

TICKS AND OTHER PARASITES ATTACKING NORTHERN CLIFF SWALLOWS

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Plate 17

A colony of Northern Cliff Swallows, *Petrochelidon albifrons albifrons* (Raf.), situated accessibly on a low projecting cliff, has offered opportunities for observing various parasites. The swallows have been nesting quite regularly at this cliff along the White River, about 25 miles southeast of Fayetteville, Arkansas. The shelf-like projection of the cliff is low enough to render certain observations relatively easy. Some of the nests are no more than six or eight feet above the ground. The number of nests has been estimated at 125-200.

During the twelve years that this swallow colony has been visited, once or twice annually, the birds have shown considerable determination to build on the low shelf. Only once, when high water presumably washed away partly finished nests, did the swallows fail to build nests and rear their young at this site. Even this year, 1943, when the shelf was under water several times late in May, the swallows merely delayed nest construction two or three weeks until the water subsided and they could again build low. Having watched them carry mud from the clay bank, only six to twelve feet below, I am inclined to think that this colony of Cliff Swallows prefers to avoid unnecessary efforts. Other colonies of Cliff Swallows observed along the White River nest 75-100 feet up and commonly some distance from water.

It seems that the low nesting site is peculiarly favorable for the various external parasites attacking nestling birds. The most important parasite appears to be the tick, *Ixodes baergi* Cooley. Engorged adult female ticks are readily observed when they are leaving the nests and seek shelter in cracks and crevices, presumably for oviposition. At this time, a number of males are still clinging to the ventral side of the females. Apparently, mating takes place when the females have left the host and are on the way to the oviposition site.

The females deposit the eggs in masses, composed on an average of 350 eggs. Incubation has not been observed. However, the young ticks appear to be on hand when the swallows return late in April. Whether they begin feeding on the incubating swallows, or wait until the nestlings hatch, is not known; so far no ticks have been found attached to adult swallows.

It seems that the ticks complete their development as larvae and

nymphs, and go into adult stage while the young swallows are going through the nestling stage. This seems rather rapid development; however, the nature of the site is such that other hosts for the ticks seem practically excluded. No young ticks have been found on the nestling swallows.

Since 1941, when the ticks were first observed, they have substantially increased in numbers. When the colony was first visited this year, July 6, 1943, the engorged ticks were already very numerous on the outside of nests and the surface of the lower portion of the cliff. Even then, nestling swallows had as many as 18 ticks clustered on the chin, forehead, and eyelids. One tick was observed on the bend of the wing. Presumably, the infestation, if observed a few days earlier, would have been substantially heavier.

In spite of the large number of ticks attacking nestlings, these did not appear to have suffered seriously. On July 10, when the colony was visited again, the nestlings were about ready to fly, so that the nests had to be removed with care, lest the young escape by flight. At this time the nestlings averaged about one tick each.

Pulling the ticks off did not result in any bleeding. Rather superficial examination of the nestlings' eyes did not show any such serious injury as has been observed by Thomas (2) and Worth (3).

Other Parasites.—In addition to ticks, the nestling swallows have to contend with rather large numbers of bugs, *Oeciacus vicarius* Horvath of the family Cimicidae. The bugs, in nymphal and adult stages, may be observed by the hundreds when most of the nests have been vacated and all but a few families have departed. At such a time the few occupied nests are fairly seething with bugs.

Fleas, *Ceratophyllus celsus* Jord., in larval and adult stages, are fairly numerous in the lining and debris of the nests. Finally there are also bird lice, *Myrsidea dissimilis* (Kell.) on the birds and in the deposit in the nests.

LITERATURE CITED

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1942. A new species of tick from Arkansas. Public Health Reports, 57: 1869-1872.

(2) THOMAS, RUTH HARRIS

1941. Ticks affecting birds' eyesight. Auk, 58: 590-591.

(3) WORTH, C. BROOKE

1942. Ticks affecting birds' eyesight. Auk, 59: 576-577.

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