74. **Spizella socialis**, *Bon.* CHIPPING BIRD.—Abundant in October and November, and again in March.

75. **Spizella pallida**, *Bon.* CLAY-COLORED BUNTING.—Abundant in winter near thickets and in fields with brier-patches.

76. **Spizella pusilla**, *Bon.* FIELD SPARROW.—Not uncommon during winter.

77. **Junco hiemalis**, *Sclat.* COMMON SNOWBIRD.—Abundant winter visitor.

78. **Melospiza fasciata**, *Scott.* SONG SPARROW. — Common during the winter months.

79. **Melospiza lincolni**, *Bd.* LINCOLN'S SPARROW. Common in winter in the thick undergrowth on the borders of woods.

80. **Peucæa cassini**, *Bd.* CASSIN'S FINCH. — A common summer resident on the open grassy prairies. It runs like a mouse through the grass, and is very shy and difficult to observe. A nest I never discovered.

81. **Pipilo erythrophthalmus**, *Vieill.* GROUND ROBIN.—A rare summer resident. A few pairs breed in the woods on Spring Creek.

82. **Calamospiza bicolor**, *Bon.* LARK BUNTING. — Abundant in winter on the prairies.

83. **Euspiza americana**, *Bon.* BLACK-THROATED BUNTING.—A common summer resident. Breeds abundantly in all the prairie districts.

84. **Cardinalis virginianus**, *Bon.* CARDINAL GROSBEAK.—This well-known bird is the most abundant of the family and resident throughout the year.

85. **Guiraca cærulea**, *Sw.* BLUE GROSBEAK. — Regularly distributed summer resident, but nowhere abundant. Nests discovered always in brier-patches in fields, on road-sides, and on the border of woods.

86. **Cyanospiza ciris**, *Bd.* PAINTED FINCH.—Inhabits with the preceding similar localities. Very common from April to October. Nest usually in blackberry-bushes, but always well hidden and not easy to find. These birds are very shy and exceedingly quick in all their motions.

87. **Cyanospiza cyanea**, *Bd.* INDIGO BIRD.—Observed only during the migrations. None I think remain to breed.

(To be concluded.)

ON THE SESAMOID AT THE FRONT OF THE CARPUS IN BIRDS.

BY J. AMORY JEFFRIES.

IN the Bulletin for October, 1881, is a paper by Dr. Shufeldt entitled "On the Ossicle of the Antibrachium as found in some of the North American Falconidæ," in which the author describes

the sesamoid ossicle at the distal end of the radius in the Marsh Hawk (*Circus hudsonius*) as a new bone. Dr. Shufeldt says: "It does not seem possible that a bone the size of one which I am now about to describe could have been entirely overlooked by ornithologists, yet after a careful perusal of such parts of the works of the most prominent writers, as refer to the skeletology of the upper extremity I fail to discover the barest mention as to the existence of any such an one." Now this bone was figured, as it occurs in *Aquila fucsa*, by Milne-Edwards in his famous work on the Fossil Birds of France, the publication of which began in 1866, so that the bone as it occurs in the *Falconidæ* can scarcely be considered unknown to anatomists. The "os prominens" as it occurs in the *Falconidæ* is a modification of the sesamoid ossicle which very often occurs in the tendon of the tensor petagii longus where it passes over the carpus;* its function here being that of a simple sesamoid over the carpus. In many of the *Falconidæ* † this sesamoid becomes bound to the distal end of the radius, and lengthened out at right angles to the long axis of that bone, as figured by Dr. Shufeldt. By this means the function of the ossicle becomes very much altered. It no longer slides over the carpus, but serves, since the tendon of the extensor petagii longus includes only its free end, to keep that tendon off the carpus, thus avoiding friction at the joint. Again, since the ossicle attains considerable length, — 6 centimeters (millimeters?) according to Dr. Shufeldt in *Circus*, — it materially alters the action of the extensor petagii longus so that it tends much more to extend the hand and draw the thumb away from the index. In this way the extensor petagii longus seems to antagonize the slip of the flexor longus digitorum sublimis, and since its tendon is elastic, owing to the amount of yellow fibrous tissue in it, the action must be to a considerable degree automatic.

My views of the functions of this ossicle are, it will be seen, very different from those of Dr. Shufeldt, who considers it to protect the carpus and greatly increase the area of the wing. This bone, standing up as it does on the anterior edge of the

* This bone is described in Mivart's "Lessons in Elementary Anatomy," p. 320, fig. 289; and by Alix in his "Essai sur l'Appareil locomoteur des Oiseaux," p. 403. Being out of town fuller references cannot be given.

† In his "Essai sur l'Appareil locomoteur des Oisseaux," Alix figures (pl. 11. fig. 12) the carpus of a Kestrel with a simple sesamoid.

wing, would seem to be particularly liable to injury, sufficient, we should think, to offset the amount it may protect the compact carpals below. The extra area covered by the wing on account of the ossicle is easily measured. It is simply the area of a triangle, which has for its base the difference in altitude between the process of the metacarpus and the sesamoid ossicle, 3 millimeters say, and for its altitude the distance between the carpus and the origin of the extensor petagii longus, say 2.5 decimetres. Absolute measurements cannot be given since no Hawks are to be got in Boston at present. So the entire increase of area would be 3.75 square centimetres, and this increase is at the base of the wing, where it would least increase the resistance of the wing. This difference becomes quite small in the ratio $\frac{\sqrt{2\,a}}{\sqrt[3]{\text{weight}}}$ where a, the area of one wing, represents hundreds of square centimeters. Yet the ratio is that of the supporting power of the wing to the weight of the body, other things being equal. In the above calculation it is assumed that Dr. Shufeldt meant millimeters not centimeters,* when giving the dimensions of the "os prominens."

To sum up, the bone serves: (1) To keep the friction of the extensor petagii longus muscle off the carpus. (2) To increase the power of that muscle to abduct the thumb. (3) To slightly increase the supporting power of the wing. (4) To protect the carpus (?).

Here it may not be improper to state that during the winter of 1880–81, the writer *showed a specimen* of the carpus of *Accipiter fuscus*, and explained his views as here stated of the function of the "os prominens," at a meeting of the Nuttall Ornithological Club.

NOTES ON SOME OF THE BIRDS OBSERVED NEAR WHEATLAND, KNOX CO., INDIANA, IN THE SPRING OF 1881.

BY ROBERT RIDGWAY.

Monteur's Pond, situated about ten miles east of Vincennes and two miles west of the village of Wheatland, on the O. & M. R. R., is of considerable extent, being about nine miles long by

* [See Erratum on p. 64 of this issue.—EDD.]