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Birds of the Great Plains: Family Hirundinidae (Swallows)

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FAMILY HIRUNDINIDAE (SWALLOWS)



Tree Swallow

Violet-green Swallow

Tachycineta thalassina

Breeding Status: A common breeder in the Black Hills of South Dakota and also common in the Pine Ridge, Wildcat Hills, and Scottsbluff areas of northwestern Nebraska.

Breeding Habitat: Widespread in the western states, the species is generally associated with open forests such as ponderosa pines and extends into urban areas as well.

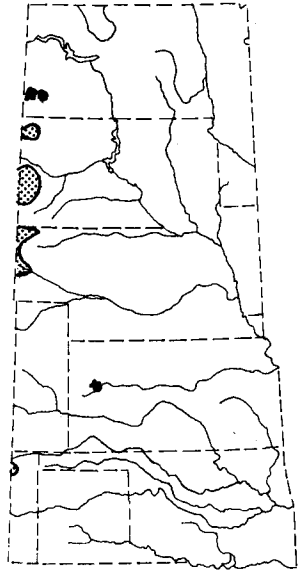
Nest Location: Nests are built in old woodpecker holes, in natural tree or cliff cavities, on building ledges, or sometimes in birdhouses. When nesting in birdhouses, the birds favor an entrance hole about 1¼ inch in diameter. The nest is a collection of weed stems and grasses with a feather lining.

Clutch Size and Incubation Period: From 4 to 6 white eggs. The incubation period is 14–15 days. Usually single-brooded.

Time of Breeding: In the Black Hills, nesting occurs during June and July. Nest construction has been seen as early as June 11, and nests with unfledged young have been seen as late as July 24.

Breeding Biology: The violet-green swallow is an unusually early migrant, usually arriving before other swallow species. It thus may not begin nesting for nearly a month after arrival. It spends some time seeking out a suitable cavity, and apparently the female makes the choice, with the male playing a minor role. But once the site is chosen both sexes begin to bring in nesting materials, the female doing most of the carrying. About 6 days are spent in building the nest, and the female roosts on it at night. Eggs are laid at daily intervals, and the female may begin incubating before the clutch is completed, though normally this does not happen. Thus the period of hatching is sometimes rather staggered and has been noted to require as long as 5 days. The female does most of the feeding and also broods during the first 10 days or so after hatching. The fledging period is somewhat variable but averages about 23–25 days. After leaving the nest, neither the adults nor the young return to it.

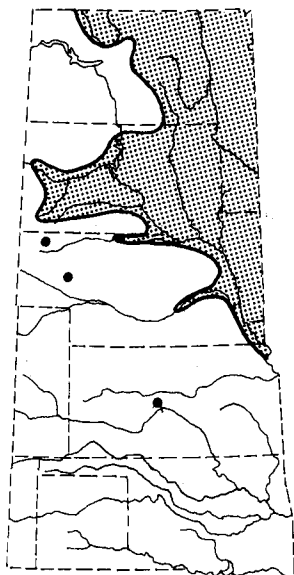
Suggested Reading: Edson 1943; Combellack 1954.



Tree Swallow

Iridoprocne bicolor

Breeding Status: Breeds in North Dakota from the Souris and James Rivers eastward through western Minnesota, south



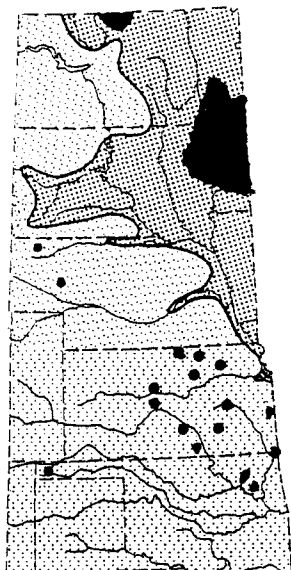
through eastern South Dakota, and in Nebraska west possibly to Cherry and Hall counties. It is uncommon in extreme northwestern Missouri (Holt County) and a probable local breeder in extreme northeastern Kansas (Doniphan County). It has bred once in Barton County, Kansas (*American Birds* 31:1156).

Breeding Habitat: Open woodland, usually close to water, is the preferred habitat. The species is often found in the vicinity of dead trees, especially aspen and willows, which are favorite nesting trees.

Nest Location: Nesting is usually in old woodpecker holes in dead trees, dead limbs of live trees, old fence posts, or birdhouses. The nest entrance is normally between 3 and 15 feet above the substrate, often over water. The nest is a cup built of grass and straw and typically is lined with feathers, especially white ones.

Clutch Size and Incubation Period: From 4 to 7 white eggs (14 North Dakota nests averaged 5.5, and 6 Kansas nests averaged 4.8 eggs). The incubation period is from 13–16 days. Single-brooded.

Time of Breeding: North Dakota egg dates are from June 3 to June 20, with nestlings seen as late as July 23. Kansas egg records are from May 21 to June 20, with a peak of egg-laying in late May.



Breeding Biology: One of the earliest spring migrants of the eastern species of swallows, these birds reach Minnesota and the Dakotas in late April, at least a month before nesting gets under way. Much of the courtship apparently occurs in the air, and it includes synchronized flying by a pair. In one reported case a male grasped the female's breast in midair and the two birds tumbled downward until they almost reached the ground. The female then flew to the vicinity of the nest and perched, whereupon the male glided above her and landed on her back. The female constructs the nest with little or no assistance from the male, at times carrying in more than 100 feathers for nest lining. Evidently the male brings food to his incubating mate only rarely; instead, she leaves the nest a few times during daylight to forage for herself. The males often spend the evening perched near the nest, leaving it for their own roosting sites only after dark. The nestling period varies considerably, depending on brood size and thus on rate of feeding, so that the young may spend as few as 16 days or as many as 24 days in the nesting cavity. Once the young leave the nest, however, they rarely return to it.

Suggested Reading: Chapman 1955; Stoeck 1970.

Bank Swallow

Riparia riparia

Breeding Status: Breeds in suitable habitats over the northern half of the region, being rather common southward through Nebraska. It is only locally common in eastern Colorado and western Kansas but is more common to the east. The southern breeding limits of this species are extremely ill-defined. It is reported to be a common nesting bird at Sequoyah National Wildlife Refuge in eastern Oklahoma and an abundant summer resident at Salt Plains National Wildlife Refuge, although Sutton (1974) stated that there are still few records of successful nesting in the state. In Texas the species is scarce and extremely local, with only one nesting record (Wilbarger County) for the area under consideration.

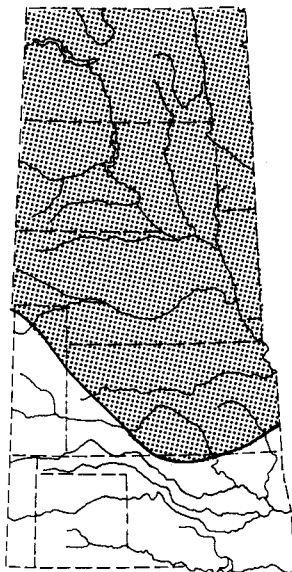
Breeding Habitat: A variety of open habitats, such as grasslands are used, but the species is usually found near water and is dependent on suitable nesting sites.

Nest Location: Nests are invariably in vertical banks of clay, sand, or gravel; the bird is characterized by colonial rather than solitary nesting. The openings are near the top of the bank and are about 1½ by 2¼ inches. The burrows average 2 feet in length and are turned slightly upward. The nest is a platform of vegetation, usually with feathers for lining.

Clutch Size and Incubation Period: From 4 to 6 white eggs, usually 5 (60 Kansas clutches averaged 4.8; 6 North Dakota clutches averaged 5.3). The incubation period is 15 days. Normally probably single-brooded, but two broods were reported in one study.

Time of Nesting: North Dakota egg dates range from June 5 to July 5, while Kansas records extend from May 11 to June 20, with most of the clutches laid between May 21 and June 10.

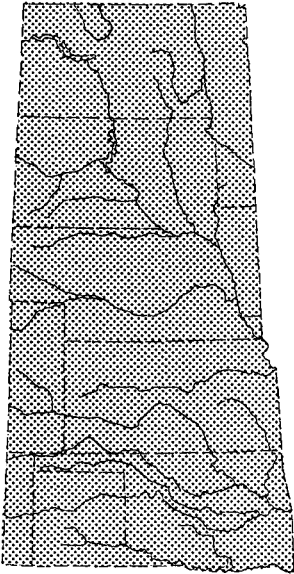
Breeding Biology: Shortly after bank swallows arrive in a nesting area, they begin to gather near the breeding site. Unpaired birds (a male in at least one determined instance) apparently select a burrow site, which may be the same burrow they used the previous year. Thereafter they defend the area from intrusion, although potential mates continue to return to a defended spot until one is eventually tolerated and accepted. Sexual chases of the female by the male are a common feature of pair-formation, accompanied by male song. Another vocalization, the mating song, is uttered by both members of a pair as they sit side by side or facing each other in the burrow opening. This behavior may be a preliminary to copulation, which probably occurs in the nest chamber. When a burrow needs to be dug or deepened, both sexes share equally in the task, then gather materials such as feathers and grass for nest lining. Incubation is by the female,



and may begin before the clutch is completed. Thus some eggs may hatch as early as 13 days after the clutch has been completed. Both parents alternate at brooding the young, and both feed the young and keep the nest clean. Birds as young as 20 days of age may be able to fly but often do not leave the nest for some time thereafter; or they may return to their burrows after initial flights.

Suggested Reading: Peterson 1955; Bent 1942.

Rough-winged Swallow *Stelgidopteryx ruficollis*



Breeding Status: Breeds virtually throughout the region, but variably abundant. Generally common in the eastern parts of the Dakotas and in western Minnesota and Iowa, but uncommon in southwestern North Dakota and western Nebraska. In eastern Colorado the species is locally common, and it is only moderately common in western Kansas. It is more common in eastern Oklahoma than in the west, it is infrequent in northern Texas (Wilbarger County is the only nesting record), and there are no nesting records for northeastern New Mexico.

Breeding Habitat: The species is associated with open-country habitats, including open woodlands, usually near water. Like the bank swallow, its local distribution is dependent on nesting sites.

Nest Location: Nests are excavated in banks of clay, sand, or gravel. They are much like those of the bank swallow but are solitary rather than in colonies. Natural rock crevices, fissures, and even drainpipes are sometimes also used. Unlike bank swallows, the birds do not use feathers for a nest lining, and their nest is much bulkier.

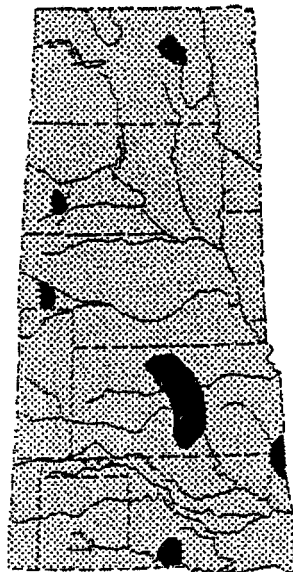
Clutch Size and Incubation Period: From 4 to 8 white eggs, usually 5-6. The incubation period is between 12 and 16 days, probably closer to the latter. Single-brooded, but renesting efforts are frequent.

Time of Breeding: Dates of active nests in North Dakota range from May 10 to July 15, with eggs seen as late as June 26. Kansas egg records are from May 11 to June 30, with most eggs laid between May 21 and June 10.

Breeding Biology: Almost as soon as they arrive on their nesting grounds, these swallows begin to show interest in suitable nesting sites, and they may seek out old kingfisher or bank swallow excavations that are still usable. Males establish a limited territory around a potential nest site, perching near it and pursuing

females from it. Females carrying nesting materials are especially pursued, although this behavior may be associated more with copulation than with courtship. Copulation has not been described and presumably occurs in the nesting cavity. Evidently only the female gathers and carries nest-lining material; apparently neither bird does any excavating. An average of about 6 days is needed to construct the rather bulky nest, but it may take as long as 20 days. The female usually starts incubating with the laying of the next-to-the-last egg, and hatching may extend a few hours or as long as several days. Brooding is done primarily if not exclusively by the female, but both sexes feed the young. The young birds are able to fly some days before they leave the nest, which usually occurs at 18–21 days of age. Young birds rarely return to the nest after they leave it, and there is no evidence on how long the young remain dependent on their parents for food after fledging.

Suggested Reading: Lunk 1962; Bent 1942.



Barn Swallow

Hirundo rustica

Breeding Status: Pandemic, breeding throughout the region wherever habitats permit.

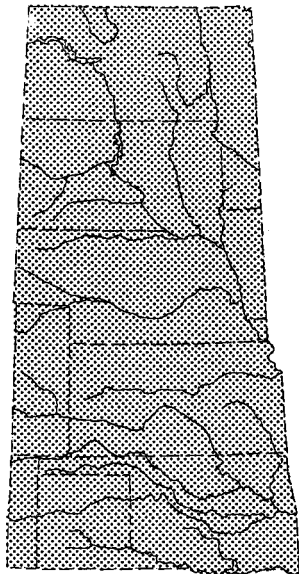
Breeding Habitat: Favored habitats include open forests, farmlands, suburbs, and rural areas with buildings that provide nest sites.

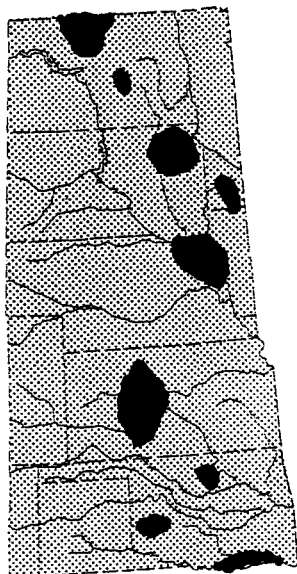
Nest Location: Originally, nests were on cliffs or in caves or rock crevices, but now most nests are built on the horizontal beams or upright walls or beams of buildings. They are constructed of mud, with a lining of feathers, usually from domestic poultry. The nest is cone-shaped, with a semicircular opening. It may be supported only by the side, which is more common, or from the bottom. Usually colonial.

Clutch Size and Incubation Period: From 3 to 7 eggs (43 Kansas clutches averaged 4.7), white with brown spotting. The incubation period is 15 days. Often double-brooded, at least over most of the breeding range.

Time of Nesting: North Dakota egg dates are from June 13 to July 9, but active nests have been seen as late as September 6. Kansas egg records are from May 1 to August 10, and egg dates from Oklahoma span the period April 18 to August 2.

Breeding Biology: Within about 2 weeks after their arrival in nesting areas, most barn swallows have formed pair bonds. Pair-

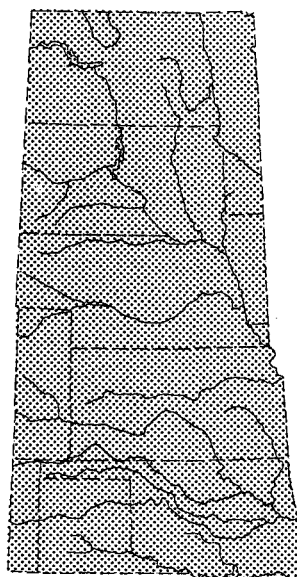




formation takes place on fences and utility lines near nesting areas, with unpaired birds perching alone and singing, and perching or flying between paired ones. Both sexes gather mud for nests; when available, horsehair is added to the mud cup, and feathers are added later for lining. Many times an old nest is used, with new materials added as necessary. An average of about 6 days is needed to build a nest, and eggs are not laid until the nest is completed. Only the female incubates in most nests, but in some cases males also participate. An average of 21 days, with a range of 18–27 days, has been observed as the nestling period in this species, and courtship behavior soon begins again, such as “song flights” by flocks of swallows flying high and chasing each other. Partners are not changed between broods, and the same nest is usually used again, often with more mud and feathers added to it. There is a gap of about a month between nesting cycles, and only about a third of the swallows in one New York study raised second broods. Second clutches most often have 4 rather than 5 eggs, but egg and nesting mortality rates are similar in the two nesting cycles.

Suggested Reading: Samuel 1971; Bent 1942.

Cliff Swallow *Petrochelidon pyrrhonota*



Breeding Status: Pandemic, breeding throughout the region in suitable habitats.

Breeding Habitat: Suitable habitats are widespread, occurring over open areas of farmlands, towns, near cliffs, around bridges, and other areas near mud supplies and potential nest sites.

Nest Location: Nests are gourdlike structures of dried mud, attached to the vertical and overhanging surfaces of cliffs, buildings, bridges, and other structures. The nest has a tubular rounded entrance on the lower side and is lined on the inside with vegetation, but rarely feathers. Nesting is strongly colonial, with up to several hundred nests occurring in favorable locations.

Clutch Size and Incubation Period: From 3 to 6 eggs, usually 4–5. The eggs are white with brown spotting. The incubation period is 15 days. Infrequently double-brooded.

Time of Nesting: North Dakota egg dates are from June 13 to July 9, although active nests have been reported from May 8 to September 6. Kansas egg dates are from May 21 to June 30, with most clutches laid between May 21 and June 10. Active nests or recently fledged birds have been reported in Oklahoma from April 4 to August 6.

Breeding Biology: At least in the northern states, cliff swallows begin to pair immediately upon arrival of their nesting grounds. This activity takes place at or near the nest, and the pair bond apparently consists primarily of mutual tolerance at the nesting site. Male "primary squatters" persistently return to specific perching places, and their singing attracts secondary visitors to that location, some of which are unpaired females. Both sexes defend the nest site, and both bring mud to construct the nest, which requires nearly 2 weeks of effort. When the nest is nearly completed, copulation occurs in the nest cup, and copulatory behavior continues until the middle of the laying period. Many cliff swallows occupy old nests if they are still usable; otherwise they construct entirely new ones. Incubation may begin before the clutch is complete, and males regularly participate. There is a relatively long nestling period in this species, averaging about 24 days, and a relatively low proportion of females (27 percent in one study) attempt a second clutch. In at least some cases females change mates for their second nesting, and a considerable amount of courtship activity is evident between broods.

Suggested Reading: Samuel 1971; Emlen 1954.



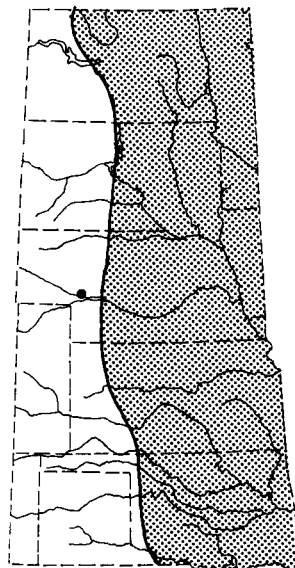
Purple Martin

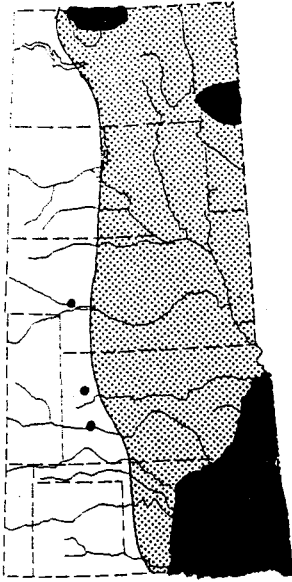
Progne subis

Breeding Status: Breeding occurs generally throughout the eastern half of the region, becoming progressively rarer to the west, and is increasingly limited to a few urban areas. In North Dakota it is rare and local west of the Missouri River, as is also true of South Dakota. In Nebraska it breeds west to Brown and Garden counties, in Kansas it breeds locally in Scott, Ford, and Stevens counties, in Oklahoma it does not currently breed in the panhandle, and in Texas the nearest breeding record is Wilbarger County. There are apparently no breeding records for eastern Colorado or northeastern New Mexico.

Breeding Habitat: The species is widespread in urban, suburban, or rural habitats, usually near water and always where there are suitable nesting cavities.

Nest Location: Nesting is colonial, usually in artificial birdhouses. Ideally these are 15–20 feet above the ground in open settings, preferably near suitable perches such as wires. The birds will use hollowed gourds hung in clusters, as well as old woodpecker holes and crevices in old buildings. The nest cavity is filled with a variety of vegetation and other materials and lined with fresh leaves.





Clutch Size and Incubation Period: From 3 to 8 white eggs, usually 4–5. The incubation period is 15–16 days. Evidently consistently single-brooded, but renesting is frequent and has been confused with double-brooding.

Time of Breeding: North Dakota records of active nests range from April 29 to August 24. Kansas egg dates are from May 11 to June 20, and active nests have been reported in Oklahoma from March 25 to June 25.

Breeding Biology: Purple martins arrive on nesting areas surprisingly far before egg-laying (almost 2 months in Kansas), perhaps because of competition for suitable nesting sites. Some birds arrive already paired—perhaps mates from the previous year—and these are mostly among the early arrivals. Pair-formation is achieved simply and is associated with nesting sites; females choose a male that has occupied a suitable nesting cavity. Copulation is on the house or on the ground and occurs from the time of nest-building to the laying of the first egg. Both sexes gather nesting materials, but only the female incubates, with the male guarding the nesting site in her occasional absences. Incubation lasts 15–16 days, and the young hatch in the same sequence as the eggs were laid. The young birds spend 27–35 days in the nest, averaging about 28 days. Both sexes feed the young, but only the female broods them for extended periods. There is a relatively strong tendency for young birds to return to the area where they hatched when they breed the next year.

Suggested Reading: Allen and Nice 1952; Johnston and Hardy 1962.