

forwarded, as they were required, to South Africa for feeding the troops. These cattle brought Surra to the island; the disease spread extremely rapidly and killed practically every equine and bovine there. It became impossible for the Mauritians to collect their crops and small railroads were laid down through the plantations for this purpose. The disease was introduced into the Philippines in the same way, but the epidemic caused by it there was not so severe as was the one in Mauritius.

In South America another trypanosome causes a disease in horses called *Mal-de-caderas*. It has made the raising of horses absolutely impossible in some districts.

Dourine occurs all through the south of Europe, as well as in the north of Africa. It differs from the diseases which we have already mentioned in the mode of its dissemination. The tsetse-fly disease, or Nagana, is transmitted through the bites of the fly which gives its name to the malady. Surra is carried by flies of at least two species—the small *Stomoxys*, of which varieties are well known in this country, and by various horse-flies, (*Tabanus*). The mode of transmission of *Mal-de-Caderas* is not known with certainty; it is believed that it may be carried by a *Stomoxys* and, possibly, by a variety of horse-fly. It has been suggested the fleas may also disseminate it. Dourine, although it has been transmitted experimentally by fleas, is probably only carried naturally from animal to animal through coitus.

The symptoms of all these diseases have much in common. In all of them there is fever, loss of strength, and emaciation, although the appetite remains good throughout the whole

course of the disease. All of them almost invariably end fatally. Although these diseases sometimes run an acute course, they are usually more or less chronic and the infected animal may live, though usually obviously ill, for a considerable number of weeks or even months.

Dourine has been known in Europe since the early part of the nineteenth century. It was introduced into the United States in recent years by means of a stallion which was brought over from France. It probably exists at present in an endemic state amongst the half-wild range horses of some of the Western States. It has existed in Canada since 1904. In the horse, the disease may present one of two types; it may be acute or chronic. In the acute form of the disease the animal may die within a few days, but this type is exceedingly rare; the chronic type is much more usual.

In the chronic type of the disease there are usually three fairly well defined stages. The first is characterized by the presence of slight oedemas, and by a slight temperature (100° to 101.5° F.); the horse no longer seems to be itself and is easily fatigued. In the second stage wasting is more marked; the animal lies down constantly and when it attempts to get up the weakness of the hind quarters is particularly marked; the temperature is higher (about 102.5° F. in the evening) and the lymphatic glands are enlarged. At this stage appear the "plaques," which are the one certain sign of the disease. These are firm, rounded swellings and look "as though a metal disc (such as a dollar) had been slipped under the skin." They occur most commonly on the sides and hind quarters but they have been seen upon almost every part