

winter, usually during or following storms. Two others were seen within Nelson Lagoon, approximately 1 km from the open coast, 2 weeks after this incident (Anthony DeGange pers. comm.). Robert D. Jones (pers. comm.) reported seeing several hundred fork-tails each year (1963–1975) over Izembek Lagoon (55°20'N, 161°00'W) in October and November.

The fact that *O. furcata*, and storm petrels in general, occasionally feed on the oil and other remains of dead marine mammals and other offal while at sea has been reported by several authors (e.g. Palmer 1962, Handbook of North American birds, New Haven, Yale Univ. Press, and Dement'v'e et al. 1952, Birds of the Soviet Union, vol. 2), but I found no references in the literature to direct evidence of terrestrial foraging by *O. furcata* or other hydrobatids. Palmer (op. cit. 234, 250.) reports small stones or cinders in stomachs of adult and young petrels taken while on the nesting grounds, while Bianchi (in Dement'v'e op. cit., 334) found pieces of sorrel (*Rumex* spp.) in stomachs of *O. l. leucorrohoa* also taken on the nesting grounds. More recently, our laboratory has found *Carex* and *Eleocharis* seeds in *O. furcata* stomachs collected from the Gulf of Alaska. Both of these seeds are buoyant and were probably picked up at sea.

This investigation was part of the Outer Continental Shelf Environmental Assessment Program funded by the Bureau of Land Management through the National Oceanic and Atmospheric Administration. I thank Gerry Sanger, Jim Bartonek, and Pat Gould for suggestions on improving this note.—ROBERT GILL JR., U.S. Fish and Wildlife Service, Office of Biological Services, Anchorage, Alaska 99501. Accepted 15 Dec. 76. (This paper was subsidized by the author.)

**Additional records of Brown-headed Cowbird nest parasitism in Louisiana.**—Friedmann (1963, 1966, 1971) interpreted results and maintained accounts on nest parasitism by the Brown-headed Cowbird (*Molothrus ater*) in North America. These accounts contain only a minimal amount of information from Louisiana, to which this note adds considerable data.

During 13 consecutive nesting season surveys (1963 to 1975), 7360 active (with eggs or young) nests of 111 species of birds were examined one or more times. The region surveyed for nests included many different localities in Louisiana, largely north of Alexandria.

No parasitism was observed among 1824 active nests of 61 nonpasserine species representing 27 families and 14 orders. Brown-headed Cowbird parasitism was noted 71 times (including 1 instance of presumptive parasitism) among 5536 active passeriform nests, an incidence of 1.3%.

No parasitism was seen among 30 (of 50) passeriform species for which one or more active nests were found and recorded, including:

43 <i>Tyrannus tyrannus</i>	51 <i>Parus bicolor</i>	6 <i>Geothlypis trichas</i>
8 <i>Muscivora forficata</i>	64 <i>Sitta pusilla</i>	229 <i>Passer domesticus</i>
8 <i>Myiarchus crinitus</i>	15 <i>Dumetella carolinensis</i>	2 <i>Icterus galbula</i>
3 <i>Sayornis phoebe</i>	607 <i>Mimus polyglottos</i>	26 <i>Cassidix major</i>
4 <i>Contopus virens</i>	20 <i>Hylocichla mustelina</i>	371 <i>Quiscalus quiscula</i>
94 <i>Stelgidopteryx ruficollis</i>	200 <i>Lanius ludovicianus</i>	2 <i>Piranga rubra</i>
322 <i>Hirundo rustica</i>	218 <i>Sturnus vulgaris</i>	6 <i>Guiraca caerulea</i>
218 <i>Progne subis</i>	1 <i>Vireo olivaceus</i>	1 <i>Passerina ciris</i>
293 <i>Cyanocitta cristata</i>	3 <i>Parula americana</i>	10 <i>Chondestes grammacus</i>
7 <i>Corvus brachyrhynchus</i>	1 <i>Dendroica dominica</i>	26 <i>Spizella passerina</i>

Four of the species listed above (*S. ruficollis*, *S. pusilla*, *L. ludovicianus* and *C. major*) have never been reported as cowbird hosts (Friedmann, pers. comm.). Of the 26 other species listed Friedmann (1963) considered 17 rare or uncommon hosts (less than 25 known records). The remaining nine species fall into one of three categories Friedmann (1963) defined as chief fosterers (100 or more records), frequency group 2 (50 to 100 instances), and frequency group 3 (25 to 50 instances). *S. phoebe*, *V. olivaceus*, *G. trichas* and *S. passerina* are chief fosterers, yet none of the 36 combined nests of these species were known to have been parasitized. This is also true for those in group 2 (*C. virens*, *H. mustelina* and *P. ciris*) and those in group 3 (*G. caerulea* and *C. grammacus*). In some instances, a small number of records may have sampled a particular population inadequately and one would expect some of the 26 Chipping Sparrow nests, a chief fosterer, to have been parasitized. Friedmann (1963), Wiens (1963), and Young (1963) point out that some species are heavily parasitized in one region but not in another. This may be due to a number of factors including cowbird density, number of different host species available, and which host species are most favored in a particular region (Friedmann 1963, McGeen and McGeen 1968, McGeen 1972).

Parasitism was noted among 20 passeriform species in 9 families (Table 1). The three instances of Brown Thrasher parasitism were reported earlier (Taylor and Goertz 1965) at one location (18 April to 3

TABLE 1  
OBSERVED BROWN-HEADED COWBIRD PARASITISM AMONG 20 PASSERIFORM SPECIES IN LOUISIANA,  
1963-1975

Species parasitized	No. of active nests seen	Parasitized		No. of records (Friedmann 1963, 1966, 1971)
		No.	%	
Carolina Chickadee, <i>Parus carolinensis</i>	181	1	0.6	2
Carolina Wren, <i>Thryothorus ludovicianus</i>	203	1	0.5	About 12
Brown Thrasher, <i>Toxostoma rufum</i>	525	3	0.7	31
American Robin, <i>Turdus migratorius</i>	216	1	0.5	26
Eastern Bluebird, <i>Sialia sialis</i>	240	1	0.4	30
Blue-gray Gnatcatcher, <i>Polioptila caerulea</i>	15	1	6.7	About 40
White-eyed Vireo, <i>Vireo griseus</i>	15	6	40.0	57
Yellow-throated Vireo, <i>Vireo flavifrons</i>	2	1	50.0	About 100
Prothonotary Warbler, <i>Protonotaria citrea</i>	57	7	12.3	54
Swainson's Warbler, <i>Limnithlypis swainsonii</i>	1	1	100.0	About 10
Pine Warbler, <i>Dendroica pinus</i>	4	1	25.0	10
Prairie Warbler, <i>Dendroica discolor</i>	10	3	30.0	35
Kentucky Warbler, <i>Oporornis formosa</i>	2	1	50.0	150
Yellow-breasted Chat, <i>Icteria virens</i>	15	1	6.7	About 180
Eastern Meadowlark, <i>Sturnella magna</i>	91	1	1.1	32
Red-winged Blackbird, <i>Agelaius phoeniceus</i>	754	12	1.6	180
Orchard Oriole, <i>Icterus spurius</i>	71	20	28.2	18
Cardinal, <i>Cardinalis cardinalis</i>	259	7	2.7	About 75
Indigo Bunting, <i>Passerina cyanea</i>	6	1	16.7	About 200
Dickcissel, <i>Spiza americana</i>	10	1	10.0	98
Totals	2859	71	2.5	

May 1964); possibly all three nests were parasitized by the same cowbird. No new instances of parasitism of this species since 1964 were noted. None of the three active nests of the Pine Warbler were parasitized, but on 9 July 1967 a fledged cowbird was plainly seen being fed by two Pine Warblers (also reported by Friedmann 1963). This presumptive parasitism is included in Table 1 as 4 Pine Warbler nests and 1 occurrence of parasitism. Friedmann (1963) noted that the Red-winged Blackbird is rarely bothered where it nests colonially, but is often parasitized when it nests singly. This agrees with the findings here in which all 12 (of 754) active redwing nests that were parasitized were isolated. Both the White-eyed Vireo and the Cardinal have previously been recorded as parasitized in Louisiana (Friedmann 1963, 1971).

A total of 98 Brown-headed Cowbird eggs or young were associated with 204 host eggs or young in 71 nests. Of the 71 nests, 48 had 1, 19 had 2 and 4 had 3 cowbird eggs each. Thus 50 eggs (51%) were in nests with other cowbird eggs. More careful observations of all parasitized nests would probably have revealed a larger number of multiple cowbird eggs per nest than were actually found. Multiple parasitism with two or more cowbird eggs per nest appears to characterize nearly or more than 50% of the parasitized nests under careful scrutiny elsewhere (Friedmann 1963, Wiens 1963, McGeen 1972).

Wiens (1963) reported 2 laying peaks for 37 cowbird eggs in Oklahoma, 1 in mid-June and 1 in early July. In this study during 3 successive 10-day periods each month, 98 cowbird eggs (including extrapolation from young in nests) occurred in host nests at the rate of (overlapping included): 1, 5, and 14 in April; 34, 52, and 20 in May; 4, 2, and 1 in June; and 0, 0, and 1 in July. The peak in egg production occurs in May, with a rapid decline thereafter. The cowbird laying peak seems to coincide with the peak laying of passerine hosts. For example, among 754 active Red-winged Blackbird nests examined over 13 years, 535 (71%) were active during the first half of May, when 9 of the 12 (75%) known instances of cowbird parasitism of redwings occurred. The earliest cowbird egg among all hosts was found on 9 April and the latest on 22 July. This is similar to 5 studies reported by Wiens (1963) where the last dates for cowbird egg verification varied between 6 and 30 July. In this study, cowbird young were known to have been in nests from 26 April to 9 July.

Twenty-five nests of 8 host species, examined only once, contained 28 cowbird and 70 host eggs or young. This group was not used in calculating success-failure rates, which were estimated from the 46 nests of 17 species that were examined 2 or more times with 70 cowbird and 134 host eggs or young. Of the 46 nests, 20 were known to have been completely unsuccessful (Table 2).

Additional losses occurred in one nest each of a Brown Thrasher, Red-winged Blackbird, and Cardinal from which the hosts were believed to have evicted a cowbird egg. In one thrasher nest 2 cowbird nestlings were probably evicted. Thus, 5 of 70 (7.1%) were lost by host intolerance.

TABLE 2  
FATE OF 20 COMPLETELY UNSUCCESSFUL NESTS IN WHICH COWBIRD EGGS WERE LAID

Fate of nest or eggs	Nests (of 46)		Cowbird eggs (of 70)		Host eggs (of 134)		Known or probable cause of loss
	No.	%	No.	%	No.	%	
Abandoned	5	10.9	7	10.0	14	10.4	Cowbird interference
Disappeared (eggs)	6	13.0	10	14.3	19	14.2	Snake or bird predation
Nest destroyed	5	10.9	7	10.0	13	9.7	Mammalian predator
Nest destroyed	2	4.3	3	4.3	10	7.5	Flooding
Eggs pecked	1	2.1	3	4.3	2	1.5	Bird
Laid in empty nest (previously used)	1	2.1	1	1.4	0	0	Erroneous laying
Totals	20	43.3	31	48.3	58	43.3	

From one nest each of the Eastern Bluebird and Prothonotary Warbler, humans removed three cowbird eggs. In both instances the hosts successfully fledged all their young. As the cowbird eggs had been accepted, without human interference, they could possibly have eventually hatched and fledged. These eggs represent 4.3% of the 70 cowbird eggs.

In four instances (Carolina Wren, White-eyed Vireo, Yellow-throated Vireo and Prothonotary Warbler), host eggs disappeared (probably removed by cowbirds) from the nest with the deposition of at least one cowbird egg in the same nest. Similar loss of host eggs is also suggested in those nests, checked two or more times, with an average of 2.98 host eggs, whereas completed, unparasitized clutches of most of the passerine species examined, with the exception of the Cardinal, contained full complements of at least 4 eggs.

A total of 14 cowbird eggs were known to have hatched in 11 different nests of 7 species (Brown Thrasher, White-eyed Vireo, Pine Warbler, Prothonotary Warbler, Kentucky Warbler, Orchard Oriole and Cardinal); of this number 2 were certain to have fledged (Pine Warbler and Kentucky Warbler) and 7 probably fledged (all from Orchard Oriole and Cardinal nests). Thus 9 of the hatched cowbirds were successful and 5 were not successful. The fate of 51 eggs or young is known (31 from Table 2, 3 that were evicted, 3 removed by humans, 9 that hatched and fledged, and 5 that hatched and did not fledge (2 evicted and 3 abandoned)).

Success or failure can be measured only in terms of those eggs or young for which the fate is known. Thus, 34 (Table 2 and 3 removed by humans) of 51 (66.7%) of the eggs for which the fate is known failed to hatch (or 72.5% if the 3 eggs removed by humans are included). As denoted by Young (1963), the breeding efficiency of the cowbird appears to be low, but this low efficiency may be offset by the production of large numbers of eggs (Young 1963, McGeen and McGeen 1968). Hatching success, if the 3 eggs removed by humans are not included as potentially successful, was 27.5% (14 of 51) whereas fledging success (9 of 51) was 17.6% (or 23.5% if those eggs removed by humans had fledged). Young (1963) denoted that reproductive success was 25% for 218 cowbird fledglings from 879 eggs.

Fledging success should be considered in excess of hatching success for a number of reasons denoted by Young (1963). Young found that 56 to 60% of cowbird nestlings fledged. In this study, 64% (9 of 14) of the cowbirds that hatched were fledged. The poor success of the cowbird from egg to fledgling, which usually ranges from 20 to 30% for most species, seems to be largely due to poor egg acceptance (Young 1963). Once the egg is hatched, however, most nestlings will eventually fledge.

Gratitude is extended to Herbert Friedmann and to Daniel S. McGeen for their review of this manuscript and to many ornithology students who helped in nest searches.

#### LITERATURE CITED

- FRIEDMANN, H. 1963. Host relations of the parasitic cowbirds. U.S. Natl. Mus. Bull. 233: 1-276.  
 ———. 1966. Additional data on the host relations of the parasitic cowbirds. Smithsonian Misc. Coll. 149. No. 11.  
 ———. 1971. Further information on the host relations of the parasitic cowbirds. Auk 88: 239-255.  
 MCGEEN, D. S. 1972. Cowbird-host relationships. Auk 89: 360-380.  
 ——— AND J. J. MCGEEN. 1968. The cowbirds of Otter Lake. Wilson Bull. 80: 84-93.

- TAYLOR, W. K., AND J. W. GOERTZ. 1965. Additional records of Brown Thrashers parasitized by the Brown-headed Cowbird. *Wilson Bull.* 77: 194-195.
- WIENS, J. A. 1963. Aspects of cowbird parasitism in southern Oklahoma. *Wilson Bull.* 75: 130-139.
- YOUNG, H. 1963. Breeding success of the cowbird. *Wilson Bull.* 75: 115-122.

JOHN W. GOERTZ, *Department of Zoology, Louisiana Tech University, Ruston, Louisiana 71270.* Accepted 29 Mar. 76.

**First North American record of the Asian Needle-tailed Swift, *Hirundapus caudacutus*.**—On 21 May 1974, a swift with a weak and languid wing beat was collected on Shemya Island, Aleutian Islands, 52°43' N, 174°07' E, as it slowly foraged along a tundra hillside. This is the first New World record for a swift of this genus and species. The pattern of flight suggested that the bird was in poor condition and under a nutritional stress. Examination showed it to have an extremely reduced pectoral muscle, but the bird, deposited in the National Museum of Natural History (No. 526402, male, right testis 5 × 2 mm) weighed 88 g, which suggests a near average condition. As we were unable to locate spring weight data for this species, weights on another swift of nearly identical size, *Apus melba* from the Aegean region, were provided by G. E. Watson. The average weight of 12 breeding males of *A. melba* was 85.8 g.

The specimen is referable to the nominate form (*H. c. caudacutus*) based on wing length and forehead color. This race breeds essentially in central and eastern Asia and migrates to winter in Australia and Tasmania. Vaurie (1969, *Birds of the palearctic fauna*, vol. 2, Non-Passeriformes, London, H. F. and G. Witherby, Ltd., pp. 647-648) indicates that it breeds eastward to near the mouth of the Amur River, and on Sakhalin and the Kurile Islands, westward and northward to about 85° E, 56° N (Tomsk) in western Siberia, and southward to northern China and Japan. It is a straggler to England and Finland and its breeding range is moving westward and northward (in the region of 58° N, 78° E) in Siberia (Vaurie, op. cit.). Other races occur farther south in southeastern Asia.

In view of its breeding range in the northmost part of the Kuriles, it is not too surprising that this migrant wandered to the Aleutians, especially as the spring prevailing winds are from the southwest. Shemya is about 900 miles (1440 km) directly over water from the northern Kuriles or about 1100 miles (1760 km) following along the land masses of the Kamchatka Peninsula thence out the Aleutians to Shemya. This does not seem to be an extensive distance considering the statements of Vaurie (op. cit.: 647) "... swifts of this genus are credited as being the most powerful and fastest flyers of all birds" and of Slater (1971, *A field guide to Australian birds, non-passerines*, Pennsylvania, Livingston Publishing Company, p. 400) "Entirely aerial; not known to land in Australia." The southernmost record of this species wandering beyond Tasmania is from Macquarie Island, 54°37' S, 158°54' E (Warham 1961, *Emu* 16: 189).

Several English names are currently used for the species, the commonest and preferred one being White-throated Needle-tailed Swift.—CLAYTON M. WHITE, *Department of Zoology, Brigham Young University, Provo, Utah 84602*, and WILLIAM M. BAIRD, *69 Hartwell Avenue, Littleton, Massachusetts 01460*. Accepted 24 Feb. 76.

**Parasitic Jaegers prey on adult ptarmigan.**—During 1972-1974, we noted Parasitic Jaegers (*Stercorarius parasiticus*) in the Kashunuk River region of western Alaska feeding commonly on microtine rodents, eggs and young of shorebirds and passerines, waterfowl eggs, and infrequently on fish obtained by harassment of Red-throated Loons (*Gavia stellata*), Arctic Terns (*Sterna paradisaea*), and Mew Gulls (*Larus canus*). We once saw Parasitic Jaegers prey on a larger organism as described below.

On 8 August 1974, we watched a pair of Parasitic Jaegers hunting the heath tundra near Old Chevak; one member of the pair swooped over an adult Willow Ptarmigan (*Lagopus lagopus*), which flushed and gave an alarm call. A shallow dive by the second jaeger passed close to the ptarmigan's back. The first jaeger then intercepted the ptarmigan, striking it with its beak near the dorsal base of the neck. Following this the ptarmigan gained about 2 m in altitude, and was immediately struck by the other pair member. The ptarmigan plummeted to the ground, flushed within seconds, and flew some 4 m before being struck again near the head. The ptarmigan was lost from view in high sedge adjacent to a small pond. The same jaeger that forced the ptarmigan from the air in both cases landed in the sedges.

We approached the pond edge and found the jaeger standing on the ptarmigan, which was in 10 cm of water. Examination showed the ptarmigan to be a molting adult male, weighing 680 g. Extensive tissue damage was visible on the dorsal surface of the neck near the base of the head.