

egg, . . . . ., usually 11-13, oval to ovate; bill of olive buff, light drab or cream color; finely dotted with brown; average size, 44.7 × 33.8 mm.

**ATTWATER'S GREATER PRAIRIE CHICKEN, *Tympanuchus cupido attwateri* Bendire**

**DESCRIPTION:** *Adult male and female, nuptial plumage:* Similar to *T. c. americanus* but smaller; feathering of tarsus somewhat shorter and sometimes leaving lower half of leg bare; coloration somewhat more rufescent and buffy, particularly on flanks and other lower parts; dark bars on lower surface usually narrower.

**MEASUREMENTS:** *Adult male:* Wing, 201.9-215.1 (average, 209.0) mm.; tail, 84.1-89.9 (87.6); bill (exposed culmen), 18.0-21.1 (19.6); height of bill at base, 10.9-12.4 (11.9); tarsus, 50.0-52.1 (51.1); middle toe without claw, 43.9-46.0 (44.7). *Adult female:* Wing, 195.1-206.0 (201.9); tail, 78.0-83.1 (80.7); bill, 17.0-20.1 (18.3); height of bill, 10.9-11.4 (11.2); tarsus, 47.0-50.0 (49.0); middle toe, 41.9-46.0 (43.2).

**RANGE:** Locally on central and upper coastal prairie of Texas; formerly to e. central Texas and s.w. Louisiana.

**TEXAS:** *Resident:* Altitudinal breeding range, near sea level to about 200 ft.—formerly 700 ft. Collected in Orange (1885), Jefferson, Liberty (eggs), Chambers (specimen?), Galveston, Austin, Colorado, Wharton, Matagorda, Victoria, Refugio, and Aransas cos. Scarce and local. Birds thought to be of this subspecies formerly ranged north to Bastrop Co., Elgin (extirpated by Sept., 1902, fide H. C. Oberholser), and Travis Co., Pflugerville (nest and eggs found and last birds seen, spring of 1878, O. Brinkman). Sighted in 1877: 30 mi. north of Brownsville on the Miradores Ranch, Cameron-Willacy cos. (J. C. Merrill).

**NESTING:** Similar to that of *T. c. americanus*, but average egg size, 42.3 × 31.4 mm.



**LESSER PRAIRIE CHICKEN, *Tympanuchus pallidicinctus* (Ridgway)**

**SPECIES ACCOUNT**

Somewhat smaller and paler (due to brown, instead of blackish, bars on body) than the Greater Prairie Chicken; best distinguished by its habitat: semiarid rangeland (not humid tall-grass prairies). In display,

male inflates dull red (not golden) air sacs. Length, 16¼ in.; wingspan, 27¼; weight, 1¾ lbs.

**RANGE:** Very locally from s.e. Colorado and w. Kansas to n.w. Oklahoma, s.e. New Mexico, and n. Texas; formerly to Nebraska, s.e. Kansas, and s. Missouri.

**TEXAS:** (See map.) *Breeding:* Apr. to June (no egg dates available, but many young observed at Canadian, Hemphill Co., 1926, J. H. Wise; young bird located at Amarillo on June 13, 1938, Dean Amadon; most recently reported breeding in Gaines Co., 1960's, fide Anne LeSassier) from 1,800 to about 4,000 ft., possibly somewhat higher. Very locally fairly common to scarce from Apr. to Oct. in northern Panhandle (chiefly Hemphill and Potter cos.) and in southwestern Panhandle (chiefly Cochran, Yoakum, and Gaines cos.). Formerly (19th century) common south to San Angelo (resident and bred, fide W. Lloyd). *Winter:* Late Oct. to early Apr. Locally common to uncommon in and near breeding range; rare to casual in Midland vicinity. Formerly (19th century) very common to common in Panhandle, southward to Jeff Davis, Pecos, Maverick, and Banderita cos.; scarce eastward to Cooke Co. (see detailed account).

**HAUNTS AND HABITS:** *Tympanuchus pallidicinctus* is a smaller, paler, less booming version of the Greater Prairie Chicken. It is best told from its somewhat larger relative by its habitat requirements. The bird's narrow hold in the world is confined to sandy rangeland interspersed with sand sagebrush (*Artemisia filifolia*) and sand shinnery oak (*Quercus havardii*). Grass seems to be less necessary to this species than to the Greater Prairie Chicken, but often some bunch grass, such as little bluestem (*Andropogon scoparius*), is present in the Lesser's habitat.

In behavioral respects, the present species is very

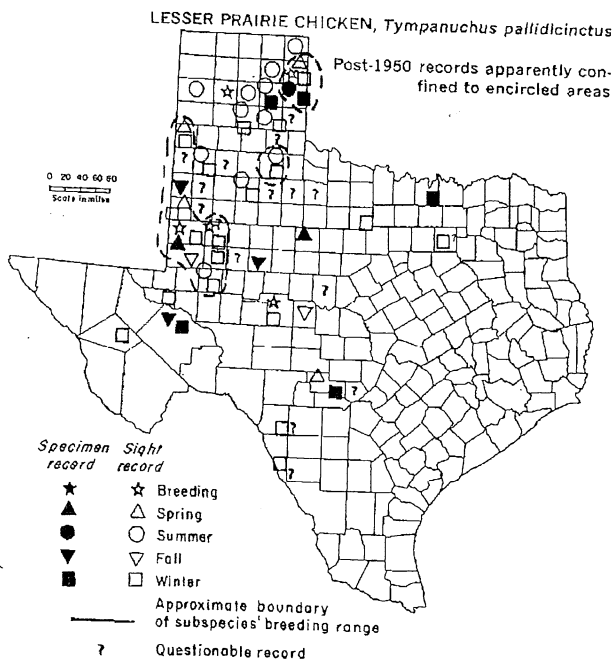
similar to the Greater. Flight of this mainly terrestrial bird, although strong, is rarely sustained. Standard with grouse, the Lesser's diet is dependent on season. In fall and winter, it eats acorns, while spring and summer provide it with buds and fruits of sumac (*Rhus*), legumes, and other plants; when available, wheat, sorghum, and other grain are consumed as well as insects—especially beetles and grasshoppers. These prairie chickens return yearly to the same booming grounds—usually a short-grass, or bare, knoll—where they perform their vigorous nuptial strutting. Attempts to transport Lessers from their original territory to more favorable habitat often fail, since transplanted birds tend to find their way back to their home grounds (J. S. Ligon).

Lesser Prairie Chickens utter various clucks, cackles, and low gobbles. The male's booming is comparable to that of the Greater but is neither so resonant nor so loud.

**CHANGES:** Most of the Lesser Prairie Chicken's decline, in contrast to that of the Greater, has taken place in the twentieth century. According to figures released by the Texas Parks and Wildlife Department and its predecessor, the Texas Game, Fish and Oyster Commission, there were some 2,000,000 Lessers in the state during the years immediately prior to 1900. At that time the habitat was little disturbed because there was virtually no way to irrigate large sections of this dry sandy soil. In north Texas starting in the 1920's, many artificial lakes were created; also powerful steam, gas, and electric well pumps began lowering the water table to irrigate huge acreages of cotton, sorghum, and other crops. Remaining dry rangeland, during the 1930's, began receiving the first of many doses of herbicide. Ranchers, aided by subsidies from the U.S. Soil Conservation Service, poisoned or bulldozed vast stands of woody vegetation—including the Lesser's necessary sand shinnery oak and sand sagebrush—in an effort to grow more grass to support more cattle for more people. Nowadays (1960's into 1970's), summertime motorists in the Panhandle drive for mile after mile through chemically deadened shrubland—a January-in-June landscape. There were about 12,000 Lesser Prairie Chickens in 1937. By 1963 the population had dropped to 3,000 birds (J. L. Sands, 1968, *Audubon Field Notes* 22: 454). By 1967, the population had risen to 10,000 (fide Paul A. Johnsgard); however, farmers still complain that these grouse are eating their wheat. Actually, in the 1970's, the chief gallinaceous grain eaters in Panhandle Texas, as elsewhere, are domestic poultry and imported pheasants.

**DETAILED ACCOUNT: NO SUBSPECIES**

**DESCRIPTION:** *Adult male, nuptial plumage:* Acquired by partial prenuptial molt and wear from winter plumage. Colors similar to nuptial adult male of the Greater Prairie Chicken, *Tympanuchus cupido*, but dark bars of upper surface, sides, and flanks narrower and mostly triple, with light bar of cinnamon or whitish enclosed by two dark bars; feathers of neck and wings narrower; size decidedly smaller. Bill dark brown; air sacs dull red, at least in breeding season; iris dark brown; feet yellow; claws brownish black. *Adult male, winter:* Acquired by com-



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plete postnuptial molt. Similar to nuptial adult male, but more richly colored, upper and lower parts darker and more rufescent. *Adult female, nuptial*: Acquired by partial prenuptial molt and wear from winter. Similar to adult male, but neck-tufts much less developed, often only rudimentary; tail broadly barred with buff or tawny, at least on outer webs of tail feathers, and lower tail-coverts also with similar broad bars throughout. *Adult female, winter*: Acquired by complete postnuptial molt. Similar to nuptial adult female but somewhat more richly colored. *Male, first nuptial*: Acquired by partial prenuptial molt. Similar to nuptial adult male, except for outermost two primary coverts and outermost two primaries of each wing retained from juvenal plumage, the latter pointed instead of rounded. *Male, first winter*: Acquired by postjuvenal molt, complete except for retained outermost two primary coverts and outermost two primaries on each wing. Similar to first nuptial male but more richly colored. *Female, first nuptial*: Acquired by partial prenuptial molt. Similar to nuptial adult female, except for retained outermost two primary coverts and outermost two primaries of each wing, the latter pointed instead of rounded. *Female, first winter*: Acquired by complete postjuvenal molt, except for retention of outermost two primary coverts and outermost two primaries of each wing. Like first nuptial female, except for rather richer coloration. *Juvenal*: Acquired by complete postnatal molt. Similar to nuptial adults but more rufescent; crown between tawny and ochraceous tawny; bars above more irregular and less completely triple; similar to juvenal of *T. cupido* but more rufescent and dark bars on upper surface and flanks more inclined to be triple. *Natal*: Similar to natal of *T. cupido*, but upper parts lighter, brighter, and slightly more yellowish, as well as less heavily spotted with buff; lower parts also paler and brighter. Pileum and hindneck honey yellow, verging toward cinnamon buff, with fairly large black spots medially on both areas; back and wings chamois, washed with sayal brown or cinnamon; rump honey yellow, overlaid with light tawny; upper back with brownish black or olive brown transverse irregular narrow bars; remainder of back mottled or spotted with same color; wings with large transverse spots; lower back and rump spotted with brownish black; sides of head and lower parts deep colonial buff, but slightly darker on jugulum and upper half of sides of head; has small elongated irregular black spot above auriculars.

**MEASUREMENTS:** *Adult male*: Wing, 207.0–220.0 (average, 212.1) mm.; tail, 87.9–95.0 (93.0); bill (exposed culmen), 16.5–18.0 (17.3); height of bill at base, 9.4–10.9 (10.4); tarsus, 42.9–47.0 (44.2); middle toe without claw, 36.6–39.9 (39.1). *Adult female*: Wing, 195.1–200.9 (198.1); tail, 81.0–87.1 (84.3); bill, 15.0–17.0 (16.0); height of bill, 9.4–10.4 (9.9); tarsus, 41.9–42.9 (42.2); middle toe, 36.6–39.9 (38.4).

**TEXAS:** *Breeding*: Collected in Wheeler (July 31, 1901, H. C. Oberholser; Aug. 10, 1936, A. O'Neil), Jones (2, ca. Apr. 22, 1854, C. L. Taplin), Andrews (Mar. 17, 1854, Taplin), and Cochran (Sept. 5, 1931, G. E. Maxon) cos. *Winter*: Taken in Gray (Dec. 6, 1916, H. C. James), Wheeler (Feb., 1931, R. L. Moore), Cooke (Jan. 3, 1878, G. H. Ragsdale), Kerr (Dec. 6, 1885, and Jan. 5, Feb. 2, 1886, H. Lacey), Mitchell (fall, 1891, and late Oct., 1892, collector unknown), and Pecos (ca. Jan., 1904, J. S. Lockwood) cos.

**NESTING:** *Nest*: On plains or prairies; under bush or in tuft of grass; shallow depression in ground, lined with grass or leaves. *Eggs*: 8–13, usually 10–12; ovate; smooth and rather glossy; buff, ivory yellow, or cream yellow; unspotted or with fine dots of pale brown or olive; average size, 41.7 × 32.0 mm.

[**SHARP-TAILED GROUSE**, *Pedioecetes phasianellus* (Linnaeus)]

## SPECIES ACCOUNT

Resembles the somewhat smaller, plumper Lesser Prairie Chicken, but is paler grayish brown with fine mottlings (not bars) of black and buff; lacks neck-tufts; has white spots on wings; tail short, pointed, and edged laterally with white (not rounded, and not largely blackish). In display, male inflates small purplish (not large reddish) air sacs on sides of neck; reveals bare bright yellow eyebrows. Length, 17 in.; wingspan, 26½; weight, 1¾ lbs.

**RANGE:** C. Alaska and n. Mackenzie to n. Manitoba, n. Ontario, and e. Quebec, south locally to n. Washington, n. Utah, e. Colorado, extreme n.e. New Mexico, Nebraska, e. South Dakota, Minnesota, Wisconsin, and n. Michigan.

**TEXAS:** *Hypothetical*: Reputedly common during 19th century in extreme northwestern corner of Panhandle (fide Mrs. R. L. Duke). Last sighting (only specific record available): Dallam Co., Buffalo Springs (1 in July, 1905, Mrs. Duke). Said to have largely disappeared from Texas range in 1906 (fide Mrs. Duke.)