

several times and followed by a whining note repeated two or three times. The birds finally left the peak and circled over my head at no great distance. On several occasions while wheeling over my head, one delivered the low whine, a note with a slight rising inflection.

My own observations thus agree very closely with Pemberton's as to the whine.—H. A. ALLARD, *Washington, D. C.*

Notes on the Kites of South Carolina.—The writer was interested to read, in the July number of 'The Auk,' of Mr. J. Willcox Brown's observation of a Swallow-tailed Kite (*Elanoides forficatus forficatus*) in South Carolina.

I have seen this bird in South Carolina on three occasions, all in Berkeley County, as follows:

1929. Date lost, one bird, one bird was circling high in the air over Witherbee Station, on the S. A. L. Railroad.

1932. June 17, one bird, in company with three Mississippi Kites (*Ictinia mississippiensis*), soaring over our dwelling, Middleburg Plantation house.

1933. June 10. One bird, circling low over the house.

The Mississippi Kite is still fairly common in suitable localities in coastal South Carolina. During the summer of 1924, birds were seen within eight miles of Mount Pleasant; in the last few years, it was been constantly observed during the months of May, June and July. As many as five or six may often be seen together. Both of the Kites still undoubtedly breed in this state.

Only once have I been near enough to a Mississippi Kite to hear its note, which quite closely resembles the song of the Wood Pewee (*Myiochanes virens*), but is weaker. The Kites feed entirely in the air, usually high up, and rarely come near the ground; they are often seen over the old rice fields, as insect life is abundant there.—E. VON S. DINGLE, *Middleburg Plantation, Huger, S. C.*

The Western Pigeon Hawk in Yucatan and Kansas.—Recently, while examining a small series of Pigeon Hawks in the collection of the Museum of Birds and Mammals, I noticed two specimens labeled *Falco columbarius columbarius*, which belong to the race *Falco columbarius bendirei*. These two birds, which are undated and unsexed, were collected by George F. Gaumer on Cozumel Island, Yucatan.

According to a biographical sketch of Gaumer in the files of the Alumni Association of the University of Kansas, he spent four months collecting on Cozumel Island in the year 1886. There seems to be little doubt, therefore, that the locality as written on the original labels is correct. Unless there are other specimens in the collections that Gaumer sent to England, this is the only record of *Falco columbarius bendirei* from Cozumel Island.

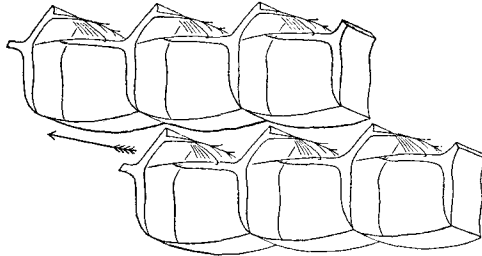
In the same collection of Pigeon Hawks, there is another specimen of

Falco columbarius bendirei taken by Dr. Louis Watson at Ellis, Ellis County, Kansas, in October or November, 1875. It was sent with several others to Dr. Snow, who classified all of them as *F. c. richardsoni*. This is the only reported occurrence of the Western Pigeon Hawk in Kansas, although the bird probably occurs as an occasional migrant and winter resident in the western part of the state.

I am greatly indebted to Mr. James L. Peters, of the Museum of Comparative Zoology, who has checked the identification of these specimens.—W. S. LONG, *Museum of Birds and Mammals, Lawrence, Kansas.*

Feather Structure of the Ruffed Grouse.—The origin of the odd drumming note delivered by the Ruffed Grouse (*Bonasa umbellus umbellus*) has long been a subject of conjecture among naturalists. Several well known theories have been advanced from time to time to account for this bird's somewhat unique call but a study of the feather structure seems to have been overlooked as a means of throwing further light on this subject. It also appears that the sometimes startling whir which the Grouse is capable of when arising, has not been considered in connection with its drumming note but a close study of the flight feathers would indicate that both may have one and the same source.

When the subject is considered from this point of view it seems that in producing the required vibrations of its flight feathers the bird must be



capable of directing them in the desired direction and in drumming this requires such concentration as to make the Grouse oblivious of even his immediate surroundings. To whir upon arising the feathers are probably directed in much the same manner but the stroke of the wings is, of course, considerably retarded due to the resistance offered by the air and the shuffling which the feathers undergo is lessened.

This does not imply that the individual quills are moved independently but rather, perhaps, that the bird holds them more rigidly than is its usual wont so that in passing the surfaces impinge with sufficient force to cause vibration of the ventral ridge of the ramus.

An examination of the primaries would indicate a depression of the shaft resulting in what might be termed a flattened feather, or in other