system (Sanborn Poly Viso). If kept at 3°C in Tyrode's solution, such strips retain for several days their ability to react to oxytocin.

The strips of mammary gland show no spontaneous contractions. They respond consistently to oxytocin, developing tensions which may reach values of the order of 500 mg (Fig. 1). Contraction develops slowly, taking about 1 minute from the onset to the peak. Relaxation occurs even if oxytocin is not washed out from the bath. The lowest concentration of oxytocin detected by the mammary gland strip has been 0.1 milliunit/ml. Within a range from 0.5 milliunit/ml to 10 milliunit/ml the tension developed by the contraction of the strip is in direct linear relationship with the concentration of oxytocin (Fig. 2). The dose-response curve remains remarkably constant for several hours if the resting tension is readjusted to a constant value before each observation. The most commonly used values of resting tension are between 50 and 100 mg. Furthermore, the mammary gland strip does not contract when heparinized blood or plasma is added to the bath, thus making possible the direct determination of oxytocin in these fluids.

The linearity and the stability of the dose-response curve of the mammary strip offer considerable advantages over other tests currently employed for the assay of oxytocin. Moreover, with strips of mammary tissue, as with the mammary gland studied in vivo, specificity is high and spontaneous activity absent. Because of these properties the mammary strip compares favorably with the isolated rat uterus which frequently exhibits spontaneous activity and also responds to a great variety of substances occurring naturally in normal blood.

The sensitivity of the mammary strip test is 5 to 10 times greater than that of the response of the intact mammary gland to oxytocin given intravenously. Sensitivity is, however, less than that obtained in vivo when the oxytocin is injected into the arteries supplying the mammary gland (*1, 2*). It is also less than the sensitivity of the superfused rat uterus (*1, 3, 4*).

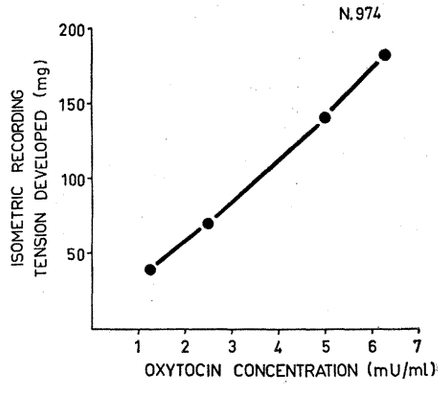

Fig. 2. The responses illustrated in Fig. 1 are plotted to show the linear relationship between concentration of oxytocin and tension recorded from the isolated strip of mammary tissue.

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References and Notes

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4. This work was aided by a grant from the Rockefeller Foundation and from the Josiah Macy, Jr. Foundation, New York.

8 February 1960

Feather Mites and Ornithosis

Abstract. Ornithosis virus has been isolated from several species of poultry ectoparasites, suggesting for the first time that this too may be a vector-borne infection.

A virus of the ornithosis group, for which we prefer the designation *Bedsonia* rather than *Miyagawanella,* has been isolated by mouse passage from ectoparasites collected under two epizootiologically different circumstances in two widely separated geographical areas.

In the first case there had been some serologic, but no clinical, evidence of this infection in a chicken flock in the preceding 3 years. When an observer reported an extensive infestation with mites, the Hooper Foundation requested that some of these be collected so that they could be examined for the ornithosis virus. The ectoparasites were collected from a rooster with an indirect complement fixation titer of 1:16, and in the first intraperitoneal mouse passage and in the subsequent ones there was gross and microscopic evidence of the virus. These insects were not identified, but in the further pursuit of this very interesting observation, lice, some identified by an entomologist to be *Menopon gallinae (M. pallidum)* were collected from ten hens and again the virus was isolated.

Although it has been known since early in the 1930's that activation of latent infection accounts for the sporadicity of this infection, in some cases this explanation has not sufficed, in incubator-hatched poultry for example. This isolation suggested a hitherto unrecognized virus-perpetuating system. But the misleading interference of masked infections in laboratory mice, although there was no special reason to suspect them in this observation, and the fact that the isolation was made in a laboratory where other work on this virus is being carried on, made it necessary to make some further studies.

Since ornithosis had been occurring annually and inexplicably in a turkey flock, the next step was to see whether there might be infected ectoparasites on the premises of that flock. A public health official who had been participating in investigations of the flock collected miscellaneous material, including insects, from nests in which there had been no turkeys for about 2½ months. Most of the insects were still alive when they were identified and separated for the isolation tests. Mouse passage of 117 pools has again revealed the virus, despite the fact that the mites could not have fed on infected turkeys for at least 3½ months before the test. Two of the infected pools consisted of Glycyphagidae, Berlese, probably *Glycyphagus domesticus.* The other was a mixture of *Haemogamasus, Haemolaelaps, Ornithonyssus,* and *Cheyletus.* Isolations have been made also from *Cheyletus* and a *Mesostigmata,* possibly Arctacaridae.

This information is given to stimulate others to investigate this possibility further and to consider such ectoparasites as potential reservoirs or vectors of other infections.

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9 May 1960

Rapid and Reversible Block of Electrical Activity by Powerful Marine Biotoxins

Abstract. Puffer-fish poison and clam poison reversibly inhibit conduction in single nerve fiber preparation of frog in a concentration of $3 \times 10^{-10} M$. In the isolated electroplax of *Electrophorus electricus* higher concentrations block both transmission and conduction. Neither toxin is a potent acetylcholinesterase inhibitor. The mechanism of action of these toxins in blocking transmission and conduction has not yet been established.

Extremely toxic compounds have been isolated from certain marine animals, fish and invertebrates. Some of these toxins have been isolated and purified. Their molecular weights are