RELAPSING FEVER SPIROCHETES:
THE PRESENT STATUS OF
BORRELIA VENEZUELENSIS BRUMPT AND
BORRELIA NEOTROPICALIS BATES AND ST. JOHN

Gordon E. Davis¹

Following a long series of experiments with ticks and spirochetes of Panama, Bates, Dunn, and St. John reported (1921) that the human tick, Ornithodoros talaje, had been demonstrated to be the transmitting agent of relapsing fever by human experimentation. The causal organism was not named in this paper. Following further studies on the spirochete and comparison with several other species, Bates and St. John (1922) proposed the name Spirochaeta neotropicalis for the relapsing fever spirochete of the neotropical region. Meanwhile Brumpt (1921) had given the name Treponema venezuelense to the spirochete transmitted by Ornithodoros rudis.

In an attempt to clarify the confusion which exists in the use of the two species names, Borrelia venezuelensis and Borrelia neotropicalis, currently applied to the spirochete(s) of neotropical relapsing fever, many of the extensive reports from Panama have recently been reviewed. There were two problems: (1) to determine whether B. neotropicalis was actually applied to the spirochete normally transmitted by O. talaje, as originally reported, or to the spirochete normally transmitted by O. rudis, and, (2) to determine the priority of publication of the two specific epithets if they were both applied to the spirochete normally transmitted by the same species of Ornithodoros.

Identity of the ticks concerned.

Ornithodoros talaje was described from Guatemala by Guérin-Méneville in 1849 and Ornithodoros rudis from "Nova Granada"² by Karsch in 1880. Neither description contained

¹Principal Medical Bacteriologist, U.S. Department of Health, Education, and Welfare, Public Health Service, National Institutes of Health, National Microbiological Institute, Rocky Mountain Laboratory, Hamilton, Montana.

²'Nova Granada' is the geographic name that was once applied to the general region of Colombia and Panama.

what are not considered as sufficient characters to delimit a species. In 1921, Brumpt described the vector from Venezuela as Ornithodoros venezuelensis, this is now generally accepted as a synonym of O. rudis Karsch. It was not until 1927 that Dunn reported that an error had been made in the identification of the ticks in Panama, and that the tick formerly reported as O. talaje was O. rudis. It thus becomes clear that the epithet neotropicalis was not given to the spirochete transmitted by O. talaje, but rather to the spirochete transmitted by O. rudis. In other words, Borrelia venezuelensis and B. neotropicalis are synonyms.

Priority of the species names.

Priority as between Borrelia venezuelensis and B. neotropicalis was difficult to establish. In a letter from the late Prof. Brumpt, dated 1 July 1950 from Paris, he stated:

En ce qui concerne le spirochète vénézuélien, c'est en 1921, dans le nouveau traité de Médecine, que je lui ai donné le nom Treponema venezuelense, le genre Treponema ayant été accepté par divers auteurs comme devant englober les différentes spirochètes des fièvres récurrentes. Il est probable que le date de 1922 a été donné au moment de la publication du traité de Médecine, mais j'ai créé mon espèce en 1921.

However, according to the rules governing priority of names, a name must be validly published and available; its date is fixed by the date of publication. The writer's edition of Nouveau Traité de Médecine, labelled in pencil as the 1922 edition, and in which Treponema venezuelense Brumpt 1921 is listed, proved to be the 1925 edition after checking the paginations of the several editions. Numerous attempts were made to obtain the 1921 edition from University libraries and from the Surgeon-General's Library, without success.

During these searches we found a reference to a thesis by Lavier (1920-21). The thesis was submitted to the Faculty of Medicine of Paris for the Doctorate in Medicine. A copy was readily obtained from the Surgeon General's Library. The species name Treponema venezuelense Brumpt 1921 is mentioned with a reference to Les Spirochetoses, Brumpt, Nouveau Traité de Médecine, fascic. 4, Paris, Masson, 1921. The priority of the specific epithet in Borrelia venezuelensis

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over that in B. neotropicalis would seem to be established, and the latter name is a synonym of the former.

Following is a revision of the ascriptions and synonymy.

Borrelia venezuelensis Brumpt 1925.

Treponema venezuelense Brumpt 1921.

Spirochaeta neotropicalis Bates and St. John 1922.

(Spirochete of Panama) St. John and Bates 1922.

Borrelia neotropicalis Bates and St. John 1922.

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