

TABLE 3
MEASUREMENTS OF MALE STUDY SKINS AT NMNH^a AND LIVE REDHEAD × CANVASBACK
HYBRIDS CAPTURED ON THE POTOMAC RIVER

Specimen	Culmen (mm)	Wing chord (mm)
Redhead × Canvasback hybrids		
I.D. No. 567521 (Munro, 6 Feb. 1974)	54.5	237
I.D. No. 573675 (Serie, 1 Nov. 1976)	56.4	240
Potomac hybrids (8 Jan. 1980)	58.0 ^b	239
(5 Jan. 1982)	58.2	240
Typical specimens ^c		
Canvasback ^d	61.4 ± 0.5 ^e	239.3 ± 1.1
	N = 16	N = 7
Redhead ^f	48.4 ± 0.4	235.7 ± 1.1
	N = 12	N = 10
Common Pochard ^g	47.4 ± 0.7	212.8 ± 1.4
	N = 15	N = 9

^a National Museum of Natural History, Washington, D.C.

^b Estimated from photographs.

^c Culmen measurements taken from adult and full-grown juvenile specimens; wing chords taken from adult males only.

^d Specimens are from Maryland (8), Texas (3), Delaware (2), North Dakota (1), Louisiana (1), and Mississippi (1).

^e Mean ± standard error.

^f Specimens are from North Carolina (3), Texas (3), North Dakota (2), Pennsylvania (1), California (1), Oregon (1), and Utah (1).

^g Specimens are from Europe (8), Egypt (2), Alaska (3), India (1), and Turkey (1).

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High mortality of Cedar Waxwings associated with highway plantings.—Highway mortality in birds is a commonly reported phenomenon, but few studies identify specific factors affecting such mortality. On 8 March 1981 we observed a number of Cedar Waxwings (*Bombycilla cedrorum*) being hit by cars at several areas on the Texas Highway 6 bypass, a limited access highway, near Bryan, Brazos Co., Texas. At each area the birds were feeding on the fruit of silverberry (*Eleagnus pungens*) planted in the median of the four-lane highway. The shrubs were 1.5–2 m in height and were 3.5 m from the paved shoulder of the highway. The Texas Department of Highways planted *E. pungens* along the bypass in 1974. As cars passed, feeding flocks of waxwings flew up, crossing the highway, only to return immediately to the shrubs with several birds being hit with each pass of the flock.

At three such areas along Highway 6, totaling 275 m of plantings over a 3 km section of highway, we counted a total of 298 dead Cedar Waxwings between 8 March and 5 April

1981. This total is based on initial counts at these areas on 8, 11, 12, and 16 March and recovery of all dead birds on 22 March and after. The total mortality was probably higher than 298 due to loss of birds between counts and recovery periods as suggested by Stewart (Wilson Bull. 85:203–204, 1973). The largest single count was 133 birds on 11 March at an area with 25 individual shrubs planted over a distance of 100 m. We also found two Northern Mockingbirds (*Mimus polyglottos*) and one Red-winged Blackbird (*Agelaius phoeniceus*) at that locality.

All dead birds were associated with median plantings; we found no birds at plantings of *E. pungens* along entrance ramps or on either side of the highway. Although no extensive effort was made to monitor other areas with median plantings of *E. pungens* along Highway 6 bypass, no large kills were apparent at other areas. This could be because the flock or flocks concentrated on the first source of *E. pungens* they encountered and did not seek other sources until the first supply of berries was exhausted. At these areas berries remained available throughout the study period. The nearest sets of other median plantings of *E. pungens* were 5.1 km to the north and 7.2 km to the south. We assume the original flock continued to feed in the same area over a 4-week period because the size of the flock decreased noticeably, to a low near 10 individuals, as birds continued to be killed.

Although many studies document the impact on wildlife of cover reduction near highways (see Leedy, Fed. Hwy. Admin. Rept. No. FH WA-RD-76-4, 1975), no studies to our knowledge report the potential adverse effect of highway plantings on animal populations. The factors which led to the high kill of waxwings in this case were the presence of the shrub plantings in the median so close to the edge of a high speed (55 mph) highway; the heavy crop of fruits attractive to the birds, especially during the winter season when they are present in the area in peak numbers; and the flushing and flight behavior of the waxwings, which makes them particularly vulnerable. In view of the above described waxwing mortality, narrow highway median strips should not be planted in shrubs or trees providing fruits or other sources of food attractive to flocks of migratory and wintering birds.

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