

In the upper Piedmont the lack of truly diagnostic forms amounts at times to a hiatus. We have here a sort of biological melting-pot. Recent measurements on a Barred Owl placed it nearer *Strix varia varia* but the partially naked toes seemed to indicate a leaning toward *alleni*. Others, on an example of Great Crested Flycatcher, placed it nearer *Myiarchus crinitus boreus* but here also was manifest an intergrading with the more southern variety. Meadowlarks in summer were once unknown here; now slightly smaller and darker birds are invading the region, plainly from the south, and a bird taken in the spring by Mr. C. J. Moody I assign to *Sturnella magna argutula* but it is too much of an intergrade to be declared pure. Reports of nesting Meadowlarks and Grackles first came from the lower Piedmont, then from the upper, being first taken in both cases for the more northerly forms, apparently with an odd hiatus in their distribution. This the sub-species extension filled, not from the north but from the south, *Quiscalus quiscula aglaeus* now being reported by Thos. D. Burleigh from Anderson county (The Auk, LI: 1, p. 90). An incoming from the mountain side is also noticed. The Eastern Phoebe (*Sayornis phoebe*) is building under bridges for the past two or three years within the city limits of Greenville, even before exclamations of surprise over the earlier invasion of Southern Robins (*Turdus migratorius achrusterus*) were stilled. Further up among the mountains the Bank Swallow (*Riparia riparia riparia*) has at last dropped across the state line, attracted perhaps by the huge vertical sand cliffs left in building the earth dam of the Table Rock reservoir. The Eastern Song Sparrow (*Melospiza melodia melodia*) is now common in summer in the lower mountains, but while our Blue Jays remain dominantly northern a specimen recently examined for the local Parker Schools Museum proved to be *Cyanocitta cristata florincola*.—A. L. PICKENS, Greenville, S. C.

Bird Mortality on the Highways.—The following list of 353 birds, killed on the highways was compiled on two rather extensive automobile trips through the Western States. In the summer of 1927 approximately 7,500 miles were covered while in the summer of 1929, 9,200 miles of road were traversed. All bird remains were examined and identification was attempted although in certain cases especially in Indiana through Kansas and Iowa and again on the Pacific coast the heavy traffic made the task a difficult one. The majority of the birds listed as "unidentified" were probably English Sparrows. An attempt was made to ascertain whether or not some of the Hawks, Owls and Eastern Crow might have been shot. In a few cases the condition of the specimen was such that it was impossible to be certain but no bullet holes were found in the specimens listed. Furthermore birds shot on the road are usually killed by passing motorists in direct violation of the law and such records should be included in a list of the toll taken by the highways.

A listing of the forty-two species in the order of their abundance follows:
English Sparrow¹ 166, Indiana through Kansas, Iowa, Utah and Cali-

fornia; Red-headed Woodpecker 33, Indiana through Kansas, Iowa; Bronzed Grackle 6, Indiana, Kansas; Desert Sparrow Hawk 5, Utah, Arizona, California and South Dakota; Chestnut-backed Bluebird 5, Colorado; Desert Horned Lark 4, Kansas, Colorado; Short-eared Owl 3, Washington; Brown Thrasher 3, Kansas; Eastern Meadowlark 3, Indiana, Missouri; Western Meadowlark 3, Colorado, California.

Two occurrences of the following: Eastern Mourning Dove, Illinois, Kansas; Northern Flicker, Indiana, Illinois; Eastern Kingbird, Missouri, Iowa; Dusky Horned Lark, Washington; Northern Blue Jay, Kansas, Iowa; Eastern Red-wing, Kansas; Dickcissel, Kansas; Lark Bunting, Kansas, Colorado.

One occurrence of: Swainson's Hawk, Kansas; Greater Prairie Chicken, Wyoming; Lesser Prairie Chicken, Colorado; Rock Dove, Indiana; Western Mourning Dove, Wyoming; Yellow-billed Cuckoo, Illinois; Western Burrowing Owl, Kansas; Sennett's Nighthawk, South Dakota; Western Nighthawk, Arizona; California Woodpecker, California; Northern Downy Woodpecker, Kansas; Arkansas Kingbird, Kansas; American Magpie, Montana; Eastern Crow, Illinois; Lead-colored Bush-tit, Arizona; Catbird, Indiana; Sennett's Thrasher, Arizona; Eastern Robin, Illinois; Western Bluebird, Oregon; Migrant Shrike, Kansas; Gray Vireo, California; Brewer's Blackbird, Colorado; Eastern Goldfinch, Illinois; Western Lark Sparrow, Kansas. Unidentified 39. 42 Species. 353 Specimens.

It is of interest to note the comparative figures on the English Sparrow. In 1927 there were 119 specimens identified while only 47 were observed in 1929 although more miles of road were examined on the second trip. This discrepancy may be due to a decrease in the number of birds or to the fact that they are learning to avoid motor cars more successfully.—FREDERICK M. BAUMGARTNER, *Cornell University*.

Use of Anaesthetics in Bird Surgery.—I am not informed as to the extent to which anaesthetics have been used in operations on birds but the following experience may be of interest.

A White Pelican (*Pelecanus erythrorhynchos*) was brought to the museum with a badly shattered humerus. A crude attempt was made without anaesthetics to remove part of the bone and place the wing in a cast but the result was a failure as the bone failed to knit and the wound became infected. Dr. A. Wolf a surgeon was then called in and a successful operation was effected involving the amputation of the wing.

The patient was trussed up, his bill tied, and a piece of gauze placed over his eyes to protect them from ether fumes. We saturated a piece of gauze with the anaesthetic and held it over the region of his nostrils. It took six minutes to get him completely under the influence of the ether and we kept pouring ether on the cloth to keep him in a state of stupor. His heart action slowed up so that at one time it almost stopped. The cloth was hurriedly removed until he again showed signs of life. In all he was under ether almost two hours.