stimulation is not mediated by the pineal body. This conclusion is supported by results of an independent investigation on the House Finch, *Carpodacus mexicanus* (Hamner and Barfield 1970), in which testicular growth was also photoperiodically controlled. In that species, electrolytic destruction of the pineal body eliminated neither photorefractoriness nor the gonadosuppressive effect of short daily photoperiods (see also Donham and Wilson 1969).

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BIRDS OF THE CHIGNIK RIVER DRAINAGE, ALASKA

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Comprehensive field records exist of the avifauna of the Aleutian Islands southwest of Chignik (Gabrielson and Lincoln 1959; Murie 1959; U. S. Fish and Wildlife Service 1963), and the base of the Alaska Peninsula northeast of Chignik (Osgood 1904; Gabrielson and Lincoln, loc. cit.; Cahalane 1959; Murie, loc. cit.; Williamson and Peyton 1962). There are, however, few and incomplete records of the avifauna of the Chignik River drainage on the south side of the Alaska Peninsula (fig. 1).

I made observations on birds in the summers of 1960–63 during the course of sockeye salmon studies in the watershed for the Fisheries Research Institute, University of Washington. Parts of the watershed, except the open coastal region adjacent to the lagoon, were visited by a field party of two or three men, of which I was one, at intervals of 10 days from mid-June to mid-September. About one-half of the season was spent on the lakes, one-fourth on the rivers and streams, one-eighth on the plains and hills surrounding the lakes, and one-eighth in the estuary. Observations were extensive in the vicinity of the primary field stations at the outlet of Chignik Lake and opposite Alec River on Black Lake, but were very limited in the estuary (fig. 1).

The watershed consists of a trunk stream, numerous tributaries, and two lakes (fig. 1). It drains into Chignik Bay and the North Pacific Ocean by an estuary, Chignik Lagoon. Since it forms the only low pass through the Aleutian Mountain Range, it is probably an important bird migration route. Chignik is about 180 miles west of the limit of the coniferous forest near the western border of the Katmai National Monument. The two lakes of the system are very different in morphology and terrain (Knappen 1929:161–227). Black Lake (elev. 50 ft) is shallow, situated north of the mountains on an extensive glacial moraine, and bordered by plains of muskeg, marsh, and grass and low hills covered with willow and tundra. Chignik Lake (elev. 10 ft) is deep and fringed by mountains, some of which rise abruptly, and the lower slopes of which, to about 700 ft, are covered with stunted alder and small patches of tundra and grass. Chignik Lagoon is shallow, nearly enclosed, and covered with extensive growths of *Zostera*.

Observations of seven species represent an extension or confirmation of the reported range.

Barrow's Goldeneye (*Bucephala islandica*). One drake, accompanied by several male Common Goldeneyes (*B. clangula*) and unidentified goldeneye females, was observed at close range on 21, 22, and 23 June 1963 near the outlet of Chignik Lake. Murie (1959:87) reports that the Barrow's Goldeneye is confined mainly to the base of the Alaska Peninsula. It is most plentiful in the Katmai National Monument (Cahalane 1959:96), common in the Bristol Bay

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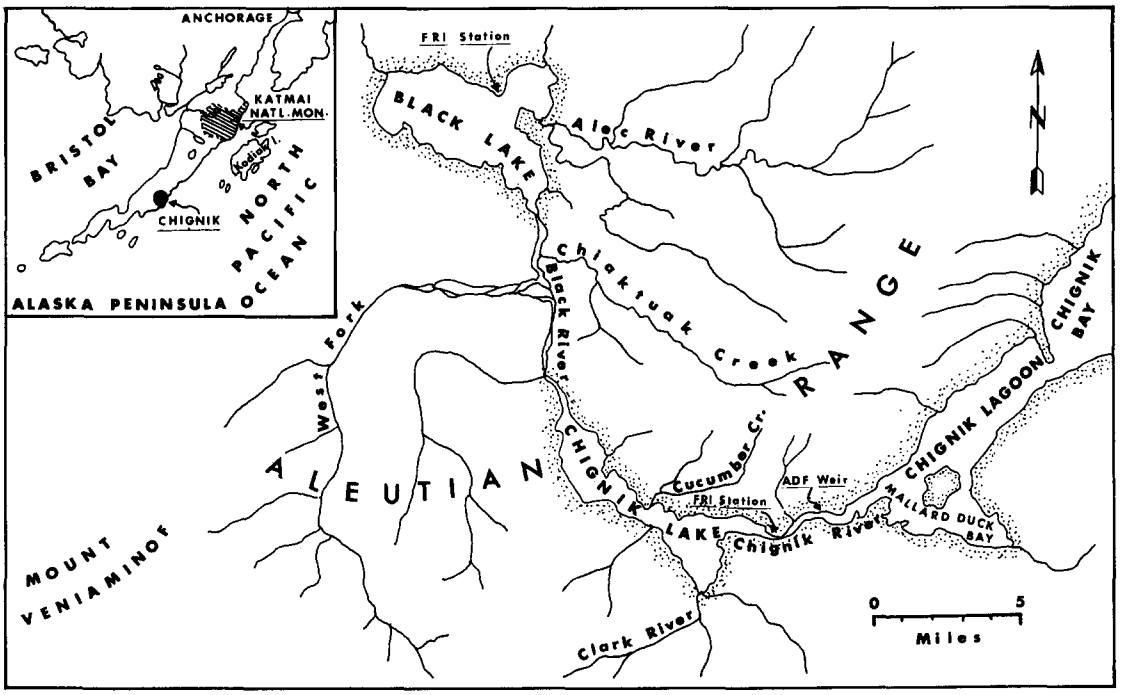

FIGURE 1. The Chignik River watershed, on the Alaska Peninsula.

area (Osgood 1904:57), and rare in the Aleutian Islands National Wildlife Refuge (U. S. Fish and Wildlife Service 1963).

Goshawk (*Accipiter gentilis*). An individual was observed near the Chignik Lake field station in late July 1963, and an adult male was observed for 5 min from a distance of 25 ft near Chignik River on 5 September 1963. Nesting was not observed in the watershed. The Goshawk has been thought to be confined to the coniferous forests at the base of the Alaska Peninsula, although Murie (1959:106) reports that Gabrielson sighted one at Dutch Harbor and another in the Shumagin Islands in 1946. Gabrielson and Lincoln (1959:252) state that there are "no records for the Alaska Peninsula, the Aleutians, or the offshore islands in Bering Sea." Cahalane (1959:100) recorded six Goshawks in the Katmai area from 25 August to 5 September 1954.

Osprey (*Pandion haliaetus*). An individual spent most of the afternoon of 15 June 1963 at the outlet of Chignik Lake. Ospreys have been observed in the Katmai National Monument at the base of the Alaska Peninsula (Murie 1959:118; Cahalane 1959: 104), but Gabrielson and Lincoln (1959:277) do not mention any sightings on the Alaska Peninsula. However, the Osprey is considered "rare" in the Aleutian National Wildlife Refuge (U. S. Fish and Wildlife Service 1963).

Great Horned Owl (*Bubo virginianus*). One was observed in a thick alder patch on lower Black River on 21 June 1963; another was heard at dusk near the outlet of Chignik Lake on 29 August 1963; three were heard and then observed near Chignik Lagoon on 4 September 1963; and an individual was reported at the Chignik River weir in August 1956. Nesting was not observed. Apparently there are no reports of this species of owl west of the base of the Alaska Peninsula (Murie 1959:205). Cahalane (1959:125) reports the Great Horned Owl to be "fairly common in the lowland forests on the Bering Sea slope" of the Katmai area, and Osgood (1959: 69) reports it as "fairly common" in the Bristol Bay area.

Violet-green Swallow (*Tachycineta thalassina*). Many birds of this species commonly utilized nesting boxes at the Alaska Department of Fish and Game weir camp in June and early July during all four summers. Many flocked and migrated in late July. None was observed either at the Chignik Lake outlet or farther up the watershed. Murie (1959:212) reports no sightings west of Seward and Iliamna Lake although Lensink (*in* Williamson and Peyton 1962:39) indicates that Violet-green Swallows are common along the Kvichak River. Cahalane (1959: 128) recorded "numerous" sightings at two restricted locations in the Katmai area.

Tree Swallow (*Iridoprocne bicolor*). Many nested near the weir camp on Chignik River in the company of Violet-green Swallows. One was observed at the outlet of Chignik Lake on 4 July 1963, but none in the upper watershed. Migration occurred in late July, a few days later than that of the Violet-green Swallows. In Murie's (1959:213) summary of 1936–37 observations there is no report of sightings west of Brooks Lake, and the suggestion is made that this swallow is confined to the coniferous forest of the Alaska Peninsula. Cahalane (1959:128) reports only one positive sighting in the Katmai area.

Rusty Blackbird (*Euphagus carolinus*). A pair was observed along a brushy oxbow near the mouth of Clark River on 26 July 1961. A pair in winter plumage was observed in a willow thicket on Cucumber Creek on 6 September 1963. A day earlier an individual in winter plumage was noted perched in a group of willows near Chignik River. There were no observations of nesting. Murie's (1959:236) summary includes no reports farther west than Kodiak Island, Lake Clark, and Nushagak River. However,

Cahalane (1959:143) reports sightings of this species in moderate numbers at ponds, marshes, and a few streams in the western lowlands of the Katmai area. Gabrielson and Lincoln (1959:750) do not mention its occurrence on the Alaska Peninsula.

The balance of this report is comprised of a list of other species observed in the Chignik watershed. The relative abundance of each species is described (in terms of frequency of observation) as follows: abundant (virtually every day); common (one-half to three-fourths of the days); uncommon (about one-fourth of the days); occasional (once or twice each summer); and rare (once or twice during the four summers).

Common Loon (*Gavia immer*), uncommon.

Red-throated Loon (*Gavia stellata*), common on Black and Alec Rivers and Black Lake, occasional on Chignik Lake.

Red-necked Grebe (*Podiceps grisegena*), common on Black Lake, rare on Chignik Lake.

Horned Grebe (*Podiceps auritus*), uncommon on Chignik Lake.

Fork-tailed Petrel (*Oceanodroma furcata*), one observation on Chignik Lake after a severe storm.

Pelagic Cormorant (*Phalacrocorax pelagicus*), occasional on Chignik Lake after severe fall storms.

Whistling Swan (*Olor columbianus*), uncommon on Black Lake.

Canada Goose (*Branta canadensis*), rare on Black River.

Black Brant (*Branta nigricans*), rare on Chignik River.

Emperor Goose (*Philacte canagica*), rare on Black River.

Mallard (*Anas platyrhynchos*), common on Black River, occasional on both lakes.

Gadwall (*Anas strepera*), occasional on Black Lake.

Pintail (*Anas acuta*), common in early and late summer, occasional in mid-summer throughout the watershed.

Green-winged Teal (*Anas carolinensis*), common on Black River and on most streams, rare on the lakes.

American Widgeon (*Mareca americana*), common on Black River and Black Lake, occasional on Chignik Lake.

Greater Scaup (*Aythya marila*), abundant on Black Lake, common on Chignik Lake.

Common Goldeneye (*Bucephala clangula*), common in spring and fall on both lakes, rare in mid-summer.

Harlequin Duck (*Histrionicus histrionicus*), common on all rivers and streams.

White-winged Scoter (*Melanitta deglandi*), rare in Chignik Lagoon.

Common Scoter (*Oidemia nigra*), common on both lakes.

Red-breasted Merganser (*Mergus serrator*), common.

Rough-legged Hawk (*Buteo lagopus*), common.

Bald Eagle (*Haliaetus leucocephalus*), common along Chignik and Black Rivers, occasional on the lakes.

Marsh Hawk (*Circus cyaneus*), rare on Black River.

Gyrfalcon (*Falco rusticolus*), rare near Black Lake.

Peregrine Falcon (*Falco peregrinus*), occasional near Chignik Lake.

Pigeon Hawk (*Falco columbarius*), rare on Chignik River.

Willow Ptarmigan (*Lagopus lagopus*), common around Chignik Lake, abundant north of Black Lake.

Sandhill Crane (*Grus canadensis*), occasionally observed but commonly heard at Black Lake.

Semipalmated Plover (*Charadrius semipalmatus*), occasional in the watershed.

Black Turnstone (*Arenaria melanocephala*), occasional at Black Lake.

Common Snipe (*Capella gallinago*), common in the watershed.

Wandering Tattler (*Heteroscelus incanum*), common along Chignik River after about 20 July.

Greater Yellowlegs (*Totanus melanoleucus*), common.

Least Sandpiper (*Erolia minutilla*), common.

Northern Phalarope (*Lobipes lobatus*), common in late June on Black Lake.

Parasitic Jaeger (*Stercorarius parasiticus*), common on Black Lake and Black River, occasional on upper Chignik Lake.

Glaucous-winged Gull (*Larus glaucescens*), abundant.

Mew Gull (*Larus canus*), common.

Bonaparte's Gull (*Larus philadelphis*), common.

Black-legged Kittiwake (*Rissa tridactyla*), occasional in Chignik Lagoon.

Sabine's Gull (*Xema sabini*), rare on Black Lake.

Arctic Tern (*Sterna paradisaea*), abundant on Black Lake, common on Chignik Lake.

Pigeon Guillemot (*Cepphus columba*), abundant in lower Chignik Lagoon.

Marbled Murrelet (*Brachyramphus marmoratum*), uncommon on Chignik Lake.

Short-eared Owl (*Asio flammeus*), occasional.

Belted Kingfisher (*Megaceryle alcyon*), uncommon.

Bank Swallow (*Riparia riparis*), common.

Common Raven (*Corvus corax*), common.

Black-billed Magpie (*Pica pica*), common.

Black-capped Chickadee (*Parus atricapillus*), uncommon.

Dipper (*Cinclus mexicanus*), occasional.

Winter Wren (*Troglodytes troglodytes*), rare.

Hermit Thrush (*Hylocichla guttata*), rare.

Water Pipit (*Anthus spinoletta*), common at Black Lake.

Northern Shrike (*Lanius excubitor*), uncommon.

Yellow Warbler (*Dendroica petechia*), rare.

Wilson's Warbler (*Wilsonia pusilla*), common.

Common Redpoll (*Acanthis flammea*), uncommon.

Savannah Sparrow (*Passerculus sandwichensis*), common.

White-crowned Sparrow (*Zonotrichia leucophrys*), common.

Golden-crowned Sparrow (*Zonotrichia atricapilla*), common.

Fox Sparrow (*Passerella iliaca*), common.

Lapland Longspur (*Calcarius lapponicus*), common at Black Lake.

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NEW AND INTERESTING RECORDS FROM THE CHIRIQUÍ HIGHLANDS OF PANAMÁ

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During the spring of 1968, while stationed at the Volcán de Chiriquí Field Station and Nature Center in the mountains of Chiriquí province a few miles below the village of Cerro Punta, we recorded a number of birds that contribute to the distributional knowledge of this area. The new Nature Center, acquired by the Florida Audubon Society and operated by the Florida State University Center for Tropical Studies, has been described by Loftin (Florida Naturalist 41(1):21–24, 1968). Our observations were made while working under Dr. Loftin in connection with his migrant bird-banding program, which is supported by the U. S. Public Health Service, research grant AI 06072.

Six of the species mentioned below (marked with an asterisk) appear to be additions to the avifauna of the highlands of western Chiriquí (Eisenmann and Loftin, Field Checklist of Birds of the Western Chiriquí Highlands, Panamá, Florida Audubon Soc., 1967). They are lowland birds taken or observed higher in this area than previously known. Other species mentioned are interesting because of their apparent rarity, recent population increase, or for other reasons indicated.

The following were netted or seen near the highway below the village of El Hato del Volcán, Chiriquí, at an elevation estimated between 3800 and 4000 ft. The netting area was very near the highway and was covered predominantly by second growth brush and scrubby vegetation, with some open pasture. Eugene Eisenmann informs us that the area is one of heavy rainfall, which formerly supported a subtropical forest. He suggests that clearing for roads, agriculture, and pasturage has permitted lowland forms of more open habitats to make their way upwards into the mountains.

Cattle Egret. *Bubulcus ibis.* A large roost contained 680 on 21 April. The Panamá population is said to be growing.

*Yellow-headed Caracara. *Milvago chimachima.* A common pasture-land species of the lowlands, seen well in flight on 28 April.

*Bran-colored Flycatcher. *Myiophobus fasciatus.* Netted on 20 and 21 April; male taken on 21 April to ensure identification (10.1 g).

*Riverside Wren. *Thryothorus semibadius.* Netted and photographed in color on 20 and 21 April.

*Bananaquit. *Coereba flaveola.* Seen on 20 April; netted on 25 April.

Yellow-bellied Siskin. *Spinus xanthogaster.* Seen on 20 and 21 April; adult male netted, banded, and released on 28 April. The 4000 ft elevation is remarkably low for this species, which was not uncommon near the Nature Center above 5400 ft.

Two other species which regularly occur in the lowlands were observed on the nearby Volcán Lakes at about 4000 ft, on 12 March by Eisenmann, Leck, and others: a *Great Egret (*Casmerodius albus*) and two adult *Green Herons (*Butorides virescens*).

The following two species, netted at or near the Volcán de Chiriquí Nature Center, are interesting because of their supposed rarity in Panamá.

White-throated Flycatcher. *Empidonax albigularis.* A male was netted and preserved on 23 April (weight 9.1 g) at an estimated 5800–6000 ft elevation in a cleared area that has become overgrown with brush about 8–12 feet high. Several other examples were netted, banded, and released at the same locality. Eisenmann informed us that there are very few specimens of this species from Panamá, that its status is uncertain, and that he knows of none previously taken from the west side of the Volcán de Chiriquí massif.

Slaty Finch. *Spodiornis rusticus.* Six individuals were mist-netted at the Nature Center (5400 ft) in a damp habitat near a small stream on the border of humid montane forest; four males were preserved as specimens. These are the first specimens of this species to be taken in Panamá since Davidson described *S. r. barrilesensis* on the basis of a single bird from Chiriquí in 1932. There are no published sight reports except two of a group seen on the ground in July 1948 by Eisenmann at about 5000 ft. (*in* Slud, Bull. Amer. Mus. Nat. Hist. 128:380, 1964). Two males were taken by Loftin on 1 March, one fully adult (18.7 g) and an immature (18 g). Another adult male was taken on 14 April (14.5 g), and another immature male on 18 April (16.7 g). All the specimens are essentially slaty above and below, but the two immatures show an olivaceous wash, and the one taken 18 April also has rather rufescent brown borders to most of the secondaries and greater wing-coverts. Another male in slaty plumage and a brownish bird, presumably a female, were also netted; the former was banded and released, the latter escaped.

We wish to thank Eugene Eisenmann of the American Museum of Natural History for checking our specimens and photographic slides, and for his help in preparing this note. Specimens mentioned have been deposited with the American Museum of Natural History.

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