NOTES

RECOVERY OF RELAPSING FEVER SPIROCHETES FROM ORNITHODOROS TURICATA (DUGES), 1876, IN CALIFORNIA

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Ornithodoros turicata has been collected in Mexico and the United States. In the United States it is found in the states of Arizona, California, Colorado, Florida, Kansas, New Mexico, Oklahoma, Utah, and Texas. It is reported a vector of relapsing fever in Mexico, and in Kansas, New Mexico, Oklahoma, and Texas (Davis, 1942, Am. Assoc. Adv. Sci., 18, 67-76).

In June, 1944, 121 Ornithodoros ticks were collected from a burrow system of Citellus beecheyi in Cummings Valley, at an elevation of 4,300 feet, Kern County, California. These were divided into 6 pools and fed on guinea pigs. One guinea pig, on which a lot of 19 ticks had fed, developed relapsing fever.

In the same month 54 Ornithodoros ticks were collected from Citellus beecheyi burrows at the Calaveras Dam Field Station of the Hooper Foundation in Alameda County, California. These were split into 5 pools and fed on guinea pigs. Three of the five guinea pigs developed relapsing fever. The infective pools were comprised of 2, 13, and 27 ticks.

Numerous specimens from the lots of ticks collected in the two areas were sent to Dr. R. A. Cooley, Senior Entomologist, Rocky Mountain Laboratory, and were identified as *O. turicata*.

*Ornithodoros parkeri*, found in both Alameda and Kern Counties, can be separated from *O. turicata* with certainty only by an expert ixodologist. In fact, Davis has shown that these species are capable of hybridizing in the laboratory. Some specimens collected in areas occupied by both species show intergrading characters (Cooley and Kohls, 1944, Am. Midland Nat. Monogr., 1, 1-152). The present record is evidently the first of *O. turicata* in Kern County, and this is the first time that this species has been found to be a vector of relapsing fever in California.

USE OF A “U” TUBE FOR THE ISOLATION OF MONOPHASIC VARIETIES FROM DIPHASIC SALMONELLA CULTURES

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A simplified method of isolating monophasic varieties from diphasic *Salmonella* cultures, incorporating the principles of Gard (Z. Hyg., 120, 59), Edwards and