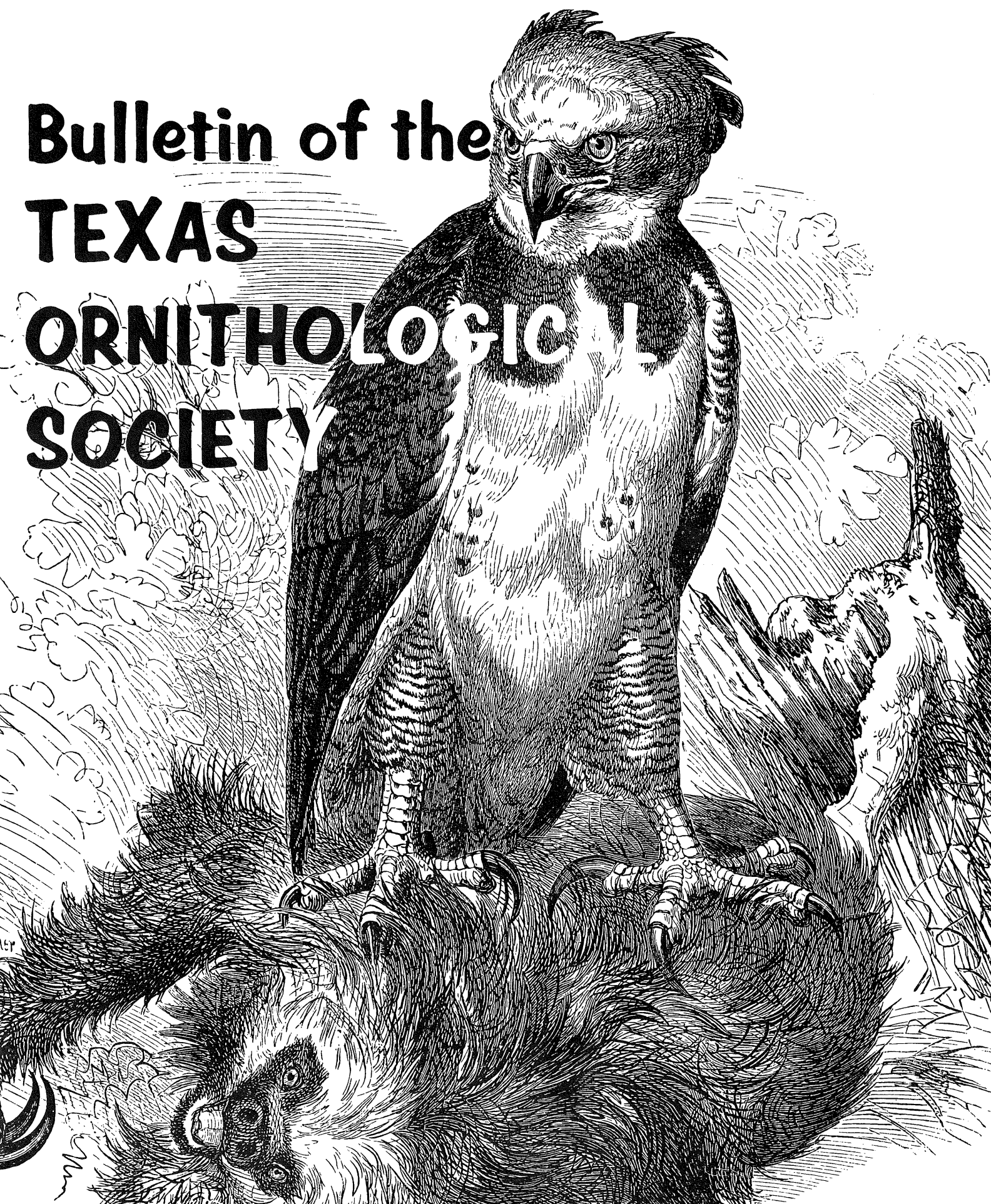
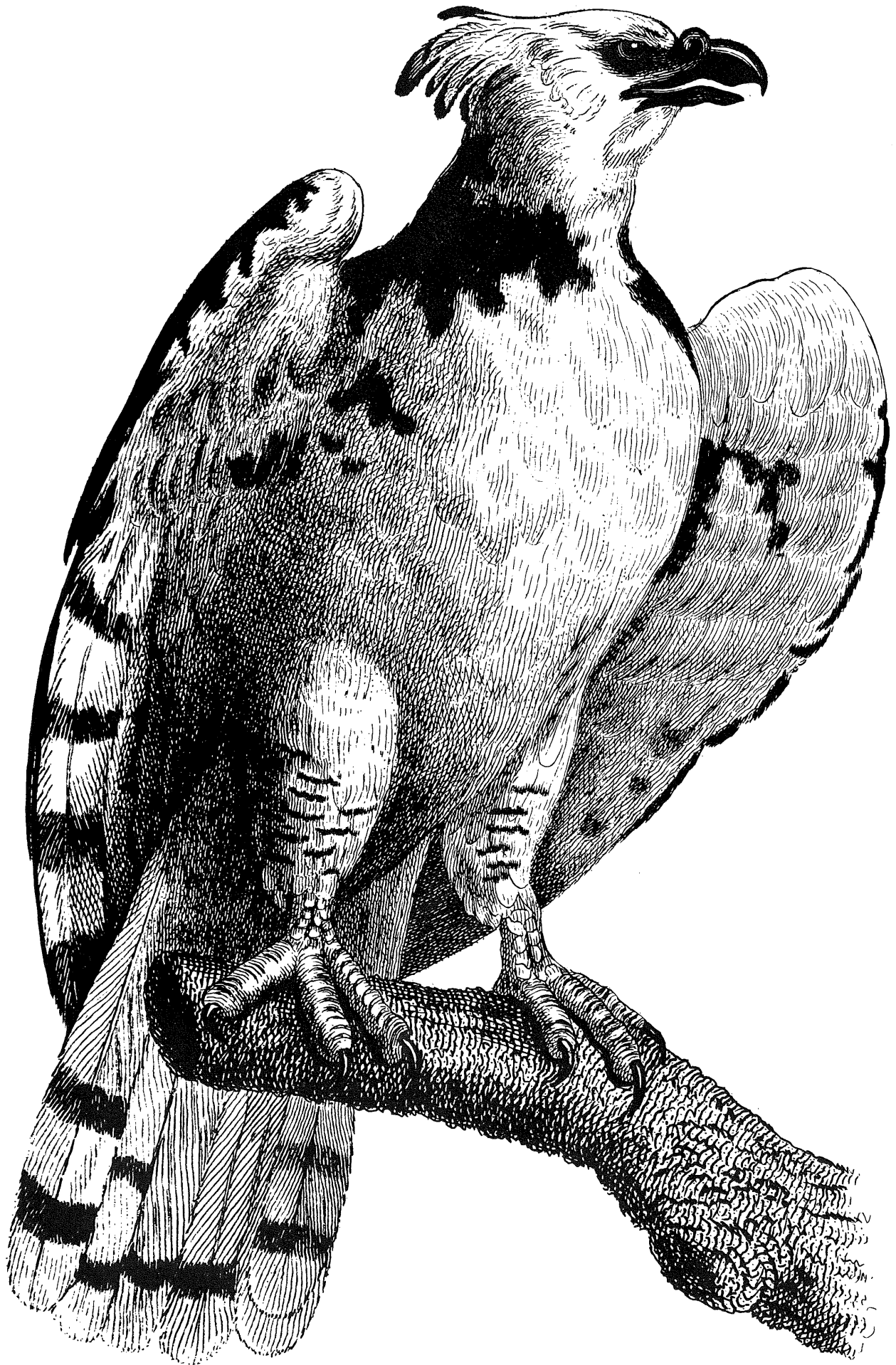


**Bulletin of the  
TEXAS**

**ORNITHOLOGICAL  
SOCIETY**





# Bulletin of the TEXAS ORNITHOLOGICAL SOCIETY

April-June, 1969

Volume III, Number 2

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The two interesting illustrations of the Harpy Eagle (outside and inside front cover) were published in Europe during the nineteenth century. The drawing on the outside front cover is taken from Brehm's multivolume *THIERLEBEN*, published in 1878 in German. The drawing on the inside front cover is taken from Baron Cuvier's, *THE ANIMAL KINGDOM*, published in 1829. Europeans have been interested in North and South American birds for centuries, and they have evidently been particularly impressed with this species, which ranges from southern Mexico (states of Oaxaca, Chiapas, Veracruz, Tabasco and Campeche) to Brazil, Paraguay and northeastern Argentina.

The photographs of the Bobwhite (p. 17), Coots (p. 20), Laughing Gull (p. 23) and American Bittern (back cover) were contributed by Dr. John Tveten, of Baytown.

The Bulletin and Newsletter are each issued four times a year and mailed to all members of the Texas Ornithological Society not in arrears for dues. Annual dues for active members is \$3.00, for sustaining members, \$5.00. Inquiries regarding membership should be addressed to Mrs. I. D. Acord, 1911 Cherry Street, Amarillo, Texas 79106. Individual issues of the Bulletin may be purchased for fifty cents a copy. Original articles, reports and news items should be sent to Dr. Michael Kent Rylander, Editor, Department of Biology, Texas Technological College, Lubbock, Texas 79409. Conservation items should be submitted to Mr. Edward Fritz, Conservation Editor, 909 Reliance Life Building, Dallas, Texas 75201. The art director for the Bulletin is Mr. Dick Cheatham. The Texas Ornithological Society was organized in 1953 and membership is open to anyone having an interest in Texas birds, their study and conservation. The president of the TOS is Dr. A. W. O'Neil, Falfurrias; the vice-president is Mr. C. E. Kiblinger, Dallas; and the Secretary is Mrs. John A. Briggs, Alice.

# THERMOREGULATION IN BIRDS

*A summary of the  
remarkable means  
by which  
birds cope  
with changing  
temperatures*

## I. INTRODUCTION

Birds are, in general, considered to be homoiothermal in the adult stage of their existence. If a relatively constant body temperature must be maintained, birds must meet the problem of adjustment to changing environmental conditions, and they do this in a variety of ways. Arctic species and birds in winter have efficient methods of conserving heat, while in warm climates various means of dissipating heat are utilized.

As a general rule the body temperature of small birds fluctuates more than that of large birds (Welty, 1962), and may be different in various parts of the body of a single bird. Baldwin and Kendeigh (1932) state that the skin temperature of the eastern house wren is lower than that of the body, varies in different parts of the body, and is not in all cases the same in the two sexes. Body temperature changes with the activity of the animal, i.e. in sleep, waking rest, and activity, and this is noted in cold regions of the world as well as in temperate regions (Irving, 1955). Although these relatively small changes in body temperature are apparent, birds are ordinarily able to maintain a temperature at a fairly constant point.

This is accomplished through physical and chemical mechanisms which are formed into an interdependent system of feed-back controls governing the production, transportation, and dissipation of heat.

When food is oxidized in the body, heat is produced (Sturkie, 1954). Marshall (1960-61) states that only rarely and temporarily is there a direct uptake of heat *per se* from the environment. This heat from whatever source is moved in the body principally by conduction and by convection, and tends to keep the body at the same temperature all over. If the bird is in an environment of lower temperature than that of the body, there will be a continuous, but variable and adjustable loss of heat to the environment by radiation, convection, conduction, and evaporation.

*Dr. Jed Ramsey, who is an associate professor of Biology at Lamar Tech, studied the physiology of chimney swifts with Dr. F. M. Baumgartner at Oklahoma State University. He has published papers in the Auk, Condor, and the T.O.S. Bulletin.*



## II. MECHANISMS OF THERMOREGULATION

### A. Feathers

The outside covering of the bird is well adapted to the prevention of the escape of heat from the animal. In general, species from the arctic are more densely feathered than are tropical species. Wallace (1955) mentions the insulating effect of fluffed feathers in cold or depressed feathers in warm weather. These fluffed feathers trap air in small spaces, making good insulation from the environment. Collins (1963) obtained data which indicated that although the swifts of the genus *Cypseloides* were hatched naked they were covered by "down." This semiplume covering may be a substantial aid to thermoregulation in nestlings of these swifts, enabling them to withstand the rigorous environment of the nest site. When the feathers of an adult bird, however, are depressed the trapped air spaces are cut down to a minimum and heat can more readily be lost from the body. The problem of preventing heat loss through unfeathered portions of the body in cold weather has never been fully explained, but the answer seems to lie in the low thermal conductivity of such areas (Wallace, 1955).

A common method for reducing heat loss from the unfeathered parts of the legs is to "sit" on them, thus surrounding them, at least in part, with an insulating cover of feathers. Marshall (1960-61) quotes Deighton and Hutchinson (1940) and says that in the domestic fowl, the heat loss while standing is 40-50% greater than that during sitting.

In general, the larger birds have a more favorable surface-mass ratio for withstanding extremes of cold, thus northern forms are usually larger than closely related southern forms (Bergmann's rule). The Snowy Owl (*Nyctea scandiaca*) and the ptarmigans are better adapted, and more efficiently insulated, than the smaller Snow Bunting (*Plectrophenax nivalis*), which nests in the Arctic but migrates out for winter. Smaller birds expend more energy, requiring greater intake, in maintaining their characteristically higher metabolism. Brody (1945) states that the geographic distribution of animals is dependent on body size, that is, on the ratio of surface area to body weight, and on other factors.

### B. Vascular Control

Heat loss is also regulated by vasomotor nervous mechanisms. When the air temperature is high, the blood vessels in the skin dilate, thus increasing heat loss, and when the temperature is low, the vessels constrict, which tends to conserve heat (Sturkie, 1954).

The feet of most birds present an interesting facet of thermoregulation. Since the feet lack effective insulation, vasomotor control is of paramount importance in adjustment of heat loss by controlling the thermogradient between the surface and the environment. There is reduced blood flow to the feet at low environmental temperatures, and a vascular mechanism in the shank allows blood flowing into the unfeathered part of the leg to have a very low temperature, thus reducing heat loss. The steep gradient along the length of the feathered shank is presumably the result of exchange of heat between arterial and venous blood (Marshall, 1960-61).

### C. Lungs

Heat loss is regulated, to a large extent, by vaporization through the lungs, by increased respiration and by panting. At low environmental temperatures the breathing rate and general body metabolism is lowered, while at elevated temperatures higher breathing rates are noted. Since birds have no sweat glands in the skin, heat and water loss is accomplished by "perspiring" into the air sacs with consequent removal of excess heat through the lungs and mouth. A bird gaping with open mouth in hot weather is not panting for breath, but is speeding up dissipation of internal heat by an increased breathing rate and faster evaporation of moisture. Marshall (1960-61) states that panting is evidently controlled by a separate and distinct center in the brain (anterodorsal part of the diencephalon). With the destruction of this center, ventilation is controlled only by a respiratory center in another part of the brain (medulla) and panting is not possible. In experiments with the domestic fowl, Randall (1943) was able to show that elevation of skin temperature without elevation of head temperature fails to cause panting, thus indicating that panting is not stimulated reflexively via dermal thermoreceptors, but rather depends upon a central thermoregulatory center which is sensitive to elevated temperature.

The efficiency of panting as a thermoregulatory mechanism is a function of the vapor pressure of the inhaled air. In many species, it is supplemented by a tolerance of a temporary

hyperthermia as great as 4° (Marshall, 1960-61). This hyperthermia then increases dissipation of heat by increasing the gradient between the bird and the environment.

Wallace (1955) reports that the Texas Nighthawk (*Chordeiles aculipennis*), incubating in full exposure to the south-western sun, apparently utilizes the extraordinarily large oral surface of the interior of the mouth as a cooling mechanism, even fluttering the gular membrane of the throat to hasten evaporation. Brauner (1952) explains that Poor-wills (*Phalacrocorax nuttalli*) also apparently cool themselves by vibrating their throats and moving air across the large exposed blood vessels of this area.

Sleeping birds commonly tuck their bill in their feathers in cold weather to reduce heat loss in breathing.

### D. Muscular Shivering

When physical mechanisms for heat conservation do not suffice and the body temperature begins to fall, the bird's muscles begin to shiver, oxygen consumption increases, and extra heat is generated. Pembry (1895) showed that the development of the power of heat regulation proceeds simultaneously with the development of the nervous and muscular systems, and shivering was shown to be an early indication of such heat regulatory mechanisms. Randall's (1943) investigations with the domestic fowl show that shivering may be caused reflexively by stimulation of cutaneous cold receptors or centrally by decreased body temperature. Welty (1962) indicates that some of these thermoregulatory mechanisms may be controlled indirectly through endocrine secretions. Cannon, et al. (1927) reports that "conditions which would naturally cause a lowering of body temperature induce an increased discharge of adrenalin into the circulating blood.—A disturbing heat loss evokes activity of the adrenal medulla and the extra output of adrenalin, by hastening combustion, serves to protect the organism against cooling."

### E. Hypothermia and Torpor

#### 1. Temperature of Eggs and Young Chicks

Baldwin and Kendeigh (1932) report that egg temperatures under experimental control vary directly and rapidly with air temperatures.

When subjected to low temperatures (15.6° - 21.1° C), the embryos at all stages will survive an exposure of as much as 16 hours (in one case 24 hours, in another 30 hours). During the first 8 days of incubation, a delay in hatching of about 6.9 hours was produced by exposure to low air temperatures, but during the latter days of incubation, no delay was produced.

Pembry et al. (1895) gives the information that toward the end of incubation of chicks, about the 20th and 21st day, there is an intermediate stage in which no marked response to external temperatures is observed, and this apparently neutral condition is succeeded, when the chick is hatched, by a stage in which the chick reacts as a warm-blooded animal. The apparently neutral stage may be the resultant of two opposite tendencies, on the one hand the cold-blooded condition, on the other, the imperfectly developed power of regulating the products of heat. The intermediate stage may give way to the cold- or to the warm-blooded condition, according to whether the young is feeble or strong and healthy.

Young birds, particularly altricial species, do not have the capacity for regulating body temperature at hatching time and have to be brooded more or less constantly at first. Thus they are essentially poikilothermous at hatching. Precocial birds are further along in this respect at hatching time, but their body temperature is unstable for several days. Nestling gulls, for instance, have some capacity for temperature regulation before hatching; after hatching this capacity is correlated with environmental conditions, i.e., it is good in moderate weather but poor in cold weather (Wallace, 1955).

According to Odum (1942), the development of coordinated muscle tremors corresponded closely with the development of temperature regulation in the small altricial species, the House Wren (*Troglodytes aedon*) and Black-capped Chickadee (*Parus atricapillus*). No tremors were recorded from newly hatched and 3-day nestlings which are poikilothermous but were present at all later ages roughly corresponding to the development of homoiothermy and inversely related to the air temperature. The muscle-tremor-heat-production mechanism apparently developed more rapidly at first than did the control of heat loss as indicated by feather growth. In precocial pheasants, periodic tremors were first detected at 9 days of incubation in the unopened egg at incubation temperature.

Barred-rock chicks were capable of panting and shivering at or shortly after hatching, but neither mechanism was efficient in maintaining body temperature until several days of post hatching development. Normal body temperature increased from a temperature identical with that of its environment to about 41° C ten days after hatching, after which time it approached and remained within the limits of the diurnal variation of the adult (Randall, 1943). In young Vesper Sparrows (*Pooecetes gramineus*), Dawson and Evans (1960) reported that the oxygen consumption of birds 0 to 2 days old varied directly with environmental temperatures from 13° to 38° C. Nestlings 0 to 2 days old were generally unable to maintain body temperature more than 3° above environmental temperature between 13° and 37° C. Four-day-old individuals maintained body temperature as much as 10° C above environmental temperatures between 20° and 25° C. An altricial bird may be unable to raise its head and neck from the bottom of the nest for some time after hatching, and its chief need was not food but warmth. Its main activities during the first days were gaping, swallowing, digesting, and defecating (Van Tyne and Berger, 1959). Young House Wrens developed temperature control by 9 days of age. Excessive heat killed young birds more quickly than did cold, and survival time without food was longer at low temperature than at high air temperatures (Baldwin and Kendeigh, 1932).

Chicks of megapodes ("incubator birds") are exceptionally precocial in that they apparently possess a well developed control of body temperature when they emerge from the shell. The precocial chicks of the Bobwhite (*Colinus virginianus*) have some capacity to regulate body temperature even before hatching, and when one day old can maintain homiothermy, but only within a narrow, rather elevated temperature range (Welty, 1962). The downy young of Wilson's Petrel (*Oceanites oceanicus*) is brooded in an antarctic burrow by its parents only the first day or two after hatching. From then on it remains unattended all day long in an air temperature of 50° C. Its temperature control appears at the age of 2 days. The young of the closely-brooded Adelie Penguin (*Pygoscelis adeliae*) in the same chilly habitat, do not establish homiothermy until about the fifteenth day. Young chicks of the European Capercaillie (*Tetrao urogallus*) are precocial and hatch out relatively homiothermous, but with a weak temperature-regulating mechanism. The temperature of newly hatched dry chicks is 37.9° C, and it increases steadily until the chicks achieve normal adult temperature of 41.6° C, on the 18th day. However, chilly, wet weather causes heavy mortality among the chicks because they must spend so much time keeping warm under the hen that they starve to death, even though food is near and plentiful (Hoglund and Borg, 1955, as cited in Welty, 1962).

## 2. Temperature Fluctuations in Adult Birds

There is a decided and rather abrupt daily rhythm of body temperature in some passeriform birds. The average body temperature rises gradually during the morning from the beginning of the day's activities until the maximum is reached during the middle of the day. It decreases again during the late afternoon. When the bird settles on the nest for the night, the temperature for a short time thereafter (1.25 hrs.) falls very rapidly (1.0° C). It then decreases gradually until the minimum is reached about midnight. After that, the body temperature fluctuates more or less until 3:30 a.m. There is then a rapid rise (0.9° C) in the body temperature of the female just before leaving the nest for the first time in the morning (Baldwin and Kendeigh, 1932).

Although temporary hypothermia may be noted in young birds, it has been noted rather infrequently in adults. When small animals, which must eat almost continuously to maintain body temperature, are deprived of food, as during sleep or by inclement weather, they must either allow their temperature to drop, or have a different source of food in addition to the normal one. When these birds are placed in a situation where heat is lost too rapidly because of a high temperature gradient with their environment, they are able to become temporarily poikilothermous and enter a torpid state. McAtee (1947) has collected reports of torpid adult birds which have appeared in the literature and although it is difficult to judge the reliability of these accounts, they are so numerous that one must draw the conclusion that torpidity is "fairly common among the swallows, swifts, goatsuckers, and hummingbirds, at least." These birds are of rather small size and, with the exception of the hummingbirds, rely upon flying insects for food.

Howell and Bartholomew (1959) found that torpor was induced at low (2° - 4° C) to moderate (19° C) air temperatures. Entry into torpor was preceded by several hours of slightly depressed body temperature, and then a steady and rapid decline in body temperature and oxygen consumption occurred. During the torpor, environmental and body temperatures were virtually identical for long intervals but the bird was capable of some movement if disturbed. Arousal was induced by increasing the ambient temperature, and body temperature increased passively until a temperature of about 15° C was reached. Then an active phase of arousal commenced that was marked by strong shivering, increased respiration, and a steep rise in body temperature and oxygen consumption. This continued until body temperature was "normal".

Udvardy (1954) cites Koskimies (1948) who established the fact that European Swift (*Micropus apus*) may survive the period of starvation and cold during a cyclonic storm by reversible temporary torpidity.

Kayser (1961) described the phenomenon of torpidity as an extreme accentuation of the normal diurnal rhythm of the temperature. He mentioned that this is also found in hibernators in autumn at the time of the onset of hibernation. Hibernation is very difficult to distinguish from hypothermic states, physiologically. Deane and Lyman (1954) are quoted by Kayser (1961) as concluding that in hypothermia there is no stimulation of the thyroid or the adrenal glands by the anterior pituitary body during prolonged stay at a cold temperature. There is an increase in the concentration of ascorbic acid in the organism before hibernation, but there are no data in this area for the torpid state. Kayser (1961) also quotes Bibikov and Zhirnova (1956) who studied the changes in the storage fat in animals. They found that the subcutaneous fat was used first during prolonged inactivity. There was an appreciable amount of visceral fat remaining while the subcutaneous fat had already practically disappeared. It seems, therefore, that subcutaneous fat and visceral fat have different physiological significance.

The Poor-will has been shown to hibernate (Jaeger, 1948; Jaeger, 1949; Thorburg, 1953; Jaeger, 1954; Marshall, 1955; Stebbins, 1957). This is the only species which is known to enter true hibernation. This is the ultimate in temperature regulation, and may be present in other species. There are a great number of accounts (McAtee, 1947) of suspected hibernation among families other than Caprimulgidae. This may be a worthwhile field for research.

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## HUMMINGBIRDS OF BIG BEND

*Hummingbirds can be found  
in Big Bend every month  
except January*

Wherever they occur hummingbirds seem to be almost everyone's favorite. They are the smallest, the most brightly colored, most acrobatic, most fragile, and certainly the most fun to watch of birds. Yet hummers are found only in the Western Hemisphere. Most abundant at the equator, the hummingbird population centers in Ecuador where 163 of the 320 known species have been recorded. Only nineteen species have been reported for the United States and they are somewhat restricted to the western half of the country. In the entire area east of the Mississippi there is only one nesting species — the Ruby-throat, *Archilochus colubris*. The West does considerably better, however, as fourteen have been found nesting there from the high glacial forests to desert mesquite bosques.

The Southwest is blessed with many unique features, including the greatest number of hummingbirds in the United States. Several species barely cross the border and so receive a great deal of notoriety. Texas seems to be exceptionally fortunate in this regard, as seven of the seventeen species that have been recorded in the state occur only a few dozen miles north of the International Boundary.

The Rieffer's Hummingbird, *Amazilia tzacatl*, and Buff-bellied Hummingbird, *Amazilia yucateensis*, are specialties only of the lower Rio Grande Valley. The mountain region of West Texas contains five of the seven: Lucifer, *Calothorax lucifer*, Rivoli's, *Eugenes fulgens*, Blue-throat, *Lampornis clemenciae*, White-eared *Hylocharis leucotis*, and Broad-billed *Cyananthus latirostris*. With the exception of the Whiteeared Hummer, all of these have been found to nest within the Big Bend Country. The White-ear is probably just a post-nesting visitor to the West Texas Mountains, and then just during July and August of years that produce an excellent bloom of Century Plants.

Six species of Hummingbird nest within the Big Bend: Lucifer, Black-chinned, Broad-tailed, Rivoli's,

Blue-throat, and Broad-bill; the latter has been found only once (Quillin, Auk 52: 325, 1935). Black-chin is the common nester throughout the lowlands and moves into the mountains afterwards. Lucifer can be expected from the low desert hills into the higher canyons of the Chisos Mountains. Broad-tail is probably the most numerous of Big Bend's mountain hummers, but Rivoli's and Blue-throat summer in the higher parts of the mountains. Blue-throat is fairly common in Boot Canyon and similar highland niches and nests among the Douglas fir - Arizona Cypress - Texas Madrone - oak canyons; Rivoli's feeds there but nests among the nearby pinyon woodlands.

The rest of Big Bend's hummingbird population is made up of migrants and post-nesting birds. Ruby-throat, Allen's and Costa's are fall migrants only; I have found each only on two or three occasions. Rufous Hummer is an uncommon spring migrant but a common post-nesting visitor to the flowered slopes of the Chisos during August, September and October. In November and December it moves out of the mountains and lingers about stands of Tree Tobacco along the Rio Grande. There, too, in late fall and early winter, is where Anna's Hummers have been found. Anna's, Rufous, Broad-tail, and Lucifer may remain in this habitat throughout December.

January is the only month that one cannot find hummingbirds in the Big Bend. Yet by February, when the cottonwoods and Acacias begin to flower, Lucifer, Black-chin, and Broad-tail Hummers frequent the desert washes, and it is not long before spring migrants wander north to the Big Bend. August is the month to find the greatest variety of Big Bend hummers. It is doubtful if a birder could find all twelve of Big Bend's hummers in a single year, but when Century Plants send up their long awaited stalks that reach out their yellow flowered branches it is hummingbird time in the Chisos.

—Big Bend National Park, Texas

# NEWS AND NOTICES:

It is with deep regret that we announce the death of Gaddis Taylor of Marshall. Mr. Taylor was born November 28, 1895, in Italy, Texas, and began operating an insurance adjustment business in Marshall in 1961. He was a charter member of the Texas Ornithological Society and has been active in the Society throughout its history.

The Dallas Natural Science Association has published its first quarterly, a report on an expedition to Black Gap. The publication is edited by Charles Finsley and is produced by the Dallas Museum of Natural History.

The spring meeting of the Arkansas Audubon Society will be held May 2-4, 1969, at Ozark Bay Camp located on the Ouachita River in western Arkansas. For information write Mr. H. H. Shugart, 180 N. Broadway, El Dorado, Arkansas 71730.

The March issue of Midland's *The Phalarope* contains an excellent new check list of the birds of the Davis Mountains compiled by Mrs. Pansy Evans Espy of Fort Davis. This is the first check list of this area since 1963 and includes 235 species, 72 more than the previous list.

The annual "Big Day" count for Amarillo and vicinity is set for May 10. The highest for this area is 143 species seen in one day in 1967.

The March bulletin of the Oklahoma Ornithological Society, a handsome printed bulletin containing short ornithological notes, reports on a Groove-billed Ani in Oklahoma City; Breeding behavior of the chipping sparrow in Cleveland County, Oklahoma; nesting of American Coot in Cimarron County; food and survival problems of Oklahoma Roadrunners in winter; nesting of Bell's Vireo in Johnston County, Oklahoma; late fledgling of Tufted Titmouse in Oklahoma; and the unsuccessful nesting of the Boat-tailed Grackle in Pontotoc County, Oklahoma.

The *Bulletin* is sent to all members of the Oklahoma Ornithological Society. Membership fee is \$5.00, sustaining, or \$2.00 regular. Checks made out to the society should be sent to the treasurer, Mrs. Ruth A. McNew, 114 S.E. 35th St. (P.O. Box 94224), Okalahoma City, Oklahoma 73109. Editor of the *Bulletin* is Sophia C. Mery, 345 S.E. Boston, Bartlesville, Oklahoma 74003.

The Brazos Ornithological Society announces the initial issue of its publication, *El Chapparal*, the newsletter of the Brazos Ornithological Society. The April meeting of this society, April 17, included a report on a trip to Woodville in search of the elusive Ivory-billed Woodpecker and a slide program by Dr. J. van Overbeek, Director, Institute of Life Science, Texas A & M University. We welcome the addition of *El Chapparal* to Texas local newsletters.

The Cornell University Laboratory of Ornithology has just published "Caribbean Bird Songs," 54 species of birds from Puerto Rico and the Virgin Islands recorded by George B. Reynard and issued as a 33 1/3 RPM high-fidelity, monaural recording. This record may be obtained for \$4.69 from the Cornell Laboratory of Ornithology, 159 Sapsucker Woods Road, Ithaca, New York 14850.

The spring meeting and field trips of the Louisiana Ornithological Society will be held at Cameron April 19-20 and Chicot State Park May 2-4.

The first number of the 1969 volume of the Arkansas Audubon newsletter has a new look. It is very tastefully set in a spartan type and includes a variety of interesting information concerning birds in Arkansas. An article by Douglas James describes his trip to Alaska where he birded beneath the midnight sun. Those of you wishing to become a member of the Arkansas Audubon Society should contact the Treasurer, Arkansas Audubon Society, Route 4, Box 332-1, Texarkana, Arkansas 75501.

This newsletter reports that the new addition of the Arkansas check list will be ready this spring.

Fourth and fifth graders of Alpine, Fort Davis, Marathon, and Marfa will soon have an opportunity to win an expense paid weekend at Big Bend National Park for themselves, their families, and teachers. The contest, "It's Your World—Essays on Improving It," is being co-sponsored by the Alpine Rotary Club and the Big Bend Natural History Association. According to "It's Your World" Chairman Paul Forchheimer, this contest will give the kids an opportunity to be the "big man" of the family for at least a whole weekend.

The Golden-cheeked Warbler and its problems are brought to national attention in the March issue of National Parks Magazine. Warren Pulich calls upon his many years of study of this bird and discusses the current controversies regarding land uses in the Golden-cheek's nesting habitat, including the Meridian State Park problem. "Golden-cheeked Warbler: Threatened Bird of the Cedar Brakes," appears in the March, 1969 issue, Vol. 43, No. 258. Single issues may be ordered at 50 cents each from National Parks Magazine, 1701 18th St. NW, Washington, D. C. 20009.

PELICAN IN TROUBLE. "Our research director, Alexander Sprunt, IV, has been coordinating activities of a committee of federal, state and private agency representatives trying to find reasons for the decline of the brown pelican. The "pelican state" of Louisiana hasn't had any known breeding pairs there for more than a decade. The situation in Texas is almost as bad, and southern U. S. and Latin American populations are declining. Probable major causes: water pollution and pesticides. The Pelican Committee may be reached through our research department, Box 231, Tavernier, Fla. 33070."—*Nat. Aud. Soc.*

Guy Emerson, 83, who served as National Audubon president from 1940 to 1944, died in January in North Falmouth, Mass. Nationally known as a banker, he was a conservationist and a philanthropist as well. Mr. Emerson was a member of the board from 1936-1954, when he retired with the title of honorary president. During those years he served also as treasurer and member of the audit and Audubon Medal committees.—*Aud. Soc.*



Guest  
Editorial:

COLLECTING  
BIRDS FOR  
SCIENCE

Unnecessary collecting of bird specimens in Texas in recent years has aroused deep resentment in many birdwatchers at what we consider excesses committed in the name of science. The instances are well known and seem to be increasing; many of us would like for TOS to adopt a policy on collecting that birders and scientists can live with in harmony.

Birders realize their enormous debt to professional ornithologists for all they have taught us and are quite aware that much of such knowledge was necessarily gained from study of skins of necessarily collected specimens. With legitimate scientific activities we have no quarrel; we resent vanity collecting, the taking of birds that serves no purpose but to inflate the ego of the collector.

Many of us believe that a vast sufficiency of comparative collections exist within reasonable reach of students and that additional specimens could very well accrue from salvage of accidental kills. The several hundred skins at Corpus Christi Museum, most in fine condition, all came from this source. A concerted effort along this line could possibly meet most of our future needs.

Many birds taken in the state have been not rare birds especially but species taken well outside their normal ranges. Collecting was certainly not necessary, for the individuals had already been identified by competent field observers and usually had been photographed — evidence now fully accepted by leading ornithological societies.

Extra-territorial occurrence of birds can be fraught with significance but the possibilities cannot be realized by shooting the individuals. The study of living birds is the really challenging aspect of ornithology today, it seems to me, and the better papers in current publications indicate that numerous serious students agree.



The presence of several unusual species in South Texas last winter received considerable newspaper publicity. Chamber of commerce people were impressed by the "tourist" traffic generated, thus, birding and conservation scored a point that will be useful when we go to the public for sanctuaries, laws, money, and other aids to The Cause. Had the rarities been shot, what then?

Awed as we are by the contributions of professional ornithologists, I think it not amiss to point out that we "little old ladies in tennis shoes" also serve; we raise our voices at public hearings, we write to legislators, we buy the books that the pros write, we sometimes make significant observations, and often it is we who discover the rare birds. But we cannot share them with guns at our backs; if our little feathered friends keep ending up in locked museum drawers we will just keep our rarities secret — and that way everybody loses. *Kay McCracken, 11544 UpRiver Road, Corpus Christi.*

T.O.S.

Conservation

Editor

# Conservation Report

## TOS CONSERVATION COMMITTEE WILL GATHER DURING ANNUAL MEETING

At noon May 4 at Sheff's Woods, 20 miles north-east of Tyler, after the dedication of the new nature area which will take place there at 11:00 a.m., the conservation committee of TOS will hold an outdoor meeting to support the state and national platforms already adopted. Among the special topics will be the Big Thicket. John Tveten will bring the group up to date on conservation education. The meeting is open to everyone.

## TEXAS ACADEMY OF SCIENCES JUMPS INTO STATE-WIDE COORDINATED CONSERVATION MOVEMENT

Representative Fred Orr told the Texas Academy of Sciences March 14, 1969, that the Texas Legislature is acting on more conservation measures this session than ever before, and Dr. Frederick R. Gehlbach stated that the number one conservation problem is over-population.

The Academy, at its annual meeting at Arlington that day, adopted the 18-Plank State Conservation Platform\* and 22-Plank National Issues Platform for Texas Conservationists,\* and adopted a resolution that the size of the human population be controlled.

Mr. Orr, of Dallas, sponsor of the Scientific Areas Bill credited the Texas conservation boom to the increasing conservation activities of the Texas Academy of Sciences, the Texas Committee on Natural Resources and other organizations, and to the work of an aware and dedicated group of legislators who have introduced meaningful packages of legislation.

Mr. Orr said his amendment strengthening the Scientific Areas Bill by authorizing the Parks and Wildlife Department to purchase natural areas for preservation and scientific use was running into no opposition this session, in contrast to last session when the Scientific Areas Bill had to be weakened in order to obtain passage.

### *Resource Agencies Reorganization*

Mr. Orr urged support for his Natural Resource Agencies Study Bill, which would authorize the Governor to set up a two-year study of best methods for coordinating the sprawling agencies handling natural resource problems in Texas. Orr said that a careful study is necessary, including a review of successful centralization in other states, rather than hastily adopting such slap-dab measures as re-splitting the Parks and Wildlife Commission, or enlarging it into a nine-

man body of regional representatives, as now proposed in two other bills.

### *Parks to Pollution*

Important conservation bills already introduced this session, said Orr, include a package on state parks by Sen. Don Kennard of Ft. Worth and Rep. Bob Armstrong of Austin, a package on estuary preservation and public access by Sen. A. R. Schwartz, a Natural Rivers Bill by Sen. Kennard and Reps. Ben Atwell and Neil Caldwell, a Bird Protection Bill by Reps. Ben Atwell and Neil Caldwell, a set of pollution control bills by Sen. Criss Cole and another set by Rep. Rex Braun, and several bills attempting to limit or stop shell-dredging.

Dr. Gehlbach, ecologist at Baylor University, emphasized the need for organized support of the TAS Platform on National conservation issues.

Orr and Gehlbach spoke at the second annual conservation committee luncheon of TAS, which was attended by fifty-three persons. Dr. Gerald Raun of North Texas University, temporary chairman of the committee, presided.

### *TAS Conservation Committee*

Questions from the floor were frequently referred to Dr. Dan Willard, Dr. Clark Hubbs and Edward C. Fritz, who, along with Drs. Gehlbach and Raun, comprised the TAS conservation committee during the past year, under the leadership of Dr. Bob Boyer, president of TAS who activated the committee.

Dr. W. E. Norris, incoming president of TAS, has stated that he will appoint an enlarged conservation committee and will support an increase in advisory functions to state agencies during the coming year.

### *Population Control Resolution*

The language of the TAS population resolution is as follows:

*Whereas the natural environment of Texas and the entire world is deteriorating because of pollution and over-exploitation, and*

*Whereas the uncontrolled increase in numbers of human beings is the over-riding cause of all types of pollution and resource depletion,*

*Hereby be it resolved by the Texas Academy of Sciences at its 72nd Annual Meeting held March 14-15, 1969, at Arlington, Texas, that the size of the human population be controlled before the natural resources are exhausted.*

\*These two platforms are virtually identical to those of the Texas Ornithological Society and several other Texas conservation organizations.

# RECENT LITERATURE:

Lawrence Kilham's second report on "Reproductive Behavior of HAIRY WOODPECKER" states that "males forage away from nests, making fewer feeding visits but with larger prey, whereas females forage within earshot of their young, making frequent visits as well as maintaining general surveillance." *Wilson Bull.* 80: 286-305.

A study of 177 RED-WINGED BLACKBIRD nests in Florida showed a great degree in nesting adaptability. Nests were found on 30 genera of plants; Buttonwood was the primary choice. Nests also were found in shrubs and trees, in assorted herbs and grasses, and in fields of sweet corn and sugarcane. *Wilson Bull.* 80: 306-324.

N. Philip Ashmole found an EASTERN PHOEBE female dividing its clutch between two nests in Connecticut. A pair built two nests simultaneously under a bridge, and laid three eggs of a clutch in one nest and two eggs of the same clutch in the second nest, only just over two feet away but out of sight. The female incubated all of the eggs, although three failed to hatch. *Wilson Bull.* 80: 332-333.

Censuses of breeding birds on a one-square-mile tract of desert scrub in southern New Mexico revealed a total density of breeding pairs of only 17.7 per 100 acres. Nine bird species were found breeding on the area which was divided into three different types of habitats: major arroyo vegetation, small arroyo vegetation, and undissected upland or "divide" vegetation, all dominated by creosote bush. *Condor* 70: 193-205.

The second record of ANNA'S HUMMINGBIRD for Texas was reported for Big Bend National Park by Wauer and Rylander. One was collected near Santa Elana Canyon in November, 1967. It is considered to be a rare fall and winter visitor to West Texas. *Auk* 85: 501.

Ellen L. Coutlee's southern California behavioral study of LAWRENCE'S and LESSER GOLDFINCHES showed that the species were similar in that both have a strong pair bond throughout the nesting season, that females give unusually close attention to the nest, that pairs are being formed as mixed winter flocks disintegrate, and that territories are not established until the nesting site is chosen. Lawrence's Goldfinches usually nest higher above ground than Lessers. Lawrence's females collect nesting materials on the ground and Lesser females collect nest materials while perched in bushes and trees. Also, territories of Lessers are about twice the size of Lawrence's Goldfinches. *Condor* 70: 228-242.

A YELLOW-BILLED MAGPIE was found to drown its prey after catching a rodent which was identified as a mouse or vole, near Monterey, California. *Condor* 70: 281.

—Roland Wauer

# BOOK REVIEWS:

*FINDING BIRDS IN MEXICO—1968*, by Ernest P. Edwards. Available from Dr. Edwards, Sweet Briar, Va. 24595. Paperback edition \$4.95. Hardback edition \$6.95. Prepaid.

\* \* \*

T.O.S. members who have used Dr. Edwards' earlier edition of *Finding Birds in Mexico* may now obtain a second edition said to be three times larger. Anyone traveling to Mexico and interested in seeing the birds of that area will find this publication very useful.

The book is written to provide information on where and how to find the most favorable localities in Mexico for bird study. In addition, it also tells what different species of birds one can expect to see in each locality and something of the environmental conditions in the various parts of Mexico.

Specific coverage of highway systems, climate, vegetation, topography and the bird life of each region (divided into five and not six as indicated on page xv) and their sub-regions are given. It does not list or recommend tourist accommodations, nor does it imply availability of acceptable accommodations in the localities.

Specifically, it covers about 66 localities which are grouped in alphabetical order without regard to order of region locality; however, each discussion indicates the locality and does not detract from the organization.

There are 15 composite plates of Mexican birds, four in color and eleven in black-and-white. The Field Guide section also describes briefly all Mexican birds not found regularly in the United States. Sixteen families of birds not found in the United States are characterized with particular reference to their Mexican representatives. All these families are helpfully illustrated. All birds which had been reported in Mexico three or more times and can be expected to occur are listed, both by their English common names and Mexican common names. An Index to group common names such as hawk, sparrow, etc., is given. Even the accidentals are listed.

One might do very well in using Edwards' book with the U. S. field guides and a copy of Ernest Blake's *Birds of Mexico*. *Finding Birds in Mexico* complements these texts and it would be found most rewarding in a study of the birds of Mexico.

Anyone using this publication will find it very useful, providing it is studied and its organization understood in advance of a trip south of the U. S. border. Although a Bibliography is given, it is rather sparse. Your reviewer's one criticism of *Finding Birds in Mexico* is the lack of an Index which would list all the localities for a readily available check on whether or not an area is covered. This fault, however, does not detract from its usefulness and it is highly recommended to anyone planning a birding trip to Mexico.

—Reviewed by Warren M. Pulich

## Annual Financial Statement

Year Ending March 31st, 1969

Total Cash Assets as of April 1st, 1968 .....\$4,746.70

### RECEIPTS:

Dues to 3/31/69 .....	\$2,805.46	
Contribution of a member .....	333.83	
Shoulder Patch Sales .....	40.00	
Button Sales .....	2.00	
Decal Sales .....	66.60	
Sale of Back Bulletins .....	6.00	
Check List Sales .....	12.40	
Registration Balance Fall Meeting .....	100.00	
Interest on Savings Account .....	90.95	3,457.24
		<u>\$8,203.94</u>

### DISBURSEMENTS:

Printing Three Bulletins .....	\$1,209.09
Addressing & Handling Same .....	44.20
Printing and addressing 3 News Letters .....	108.02

Yearly Postal Permit .....	30.00
Advances to Post Office under Permit .....	350.00 (1)
Editor's Misc. Postage & Expenses .....	42.55

### Treasurer's Expenses:

Postage .....	\$135.85	
Printing .....	42.60	
Addressing .....	12.00	
Misc. Supplies .....	8.94	
Telephone .....	9.72	
Freight Charges .....	6.25	215.36
Purchase of 3000 Decals .....	333.20	
Conservation Committee Expense .....	108.96	2,411.38

Total Cash Assets as of 3/31/69 .....\$5,762.56

### DISPOSITION OF ASSETS:

Savings in First National Bank of Ft. Worth .....	\$2,322.28
Checking A/C Hillcrest State Bank, Dallas .....	3,440.28
(1) About \$150.00 of this still unused at Post Office	

NOTE: Transfer of funds to Mrs. I. D. Acord 3/15/69 .....	\$1,000.00
Savings A/C as of 3/31/69 .....	4/15/69 2,440.28

RUSSEL WEIL, Treasurer

# Brief

## Communications:

### REPLY REGARDING POSSIBLE SEX-LINKAGE IN SCREECH OWLS

My original request for information on possible sex-linkage in screech owl coloration has generated much interest. My observations that all Waco-area female screech owls are red and all males gray do not hold up elsewhere. Jed Ramsey reporting on the Beaumont area, Pauline James on the Rio Grande Valley, George Newman on central Oklahoma, and Warren Pulich in general cannot corroborate my findings. Even my own experience in New York, Ohio, Michigan, New Mexico, and west Texas indicates that the Waco situation is unique — if my observations are accurate. In studying one nesting pair for four years and four others for lesser periods at Waco, I find that the presumed male sets up the nesting territory in the early fall (usually in mid-September-late October) by calling repeatedly from various perches and especially nesting cavities in a circumscribed area. I have not seen the presumed female do this, and David Ligon tells me that such territorial calling is typical male behavior in small owls. Furthermore, I have seen only the presumed female incubating eggs and being fed by the presumed male (usually in early-middle March) — again observations sustained by Dave Ligon based on his extensive studies in other owls. I use the word, "presumed," because Dave, Keith Arnold, and others have said that screech owls cannot be sexed with certainty by means of external features. Indeed, I am using behavioral data as sex criteria in screech owls, an especially dangerous practice, since the behavioral roles typical of owls could be reversed in my field studies. Nevertheless, the color-behavior link is constant at Waco in at least five pairs, and random sightings indicate a 50:50 ratio of red:gray screech owls.—Fred Gehlbach, Department of Biology, Baylor University, Waco, Texas.

### A SPRING SIGHTING OF AN AGGREGATE OF FULVOUS TREE DUCKS

On April 9 two other Lamar Tech biology professors, George A. Bryan and Gilbert W. Gatlin, and I made a trip to a poacher's illegal kill of 15 alligators found two days earlier by George Bryan. The purpose of the trip was to see what part, if any, of the dead alligators could be salvaged for use in the Biology Department.

On our return, as we drove by some freshly plowed and inundated rice fields 8 miles south of Beaumont, I noticed a flock of about 40 birds in the distance set down in a field. My first impression was that of a flock of ducks, as I had seen a couple of mottled ducks earlier. This flock, however, did not fly much like ducks and for this reason Bryan was a little skeptical about the identity. We approached the area where the birds had set down and saw them standing in the water about 200 yards from the road. They paid little attention to us with the exception of a few that would fly up briefly and then settle again in the same area. Because of the original purpose of the trip, we did not have a pair of binoculars. The color of the birds at this distance was a light buff on the head, neck and dorsum. In flight, the entire venter of the long wings and breast was dark, and a distinct white marking at the base of the tail was evident. Not only was their mode of flight unusual but the pattern of landing in water was different. The setting and cupping of the wings as seen in many other ducks when landing was not in evidence. The sound they made was a high pitched whistle or squeaking sound.

My original impression that these were ducks turned out to be correct, and after noting the color and voice, we or I decided they must be fulvous tree ducks. Species identification of all birds could not be ascertained at this distance, so George Bryan and one of his students, Delbert McWhirter, returned later in the afternoon with a pair of binoculars and positively identified them all as fulvous tree ducks. They counted 38 birds in the flock.

The sighting of fulvous tree ducks in the Beaumont area is perhaps not so unusual since the Houston Outdoor Nature Club lists them as common to abundant in their region. The fact that the ducks were still in a flock and not paired off for nesting might be considered unusual. It is possible that some of the ducks might nest in the general vicinity where they were sighted, as there are numerous oak mottes in the area.—Ernest C. Tanzer, Department of Biology, Box 10037, Lamar Tech Station, Beaumont, Texas 77705.



# Brief

## Communications:

### NESTING OF TERNS ALONG THE TEXAS COAST

The recent article in the TOS Bulletin concerning sight records of Sooty Terns (*Sterna fuscata*) in Nueces Bay prompted me to contribute what information I have on this species.

My first encounter with this bird was on Pelican Island in North Galveston Bay on May 15, 1939, when a single nest was found containing one egg. The nest was well hidden in deep salt grass in a recess covered above and on three sides by overlapping grass, leaving only one open side for entrance. The nest lining was of dry old grass which was probably already in situ and shaped into a slight depression by the bird. The incubating bird sat tightly, getting off the nest almost under foot, much like the manner of quail. When leaving the nest it played the cripple act, flopping over the grass for about seven or eight feet before taking wing. Then it hovered directly over me about ten to twelve feet, calling incessantly. No other terns of any type were nesting in the immediate area but there were huge colonies of Snowy Egrets, Louisiana Herons and Laughing Gulls in close proximity. Only a single Sooty Tern was seen.

Two years later on May 15, 1941, another nest with a single egg was found on Pelican Island. The nest and behavior of the bird was the same as the first found. The mixed colonies of Louisiana Herons, Snowy Egrets and Laughing Gulls were again in close proximity.

June 3, 1951, two other nests with single eggs were located on one of the Turn-Stake islands in San Antonio Bay. The first nest was well hidden in a tussock of grass but not nearly so well concealed as the two nests found in Galveston Bay. It was amid a colony of Gull-billed terns, all of which were already off their nests, flying overhead and calling loudly as I approached. The sooty sat tight, getting off her egg when I was about three feet away. She also played crippled, fluttering across the sand and grass for several yards before taking wing. She then hovered directly above me almost within arms reach, calling constantly.

The other nest was on the opposite side of the island among mixed colonies of Gull-billed terns, skimmers and Laughing Gulls. This nest was in an entirely open situation with the egg placed in a slight depression in the sand and shell. I did not see a bird get off this nest but noticed a sooty hovering directly over me and after a thorough search, the nest was found. Sooty Tern eggs are quite distinctive and could not be confused with those of the gullbilled tern.

My next encounter with this species was in the Laguna Madre. (I have either misplaced my notes or perhaps didn't take any, so the following is from memory.) About the 10th of June 1959 I flushed a bird out of the grass and weeds on the first island south of Big Bird Island. There were many nests of Laughing gulls, Reddish and Snowy Egrets in the area. A diligent search failed to find a chick or egg. I moved back away and the bird landed within a few minutes near the spot where it got up originally. It was flushed again and another search was made. This procedure was repeated perhaps five or six times and each effort ended in failure to find an egg or a young. I suspect a chick was well hidden in the grass. Incidentally, color pictures were made of the adult bird thru a 400 mm lens.

On the same day another sooty was flushed from the grass on an island on the west side of the intracoastal canal. A downy chick was found huddled in the grass at the spot where the adult got up. It was photographed in color at close range.

During this twenty-year period from 1939 to 1959 five certain (and one probable) nests of the Sooty Tern have been found in four different years at three widely separated localities. Since they hide their nests so well in tall grass and weeds, sit so tightly and show no tendency to colonize I suspect this species breeds along the Texas coast more commonly than is generally supposed.

—Travis C. Meitzen

## RECORDS OF BIRDS FROM McKITTRICK CANYON

In June, 1968, while making a study of the bats of McKittrick Canyon for the National Park Service, I chanced upon three interesting bird records, as follows:

White-tailed Kite (*Elanus leucurus*)—On the morning of 13 June, as I was preparing specimens on the front porch of the lodge, I spotted a pair of these birds sitting on a dead limb atop a nearby tree. They were easily identified by the white head and tail, and the dark shoulder patch. My attention was attracted to the kites by a noisy ash-throated flycatcher (*Myiarchus cinerascens*) which attacked them repeatedly, and after about five minutes succeeded in driving them off. I did not see the kites again. This rare species is normally associated with the coastal plain of South Texas, and has not previously been sighted in the Trans-Pecos region, to the best of my knowledge.

Elf Owl (*Micrathene whitneyi*)—Two species were taken, both in bat nets. One, of unknown sex, flew into a net set across an open garage on 2 June. The other, a female, was caught on 13 June in a net set at ground level in the pine-oak-maple forest of the lower canyon floor. Although the garage net contained one *Myotis thysanodes* and one *Antrozous pallidus*, which might have attracted the owl, the forest net held no bats at the time the owl was captured. The elf owl is known in West Texas by but three published records, two from Big Bend National Park, and one from 22.5 mi. S Alpine, Brewster Co., (see Barlow and Johnson. 1967. SW Nat. 12:331-332). The specimens from McKittrick Canyon seem to represent a northerly record for the species in Texas, and tend to support the argument of Barlow and Johnson that this species is extending its range northward.

Spotted Owl (*Strix occidentalis*)—A single male specimen was captured in a bat net set across a pool in the deep, narrow gorge of the canyon's middle section. The net contained a number of examples of *Tadarida mexicana* and *T. macrotis*; these probably served as bait for the owl, as they frequently squeak loudly when caught. There is but one other specimen known from this area, a female collected at 7500 ft., far up the canyon. However, I believe spotted owls may be fairly common there, as I heard them calling at several different localities on the canyon floor. The specimens of the spotted and elf owls are deposited in the collections at Texas A&M University.—Richard K. LaVal.

### UNUSUAL SNOWY EGRET NEST

An instance of misplaced young in a Snowy Egret nest.—On May 12, 1967, while visiting a heronry on an island in Sabine Lake near Bridge City, Texas, I noted a nest containing four young birds about 2 to 4 days old. These birds were different in that three of them were white and obviously Snowy Egret (*Leucophoyx thula*) chicks while one was a dark chick of a Louisiana Heron (*Hydranassa tricolor*). There were many nests of both species in the immediate vicinity (five within four feet of the nest), but this nest was uniquely integrated.

When birds of these species are disturbed at the nest they often leave the nest, but these particular birds were so young that our presence at the nest did not cause this sort of commotion. In my opinion, the odd chick had not wandered into the nest by accident.

The young egrets showed animosity toward the heron and pecked it repeatedly. Although over two-hundred nests have been studied on this island in the past two years, this was the first instance of misplaced young or eggs which has been noted.

One week later, on May 19, 1967, the nest was completely empty and no remains of the chicks could be located. Because of the absence of any remains, the assumption was made that these young birds were killed by predators. Boat-tailed Grackles (*Cassidix mexicanus*) nested in the area, and were responsible for destruction of some other nests under observation. Since grackles were the main predators there, it was assumed that they were also responsible for the destruction of this nest.—Jed J. Ramsey, Biology Department, Lamar State College of Technology, Beaumont, Texas. (1 Oct., 1968.)



## COMMENTS ON THE BULLETIN

It can be unfair, if not hazardous, to make comparisons in history. On the other hand, we can't help being impressed by the initiative shown by certain enthusiastic people at times during the past, and somewhat puzzled at the lack of initiative shown by others. A comparison of California and Texas, the two leaders in terms of bird species, is a bit indelicate but nevertheless provocative.

California's Cooper Ornithological Club was still in its infancy when in 1899 its 102 members published volume one of their bulletin (which was renamed *The Condor* the following year). Dues were \$2.00 per year. The January, 1902 issue of *The Condor*, which would correspond to the *T.O.S. Bulletin* you are now reading, was 26 pages long and contained articles not unlike some of those appearing last year in our *Bulletin*:

- Bird Notes from Tacoma Gulches
- Flathead Lake Findings
- New Alaskan Birds (new species described)
- Nesting habits of the California Shrike
- Two races of the Red-breasted Sapsucker
- Dichromatism in the genus *Carpodacus*
- Eight short notes (sight records, collecting records, etc.)
- Records of Alaskan birds
- Editorials, notices, obituaries, etc.

So the Californians, who numbered roughly 1½ million in 1900 (as compared to 3 million Texans at that time) included enough enthusiasts to plant the seeds of one of the three major ornithological journals in the United States. Sixty-seven years later, Texas, which by this time had a population of approximately ten million, and a state ornithological society of over 800, began publishing its own bulletin. The reasons for the disparity between the two states must be complex, certainly, and are probably not particularly important. What seems to be of more interest is whether the *T.O.S. Bulletin* will continue to grow, perhaps following a course similar to *The Condor* (or another equally as legitimate), or whether it will stand out in history as a brief, ambitious experiment which was soon replaced by its original mimeographed newsletter. If one judges by the number of contributions submitted by T.O.S. members, one is sobered by the realization that we may be too idealistic in dreaming of a superior ornithological publication at this time.

This editorial is not, in fact, a plea for support of the *T.O.S. Bulletin*. In my opinion there are nobler things to plea for if we must plea at all. Rather, I am re-emphasizing that we do have a bulletin at our disposal which may be used as a vehicle for communicating our thoughts and observations on Texas birds. The point in bringing up California was not to imply some sort of superior breed of West Coast ornithologists, but rather to point out that the bird enthusiasts in that state were well aware how valuable an ornithological publication is for disseminating knowledge. At the turn of the century the Californians had many things which they felt were better said in their local publication than in the *Auk*. The same may be true for Texas today.

Editorial policy is always to some extent arbitrary. I have reserved the *Newsletter* for local, informal material, largely in response to several letters last year in which a desire for more personal news items was unambiguously requested. Ironically, the number of such items submitted last year would hardly fill one newsletter, so each month I glean the local newsletters for items I feel may be of interest to T.O.S. members throughout the state. In spite of some rather pointed criticism from eminent ornithologists in other states (who feel that unless an article is good enough for the *Auk*, *Condor*, or other national journal, that it should not be published), I have held firm my position regarding the *T.O.S. Bulletin*. I believe there are certain scientifically sound contributions which are of relatively little interest to ornithologists throughout the world, yet which are of interest to students of birds in this area. (Actually, through its exchanges, the *Bulletin* finds its way into libraries and institutions in Scandinavia, Germany, Great Britain, Hungary, South Africa, Czechoslovakia, and other foreign countries, as well as other states in this country.)

At the present time I would suggest the following guidelines regarding material submitted for publication in the *Bulletin*: (1) carefully designed and documented studies of bird ecology, behavior, distribution, etc.; (2) illustrated stories of special events dealing with Texas birds and birders; (3) well-documented reports of rare birds collected or observed (if seen by several people); (4) general articles of subjects of interest to non-professional ornithologists; (5) historical articles; (6) obituaries; (7) abstracts of articles published in ornithological journals; (8) book reviews; (9) descriptions of local birding areas which might have appeal to birders from other areas; and (10) photographs of birds and birders. I will be happy to correspond with persons who wish to submit articles in any of these categories.—M. K. R.

BULLETIN  
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SOCIETY

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