mon in New Mexico, where it is the chief malaria carrier, occurring in the Rio Grande and San Juan Valleys, up to an altitude of 5,600 feet. It is therefore surprising that this species has not been reported for the northern part of the adjacent Mexican State of Coahuila, where several Culicids of northern origin as *Aedes vexans* Meig. and *A. dorsalis* Meig. have been found and where climatic conditions are very similar to those of New Mexico. Also in Dr. Martini's paper,[3] which the Mexican Public Health Department is just publishing, *A. maculipennis* does not appear in the list of Mexican Anophelids.

In spite of these negative data, I have to announce that the so-called *A. maculipennis,* undistinguishable in the male hypopygia from California and British Columbia specimens, occurs throughout the whole Mexican tableland, reaching the Valley of Mexico. It has apparently been confused by former authors with *A. quadrimaculatus* Say. This finding, which extends the area of distribution of the species on the American Continent for nearly 14 degrees to the south and into the tropics, has a special interest in view of the recent European controversies on the so-called races of *A. maculipennis.* The writer is of the opinion that the European maculipennis is composed of at least two valid species, *A. maculipennis* type with var. *messeae* and var. *melanoon,* and *A. labranchiae* with var. *atroparvus.* The American species belongs, according to the hypopygium of the male, not to *A. maculipennis,* but to *A. labranchiae,* as shown in 1933 by Martini,[4] but has distinctive characters in the egg, which would justify retaining it as a separate species, for which the old name *Anopheles occidentalis* Dyar and Knab should be used. Should it result that the division between the American and European form is only of subspecific rank, then the European form would bear the name *A. occidentalis* var. *labranchiae.*

A more extensive paper will be published in the *Revista Mexicana de Biologia.*

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EGGS OF A PENEID SHRIMP

SINCE Fritz Müller,[1] in 1863, published his excellent Brazilian observations on the metamorphosis of the prawns, students of the Peneidae have long been interested to know more of the character of the eggs and the early nauplii of this group of Crustacea. The researches of Brooks,[2] Kishinouye[3] and lately of Heldt[4] have done much to supplement the work of Müller. Recently the writer, during the course of a study of the early life history of the commercial American prawns or shrimps, *Penaeus setiferus* and *Penaeus brasiliensis,* secured a number of shrimp eggs, most probably of the species *P. setiferus.* These eggs were spherical in shape and possessed an extremely thin delicate membrane. The diameter of the eggs ranged from .38 to .42 millimeters. Within each otherwise transparent egg rested a well-developed nauplius, the length of which ranged from .21 to .26 millimeters. The nauplius was approximately one half the diameter of the egg.

These eggs were secured by a meter tow net at the surface of the sea near the sea buoy off Jekyl Island, Georgia, on June 17, 1932, by the scientific staff of the U. S. Bureau of Fisheries. The same plankton haul also yielded free-swimming nauplii of the same size and stage as those observed within the eggs and apparently added one earlier stage of free-swimming nauplius to that presented by Müller. Nauplii of approximately the same size and stage as described by Müller (.4 millimeter) were also taken.

Several hundred nauplii and zoae of the commercial shrimps, *P. setiferus* or *P. brasiliensis,* taken along the South Atlantic and Gulf coasts during the past three years, provide an interesting series of growth stages and with the addition of the shrimp eggs assist considerably in an understanding of the spawning of the commercial shrimps and the distribution of the young in inshore waters off the coasts of South Carolina, Georgia, Florida and Louisiana.

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AN ANOMALOUS MUSCLE IN THE CALIFORNIA RIVER OTTER

IN a study made recently of the osteology and myology of *Lutra canadensis brevipilosus* the muscle described below was discovered in one specimen, a female, and found to occur on one side only. This muscle was found on the left side without the slightest trace to be found of a similar muscle on the right side.

The muscle arises as a slender round tendon on the anterior and ventral border of the ilium and continues ventrally and then posteromedially as such for a distance of about 4.0 centimeters, which brings it to the level of the medial posterior border of *M. sartorius.* The round tendon quickly broadens out into the fleshy part, which is 2.7 centimeters long and 0.64 centimeters wide, and quite thin. The fleshy part tapers

[3] "Los Mosquitos de Mexico." Boletines Técnicos, Serie A. No. 1, Del Departamento de Salubridad Pública, Mexico (in press).

[4] *Proc. Ent. Soc. Washington,* 35, No. 5, p. 65.

[1] R. Muller, *Arch. f. Naturgesch.* 29, Bd. 1863.

[2] W. K. Brooks, Johns Hopkins Univ. Circ., Vol. II, 1882.

[3] K. Kishinouye, *Zoologisches Anzeiger,* XXIII, 1900.

[4] H. Heldt, Compt. Rend. Acad. Sci. (Paris), 1931.

some, ending in a broad flat and somewhat stiff tendon of insertion 2.74 centimeters long.

The slender round tendon of origin passes along the line of origin of *M. sartorius* on the crest of the ilium. The fleshy part and one centimeter of the flat tendon lie free amongst the layers of loose fascia so common in this region. Fleshy origin fibers of *M. gracilis* arise along the posterior 1.7 centimeters of the flat tendon, and for 1.2 centimeters of this from the tendon alone, the origin then shifting to the pubis. The flat tendon inserts on the anterior and ventral border of the pubis immediately lateral to the pubic symphysis. The position of this singular muscle suggests either a modified or abnormal Poupart's ligament.

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THE EFFECT OF PROLACTIN ON THE ESTRUS CYCLE OF NON-PAROUS MICE

THE mammary milk secretion is governed by a specific pituitary hormone which is independent of the growth- and gonad-stimulating hormone of the pituitary. It was first isolated by Riddle, Bates and Dykshorn[1] and named prolactin. Prolactin does not affect the mammary glands of normal adult guinea pigs or rabbits, unless they have been previously prepared for about three weeks with theelin and progestin. Moreover, it acts when injected in similarly prepared male or female animals that have been castrated or hypophysectomized. Crew and Miskaia[2] noted that the length of the lactation interval (from the estrum after parturition to the estrum at the close of lactation) extends for from 20 to 25 days. The question arises whether this delay in estrum is caused by the corpus luteum or the pituitary hormone prolactin. If this former were true, the injection of prolactin should not influence the estrus cycle in the non-parous animal.

Accordingly, the estrus cycle of 30 mature young female mice was studied over a period of one month. At the end of that time, 14 mice, whose cycles had been absolutely regular, were selected. These 14 mice were injected subcutaneously with one bird unit of prolactin[3] daily, over a period of 30 days. Daily examinations showed that no changes occurred in the mammary glands as the result of the prolactin. Twenty-four hours after the prolactin injections were begun, the estrum became suspended. Daily vaginal smears from all mice showed no estrum during the following 20 to 25 days. It reappeared after this period of 20 to 25 days in spite of further continued injections of prolactin, and was markedly prolonged, continuing from 4 to 8 days. During these days the vaginal smears showed only non-nucleated epithelial cells.

These observations may be summarized: In the mature, nonparous mouse prolactin suspends the estrus cycle for about three weeks, after which a prolonged estrum sets in lasting from 4 to 8 days in spite of further continued injections. It would appear from this observation that the suspension of the estrus cycle during lactation is caused by the pituitary hormone prolactin, rather than a hormone from the corpora lutea.

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SCIENTIFIC BOOKS

FARADAY

Faraday's Diary. Edited by THOMAS MARTIN, M.Sc., and published by order of the Managers of the Royal Institution of Great Britain, with a Foreword by Sir William H. Bragg, O.M., K.B.E., F.R.S. G. Bell and Sons, Ltd., London. Vols. III, IV, V.

VOLUMES I and II of this great publication were reviewed in SCIENCE of January 13, 1933. Two more volumes are to follow. The books will be sold only in sets, of which 750 copies will be issued. The price of the set is twelve guineas.

The volumes now in hand show the same careful transcribing and editing as the earlier ones. They are beautifully printed and bound. The editor, the managers of the Royal Institution and the publishers are to be again congratulated on the further progress of this noble memorial.

In Volume III Faraday records the progress of his research on electrostatic induction, the earlier part of which was recorded in the previous volume. He was particularly interested in proving that induction could act along curved lines, similar to the curved lines of magnetic force. When he was able to show this experimentally he was led to the belief that these lines of force were evidence of a polarized condition of the medium between the two conductors. He was then led to think that some differences in inductive power might be shown if different media were used to transmit the inductions and so to the discovery

[1] *Amer. Jour. Phys.*, 105: 190, 1933.
[2] Allen, "Sex and Internal Secretion."
[3] The prolactin used was furnished by the Research Department of E. R. Squibb and Sons.