. 1889. Aug. 30.

DWINNELL, S. A. 1874. Wisconsin as it was. *Reedsburg Free Press* Sept. 17.
Eau Claire Free Press and *Fond du Lac Commonwealth*. 1859. Aug. 24.

———. 1872. Aug. 1.

FONDA, J. H. 1868. Early Wisconsin. *Wis. Hist. Colls.* 5:205-284.

Fond du Lac Journal. 1875. July 1.

Friendship Press. 1869. May 26.

GARLAND, HAMLIN. 1917. A son of the middle border. N. Y. 467 p.

Grand (Wisconsin) Rapids Reporter. 1874. Aug. 6.

HAAS, CARL DE. 1943. North America: Wisconsin hints for emigrants. [*Fond du Lac?*]. 72 p.

HAINES, R. B. 1848. Letter September 13. Copy *Wis. Hist. Soc.*

HAWKINS, A. S. 1940. A wildlife history of Faville Grove, Wisconsin. *Trans. Wis. Acad. Sci., Arts, and Letters* 32:63.

HENNEPIN, L. 1903. A new discovery of a vast country in America. Chicago. 711 p.

HEUSTON, B. F. 1890. Original conditions and early history of Trempealeau County. *Wis. Hist. Soc. MS.* 329 p.

HIGLEY, W. K. 1889. Reptilia and batrachia of Wisconsin. *Trans. Wis. Acad. Sci.* 7:155-176.

HOLFORD, C. N. 1900. History of Grant County, Wisconsin. Lancaster. 782 p.

HOWE, H. 1847. Historical collections of Ohio. Cincinnati. 581 p.

HOY, P. R. 1883. Catalogue of the cold-blooded vertebrates of Wisconsin. *Geol. of Wis.* I:424-425.

Hudson Republican. 1880. July 21.

HYDE, H. 1964. Treatment of poisonous snakebites. *Wis. Med. Jour.* 63: 340-344.

JACKLEY, A. M. 1938. Badgers feed on rattlesnakes. *Jour. Mam.* 19:374-375.

JACKSON, H. H. T. 1961. Mammals of Wisconsin. Madison. 504 p.

JACKSON, J. A. 1944. Autobiography of James Albert Jackson, Sr., M.D. *Wis. Mag. Hist.* 28:20-36.

KEYES, W. 1920. A journal of life in Wisconsin one hundred years ago. *Wis. Mag. Hist.* 3:339-363.

KLAUBER, L. M. 1956. Rattlesnakes. Berkeley. 1476 p.

KNAPP, G. N. 1947. Autobiography. *Wis. Hist. Soc. MS.* 220 p.

KNUDSEN, GEORGE. 1954. Timber rattlesnake (*Crotalus horridus horridus*). *Wis. Conserv. Bull.* 19(9):33-34.

———. 1954.1. Massasauga (*Sistrurus catenatus catenatus*). *Wis. Conserv. Bull.* 19(10):35-36.

Lake City Publ. Co. 1892. Portrait and biographical album of Racine and Kenosha counties, Wisconsin. Chicago. 1035 p.

Lake Geneva Herald. 1876. Aug. 12.

Lancaster Herald. 1844. July 20.

———. 1848. July 29.

———. 1866. Sept. 11.

LARSON, LOUIS. 1942. Pioneering in Wisconsin and Minnesota. La Crosse Co. *Hist. Soc. Ser.* 6:18-32.

LE SUEUR, J. J. 1902. Voyage up the Mississippi. *Wis. Hist. Colls.* 16:177-200.

LØVENSJØLD, ADAM. 1924. An account of the Norwegian settlers in America. *Wis. Mag. Hist.* 8:77-78.

MACQUARRIE, G. 1941. King of the snake country. *Outdoor Life* 88(1):22-23, 82-83.

Madison State Jour. 1855. July 2.

———. 1892. Sept. 3, Oct. 1

- MAIN, ANGIE K. 1943. Thure Kumlien, Koshkonong naturalist. *Wis. Mag. Hist.* 27:17-39.
- MARRYAT, F. 1839. A diary in America. N. Y. 263 p.
- MCDOWELL, R. D. 1950. Do you know? The facts about white-tailed deer. *Pa. Game News, Special Issue*. Sept., No. 1:41-48.
- McKENNEY, T. L. 1868. The Winnebago war. *Wis. Hist. Colls.* 5:178-204.
- MCMANUS, J. H. 1919. A forgotten trail. *Wis. Mag. Hist.* 3:140-152. Map op. p. 141.
- Menomonic News*. 1879. Aug. 30.
- MESSELING, E. 1953. Rattlesnakes in southwestern Wisconsin. *Wis. Conserv. Bull.* 18(10):21-23.
- MILLER, H. E. 1938. The dangerous serpents of Pennsylvania. *Pa. Farmer* 119(5):5, 17-18.
- Mondovi Herald*. 1877.1. Aug. 10.
- Monroe Sentinel*. 1875. May 19.
- MOORE, N. F. 1946. A trip from New York to the Falls of St. Anthony in 1845. Chicago. 101 p.
- MUIR, JOHN. 1913. The story of my boyhood and youth. Boston. 294 p.
- Neillsville Republican and Press*. 1880. Sept. 24.
- OLIN, N. 1930. Reminiscences of Milwaukee in 1835-36. *Wis. Mag. Hist.* 13:201-223.
- OWEN, D. D. 1852. Report of a geological survey of Wisconsin, Iowa and Minnesota. Philadelphia. 638 p.
- PARKINSON, D. M. 1856. Pioneer life in Wisconsin. *Wis. Hist. Colls.* 2:326-364.
- PARRISH, H. M. 1965. Frequency of snakebites in Wisconsin. *Wis. Med. Jour.* 64(6):216-220.
- Platteville American*. 1854. May 26.
- POND, P. 1908. *Journal*. *Wis. Hist. Colls.* 18:314-354.
- POPE, T. E. B. 1923. Hunting Wisconsin rattlesnakes. *Yearbook Mil. Pub. Mus.* 3:13-26.
- . 1926. The massasauga in Wisconsin. *Yearbook Mil. Pub. Mus.* 6:171-180.
- . 1930. Wisconsin herpetological notes. *Trans. Wis. Acad. Sci.* 25:275-284.
- and W. E. DICKINSON. 1928. The amphibians and reptiles of Wisconsin. *Bull. Pub. Mus. Mil.* 8(1):138 p.
- Portage, Register*. 1869. Oct. 16.
- . 1870. Aug. 20.
- . 1878. Aug. 31.
- Prairie du Sac News*. 1877. July 7.
- . 1880. Oct. 2.
- . 1886. Oct. 1.
- Prescott Journal*. 1866. July 1.
- Reedsburg Free Press*. 1872. Aug. 23.
- . 1874. Sept. 3.
- Richland Center Republican*. 1869. Aug.12.
- . 1874. May 28.
- River Falls Journal*. 1859.1. Aug. 24.
- . 1873. Aug. 26.
- RODOLPH, T. 1900. Pioneering in the Wisconsin lead region. *Wis. Hist. Colls.* 15:338-389.
- SAYRE, D. F. 1920. Early life in southern Wisconsin. *Wis. Mag. Hist.* 3:420-427.
- SCHOOLCRAFT, H. R. 1821. Narrative journal of travels. Albany. 428 p.
- SETON, E. T. 1929. Lives of game animals. N. Y. 3(1):412 p.

- SMITH, W. R. 1838. Observations on Wisconsin territory. Philadelphia. 134 p.
Southport (Kenosha) Telegraph. 1842. June 7.
Sparta Herald. 1881. Aug. 16.
 SPAULDING, J. C. 1965. State's poisonous snakes cause few fatalities. *Milwaukee Journal*, July 17.
 STEPHENSON, G. M. 1937. Letters relating to Gustaf Unonius . . . Rock Island. 151 p.
 THOMSON, BERTHA V. 1933. Necedah in early days. *Wis. Mag. Hist.* 16: 412-422.
Trempealeau Republican. 1873. June 6.
 ———. 1873.3. Sept. 12.
 UNONIOUS, G. 1950. A pioneer in northwest America, 1841-1858. Minneapolis. I:419 p.
Viroqua Censor. 1882. Aug. 2.
Watertown Democrat. 1875. Sept. 9.
 Western Hist. Co. 1880. The history of Columbia County, Wisconsin. Chicago. 1095 p.
 ———. 1881. History of Grant County, Wisconsin. Chicago. 1046 p.
 ———. 1881.1. History of La Crosse County, Wisconsin. Chicago. 862 p.