

its body, causing the gull, which barely cleared the fence, to land immediately outside the enclosure and swallow the head and neck of the duckling for a better grip. Taking flight it initiated a series of deep swallows, and the Mallard rapidly disappeared into the gullet of the gull. Less than a minute later the gull alighted on a nearby pond and took several sips of water before flying away into the marsh.—NICHOLAS J. CHURA, *Wildlife Research Unit, Utah State University, Logan, Utah.*

Comparison of the Weight-Lifting Capacities of a House Finch and a Golden Eagle.—While observing the nest-building activities of a pair of House Finches (*Carpodacus mexicanus*), I saw the female return to the nest site with a large piece of fabric in her beak. By frightening her I caused her to drop the load. It proved to be a ribbonlike piece of cloth 1.2 to 1.8 cm in width, 80 cm long, 4 layers thick, and weighing 4.885 g. She had picked up this rag in a yard near the nest site and was seen flying in over the roof of my garage.

Wishing to secure further data on the strength and lifting ability of House Finches, I found that Partin (*Condor*, 35: 60, 1933) had made an exhaustive study of House Finch weights and had determined an average of 20.85 g for the species. Thus a female House Finch having a body weight of 20.85 could lift and become airborne with a bulky load weighing 4.885 g on an almost windless morning. This appeared to be a remarkably heavy load for such a small bird.

Lewis and Marian Walker (*Nat. Mag.*, 33: 320–323, 1940) give details of weight-lifting trial flights for a male Golden Eagle (*Aquila chrysaetos*). They found that the eagle could carry 2 lb (907 g) in “effortless” playful flight; that 4 lb (1,814 g) proved “difficult,” and 8 lb (3,628 g) was beyond the carrying capacity of the bird. There was no mention of the body weight of this experimental eagle. However, Poole (*Auk*, 55: 517, 1938) gives the weight of a female Golden Eagle as 4,664 g. Bent (*U.S. Nat. Mus. Bull.* 167: 300) gives the weight of an adult male Golden Eagle as 4,169.4 g.

Thus, the House Finch weighing 20.85 g carried a 4.88 g load, which is 23 per cent of her weight, and the Golden Eagle weighing 4,169.4 g carried a 907 g load, which is 21 per cent of his weight.

The eagle could probably have easily lifted a few more grams, but it is noteworthy that the ratio of their body weights to the loads carried is very nearly equal.—LAURENCE M. HUEY, *San Diego Society of Natural History, Balboa Park, San Diego, California.*

The Terminology of the Short Extensor Muscles of the Third Toe in Birds.

—During my current study of the myology of the pelvic appendage in the genera *Tympanuchus* and *Pedioecetes*, I was faced with the problem of conflicting terminologies for the short extensors of the third toe. This paper is the result of my effort to resolve this problem.

Hudson (1937: 54), on the basis of studies of a wide variety of birds, states: “In no case was more than one short extensor found attached to the third toe. Gadow, however, gives two: *M. extensor proprius digiti III* and *M. extensor brevis digiti III*. He states that both are well developed and entirely independent of one another in the Ratitae. This condition apparently does not occur in any other group of birds. It seems probable that the name *M. extensor brevis digiti III* should be discarded as a synonym of the *M. extensor proprius digiti III*. The former name was introduced by Gadow while the latter had been used by previous writers. It is not uncommon for a muscle to be double in certain restricted groups of birds, but this is no valid argument for the use of two muscle names.”

It is obvious from reading Gadow's account of these two muscles (in Gadow and Selenka, 1891) that he found both muscles in a variety of birds, although the two were often fused. Gadow does not make it clear, however, in which birds, if any, other than ratites these muscles are entirely separate. Fisher (1946) identified both muscles in the Black Vulture (*Coragyps atratus*), although they were poorly developed and partly fused. Fisher and Goodman (1955) state that they found remnants of both muscles in the Whooping Crane (*Grus americana*). I found two muscles (partly fused) as a variant in some specimens of *Pedioecetes*.

In an attempt to determine whether or not any birds other than ratites had two separate muscles, I examined several different kinds of birds. I found these two muscles well developed and entirely separate in a tinamou (*Crypturellus cinnamomeus*). A description of these muscles in *Crypturellus* follows (see Figure 1).

M. extensor proprius digiti III

General Description and Relations. It is a slender, elongate muscle on the anterior surface of the tarsometatarsus between Mm. extensor brevis digiti IV and extensor brevis digiti III. It passes between the two well-developed arms (lateral and medial) of the tendon of insertion of *M. tibialis anticus*. The proximal end is an extremely narrow but well-defined tendon that lies deep to the insertional tendon of *M. tibialis anticus*. The fleshy belly ends at approximately the midlength of the tarsometatarsus. The long, slender insertional tendon lies superficial to the medial edge of *M. extensor brevis digiti IV* and extends between the trochleae for digits III and IV onto the lateral surface of digit III, gradually twisting onto the dorsolateral surface of this digit.

Origin. It arises by a narrow tendon from the articular capsule at the proximal end of the tarsometatarsus.

Insertion. It inserts by a long, slender tendon that attaches to the dorsolateral surface of the proximal end of the terminal phalanx of digit III. At the level of the first interphalangeal joint the main tendon gives off a long, slender slip that attaches to the lateral surface of the proximal end of the terminal phalanx.

M. extensor brevis digiti III

General Description and Relations. It is broader and much shorter than *M. extensor proprius digiti III*. It lies on the midanterior surface of the distal half of the tarsometatarsus between Mm. extensor brevis digiti IV and abductor digiti II. The tendon of *M. extensor proprius digiti III* passes lateral to the present muscle. The muscle is narrow proximally and gradually widens distally. The insertional tendon begins on the superficial surface of the belly near its midlength and continues beyond the belly along the dorsal surface of the trochlea for digit III as a flat band fused to the underlying articular capsule.

Origin. It has a fleshy origin from an elongate area on the midanterior surface of the tarsometatarsus beginning a short distance below the midlength of the latter and ending at the proximal end of the trochlea for digit III.

Insertion. It inserts by a flat tendon to the dorsal surface of the proximal end of the first phalanx of digit III.

The relations of these two muscles in *Crypturellus* are essentially similar to those of ratites as described by Gadow (1880) except that in the ratites the origin of *M. extensor proprius digiti III* (termed extensor longus digiti III by Gadow, 1880) is from the insertion of *M. tibialis anticus*.

In *Tympanuchus* and *Pedioecetes* there is typically only one short extensor of the third digit. There is no evidence that two muscles might have fused. The shape and

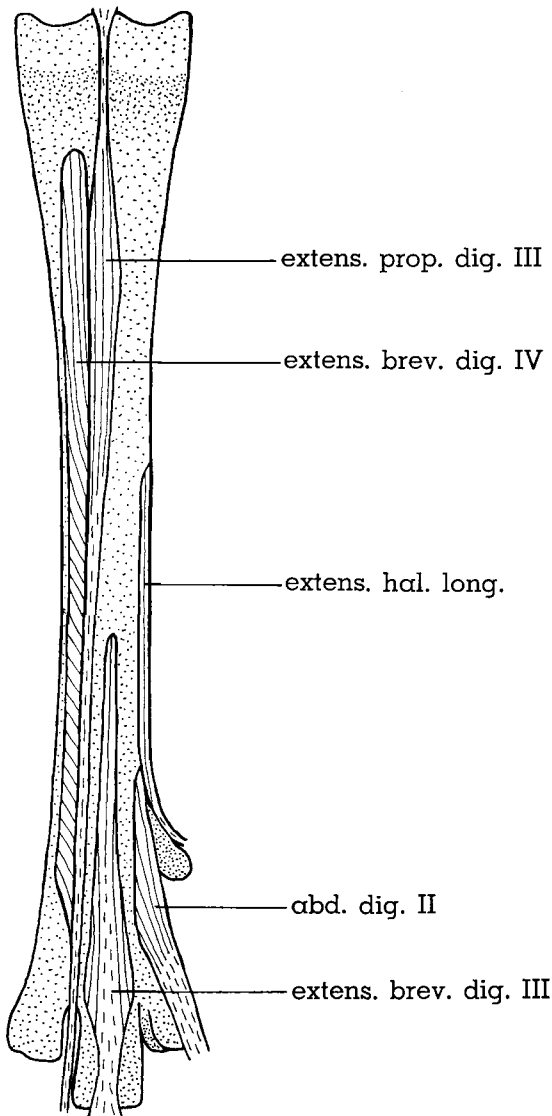


Figure 1

location of this muscle is similar to that of *M. extensor brevis digiti III* in *Crypturellus* and in the ratites (Gadow, 1880) and undoubtedly represents this muscle. Hudson's usage (Hudson, 1937; Hudson, *et al.*, 1959) of the term *M. extensor proprius digiti III* for this muscle in these two genera is incorrect.

In two legs of *Pedioecetes phasianellus* I found a second short extensor of the third toe that represents *M. extensor proprius digiti III*. It arises a considerable distance proximal to *M. extensor brevis digiti III* from the distal extension of the

insertion of *M. tibialis anticus* in one leg and from the lateral edge of *M. extensor hallucis longus* in the other leg (where the muscle under consideration is less well developed). In both cases the muscle inserts on the superficial surface of *M. extensor brevis digiti III*.

Hudson (1937) has misinterpreted these two muscles. There actually are two short extensors of the third toe in several groups of birds, rather than a doubling of one muscle in a restricted group of birds. However, it appears that in most birds one of these two muscles has become reduced and fused with the other or lost completely. The birds studied by Hudson (and by those who have followed his terminology) should be reexamined in order to determine whether the muscle in question, if single, represents *M. extensor proprius digiti III* or *M. extensor brevis digiti III* or a fusion of these two muscles.

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Food of the Mexican White Hawk.—In view of the paucity of information concerning the food of the Mexican White Hawk (*Leucopternis albicollis ghiesbreghtii*), it is desirable to report the stomach contents of a male collected on 11 April 1961 in southeastern Oaxaca, about 135 km (85 miles) south of Acayucan, Veracruz. The stomach seemed to be much enlarged and was packed with small lizards in various stages of decomposition. Apparently these represented several different species. There was also one small snake about 10 cm long and the remains of a large beetle, apparently *Dynastes*.—COL. L. R. WOLFE, *Kerrville, Texas.*