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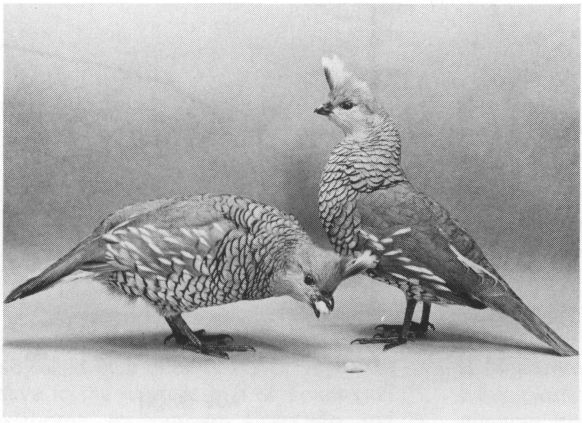
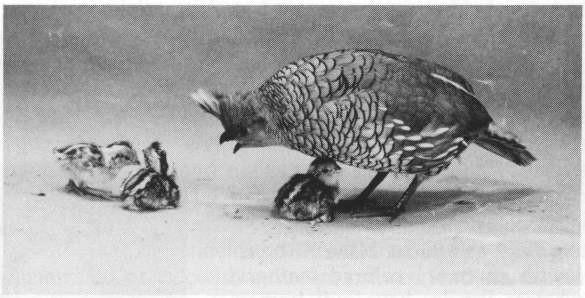


A Guide For Aging Scaled Quail



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COVER. Top: Adult scaled quail. Bottom: Hen and day-old chicks.

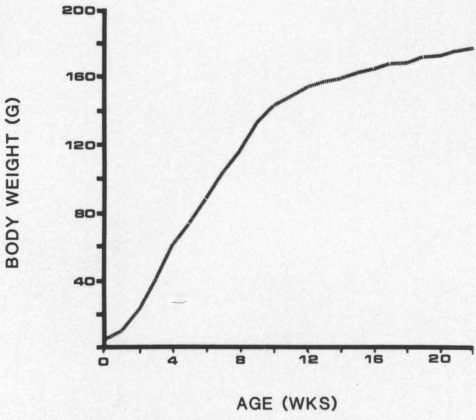

Figure 1. Mean body weight of juvenile scaled quail from hatch to 22 weeks of age.

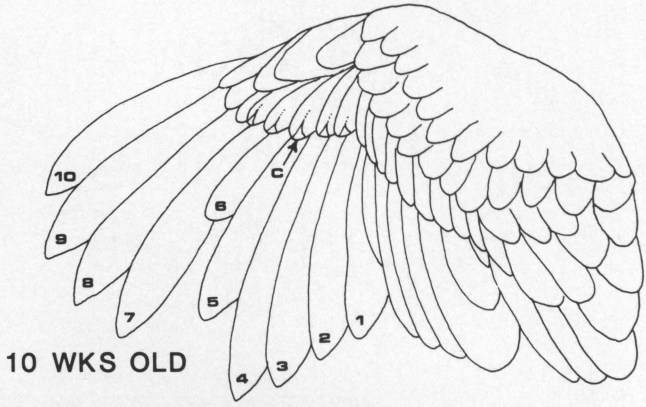

Figure 2. Typical subadult scaled quail wing showing primary feathers 1–10 used for aging juveniles. Feathers 5 and 6 are measured in millimeters and lengths compared with measurements in Table 1. Primary covert feathers lie directly on top of the primaries; C indicates primary covert 5. A buff tip of C indicates a subadult covert feather.

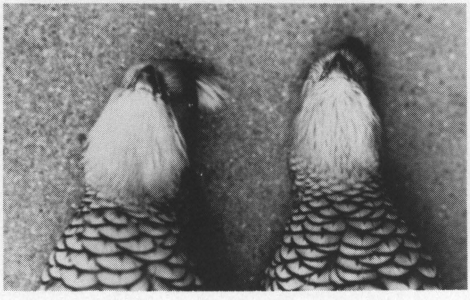

Figure 3. Male (left) and female scaled quail showing plumage differences on the cheek and throat. Males have yellowish or cream colored feathers, whereas females have buff feathers with slate colored streaks.

5M—5-83

A Guide for Aging Scaled Quail

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Texas Agricultural Experiment Station

Scaled quail (Callipepla squamata), also called blue quail or cotton tops, are native to the western half of Texas and Oklahoma, to southern Colorado and Arizona, and to a major portion of New Mexico and Mexico. They inhabit semiarid rangeland with moderate interspersion of brush and avoid dense stands of grasses. Because of the unreliable nature of rainfall in the region, reproductive success of quail fluctuates dramatically in the southwestern United States.

Anyone concerned with quail breeding season phenology should be able to determine the age of the juveniles, because age estimates are used throughout the summer to calculate hatching dates.

Scaled quail chicks reach about 50 percent of adult body weight by 6 weeks, and by 13 weeks they are 90 percent of mature weight (Fig. 1). However, variability in body weight between individuals, in addition to yearly differences in the food supply, precludes using weight as an accurate age indicator. Standard techniques for aging quail rely instead on wing feather measurements.

Quail progressively molt and grow new wing feathers, and the growth rate of their primaries is consistent. Primaries and secondaries are numbered from the body outward according to their sequence of molt. It is possible to determine a quail's age by measuring the two outermost growing primary feathers, for example 5 and 6 on the wing shown in Figure 2. Measurements (in mm) are made with a thin plastic ruler from where the feather emerges from the skin to the tip. Either wing may be used, but consistently measuring the same side reduces variability. The measurements in Table 1, generally accurate to within one week of age, can then be used to age scaled quail — provided you have a quail in hand.

Using the photo comparisons in this bulletin, careful field observers should be able to estimate the age of juvenile quail almost as accurately, and capture is not necessary. Chicks from 1 to 12 weeks old are shown with mounted adults for size and feathering comparisons.

In the fall and winter, subadult quail older than 20 weeks (either sex) can be easily distinguished from adults by examining the primary covert feathers of the wing (Fig. 2). The tips of primary coverts 1 through 7 are edged with buff color in subadults, whereas they are all gray in adult birds.

Scaled quail have only subtle differences between sexes: male body weights average 10 percent heavier than females, and males have slightly larger topknots. The only reliable distinguishing characteristic is feathering dimorphism of the cheek and throat area: males have yellowish or cream colored feathers, whereas females have buff feathers with slate colored streaks (Fig. 3).

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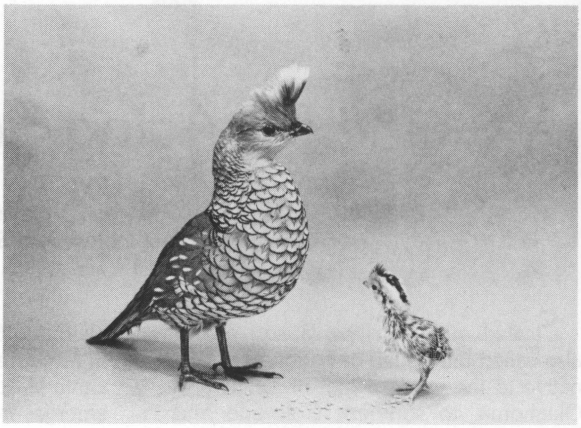
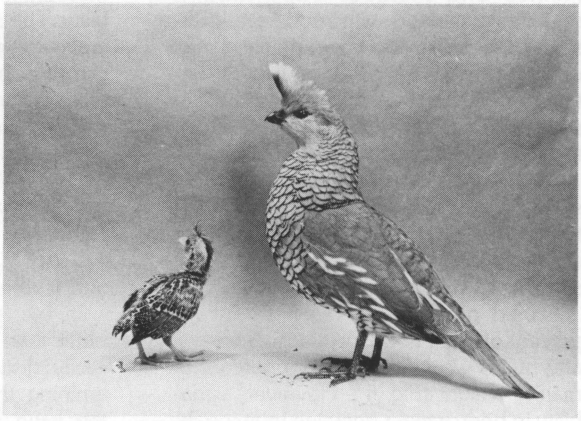
1 WEEK

Entirely covered with natal down; single brown stripe evident on head and short, downy topknot; flight feathers ¼–½" long; 2¾–3" tall; cannot fly.



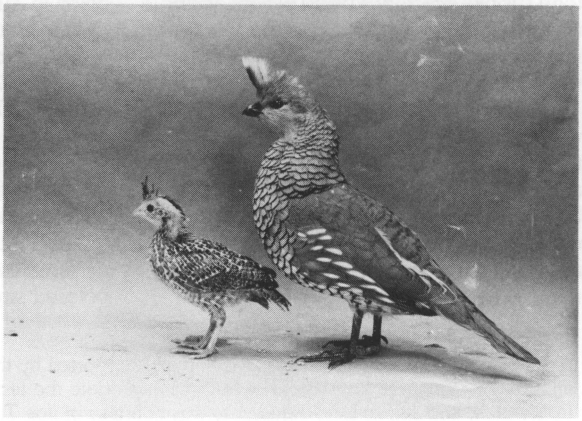
2 WEEKS

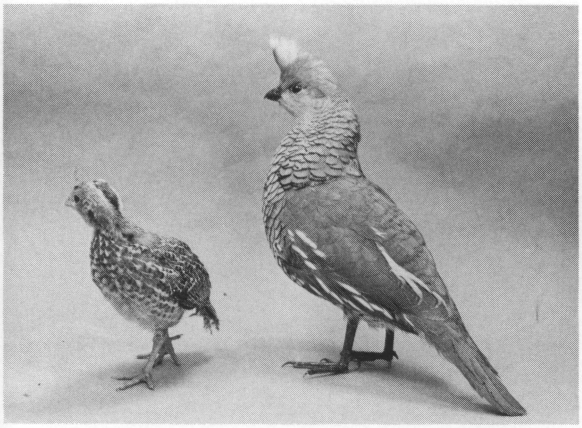
Spotty; long downy topknot; few scattered contour feathers; tail feathers ½" long and even with wing tips at rest; 3½–3¾" tall; flies short distances.



3 WEEKS

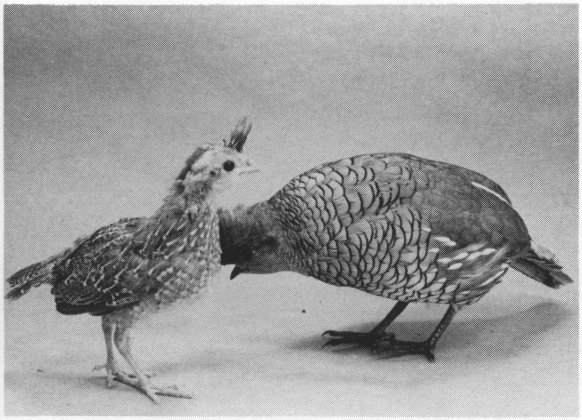
Spotty; scattered contour feathers; topknot ½ filled with contour feathers; tail feathers ¾" long and extending ¼–½" past wing tip at rest; first four juvenal primaries nearly grown; 3¾–4" tall; flies quite well.





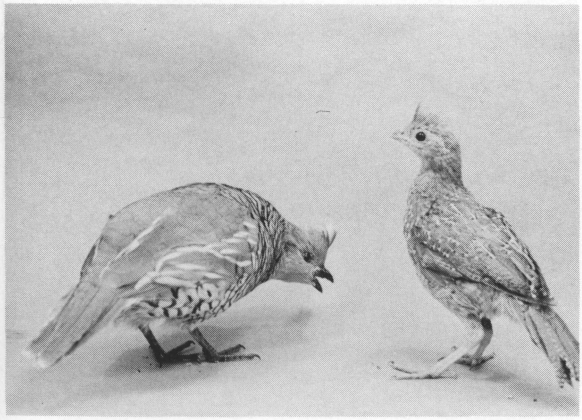
4 WEEKS

Juvenal contour feathers predominate back and sides; downy feathers predominate belly and head; topknot mostly filled with juvenal feathers; tail feathers 1¼″ long and extending ¾–1″ past wing tip; juvenal primaries nearly complete; 4–4½″ tall; flies nearly as well as adult.



5 WEEKS

Almost ½ adult size; juvenal contour feathers streaked and predominate entire body; down predominates sides of head; gray topknot ⅝–¾″ tall and complete; brown stripe on nape of neck still clearly visible; tail feathers extend 1¼–1¾″ past wing tips; juvenal primaries complete; 5–5½″ tall; flies as well as adult.

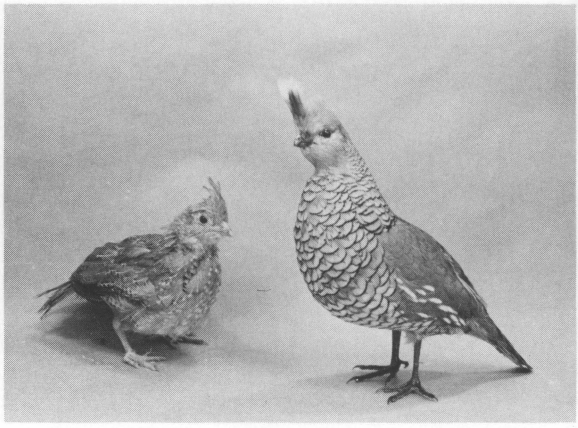


6 WEEKS

Streaked; juvenal contours predominate body and head; no brown stripe on back of head, but a buff stripe extends from eye to neck; tail feathers extend 2″ past wing tips and nearly reach ground; 5½–6″ tall.

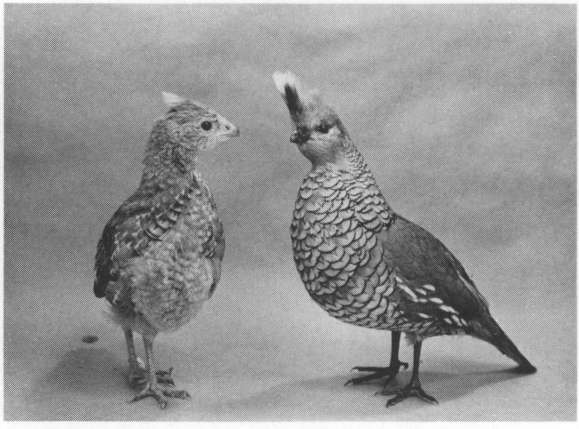
7 WEEKS

About ¾ adult size; plumage rough as postjuvenal molt begins; may have 1–2 adult contours emerging on sides of breast; topknot still gray; tail feathers extend 2½″ past wing tip; 6–6½″ tall.



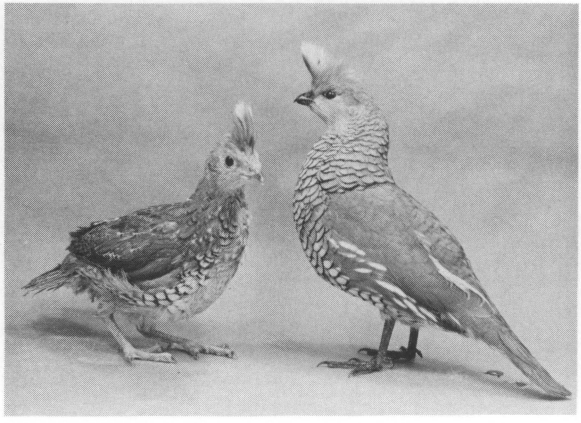
8 WEEKS

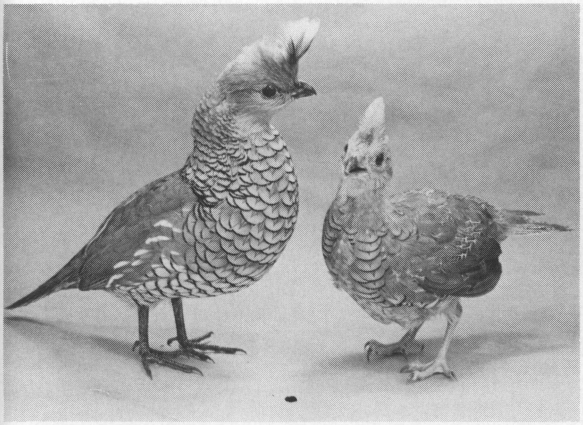
Distinct row of gray-blue scaled adult contour feathers on sides of breast; topknot ½ filled with white adult feathers; tail ragged with postjuvenal molt; 6½–7″ tall.



9 WEEKS

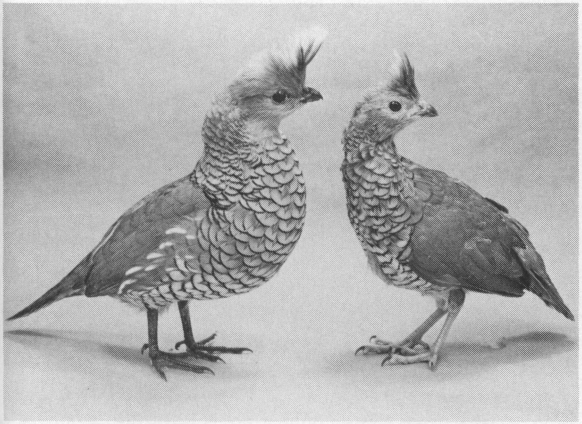
Several rows of scaled adult contour feathers on sides of breast, also scattered blue contours on back; topknot approximately ¾ adult size; center tail feathers (retrices) short and gray, outer retrices mottled; adult height and nearly as heavy.





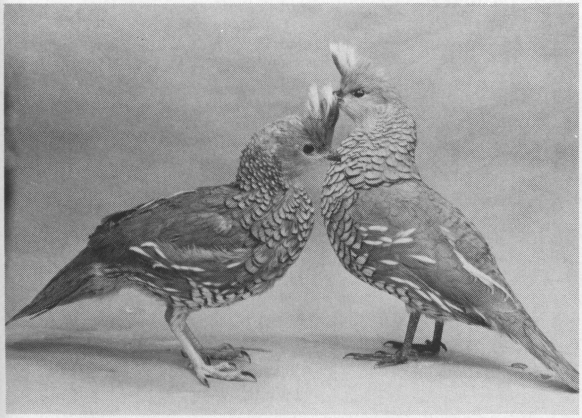
10 WEEKS

About 50 percent adult contour feathers on sides and back; juvenal feathers predominate belly; scattered adult plumage among wing coverts; central 6–8 juvenal tail retrices absent or growing adult gray but appear much shorter than outer two juvenal feathers.



11 WEEKS

Brownish juvenal feathers around eyes, otherwise gray or scaled contour feathers predominate belly, neck, head, and wings; topknot 90 percent adult size; central developing tail feathers equal in length to outer two persisting juvenal feathers.



12 WEEKS

Difficult to distinguish from adults by gross observation; topknot like adults; contour feathers entirely adult; scattered juvenal coverts may remain on wings; adult tail feathers at least 1″ longer than remaining two juvenal feathers.

TABLE 1. RANGE OF PRIMARY FEATHER LENGTHS (IN MM) USED TO DETERMINE AGE OF JUVENILE SCALED QUAIL. REFER TO TEXT ON PAGE 1 FOR DETAILS.

Age (weeks)	JP_6	JP_7	JP_8	JP_9	JP_{10}	P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8
1	18-30	0-16											
2	42-52	33-48	6-20										
3	56-67	53-63	30-42	0-14									
4	68-74	60-70	35-49	21-31	0-14	4-22			Juvenile primary feathers still present				
5	76-85	70-76	57-67	30-44	18-26	18-36	4-24						
6	85-88	77-83	74-80	49-61	31-45	48-62	31-51	14-30					
7		82-86	79-87	63-73	46-58	65-71	58-70	38-60	8-32				
8		84-88	85-91	75-81	58-68	70-74	71-79	63-77	35-63	9-31			
9		85-88	86-91	81-85	67-73	71-75	73-79	78-82	64-80	32-58	4-26		
10				82-86	70-74	71-75	75-79	80-86	80-88	64-76	24-48		
11	Juvenile primary growth completed			83-87	71-75	72-76	76-80	82-86	87-93	80-90	49-71	8-30	
12				84-87	72-76	73-76	76-80	83-87	89-93	88-94	73-87	27-53	
13								84-87	89-93	91-95	86-92	47-73	0-11
14										92-96	90-96	70-88	5-25
15										92-96	92-96	84-92	15-45
16											92-96	89-93	34-64
17												90-94	58-82
18							First winter primary growth completed					91-95	76-90
19												91-95	84-92
20													87-93
21													89-93
22													90-94