Listeria Pirie—Whom Does It Honor?

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The evidence indicates that *Listerella* Pirie 1927 and *Listeria* Pirie 1940 were named in honor of Lord Joseph Lister, the father of antiseptic surgery, and not Sir Spencer Lister, as some have claimed. Other uses of *Listerella* as a generic name recognized the contributions of Lord Lister's father and younger brother. The Listers honored by other uses of the names *Listeria* and *Listera* were not of Lord Lister's immediate family. The specific epithet *listeri*, used in the names of three species of bacteria, also honors Lord Lister.

When Pirie (10) named his "Tiger River bacillus" *Listerella hepatolytica*, he little realized the taxonomic, nomenclatural, and etymological problems he had raised. In an addendum to his report, he noted that Murray et al. (9) had isolated a similar organism in England and named it *Bacterium monocytogenes*. He acknowledged that this epithet was more appropriate than *hepatolytica*, and when the identity of the two organisms was established, the name *Listerella monocytogenes* was adopted. Later, when it was pointed out that the name *Listerella* had been used previously, Pirie (11) suggested changing the name to *Listeria monocytogenes*, not realizing that this generic name had also been used before. Seeliger (12) has pointed out some of these nomenclatural problems.

In editing manuscripts for the eighth edition of *Bergey's Manual*, an unexpected problem was encountered. Was *Listeria* named in honor of Lord (Joseph) Lister or Sir Frederick Spencer Lister?

Pirie (10) stated quite clearly: "I propose . . . the generic name, *Listerella*, dedicating it in honour of Lord Lister, one of the most distinguished of those connected with bacteriology whose name has not been commemorated in bacteriological literature." Since there has been only one Lord Lister, the father of antiseptic surgery, there seemed no problem. However, Seeliger sent a copy of a letter, from a South African bacteriologist, which stated that Pirie had meant to honor Sir Frederick Spencer Lister, Director of the South African Institute for Medical Research from 1926 to 1939. An inquiry disclosed that at least two other South African bacteriologists held the same opinion. This view was given credence by the fact that in the fifth edition of *Topley and Wilson's Principles of Bacteriology* (16), Wilson

and Miles state: "Pirie suggested the generic name *Listerella* in honour of Sir Spencer Lister" rather than "in honour of Lord Lister" as in previous editions. This change was apparently made as the result of a verbal statement without further checking and is now admitted to be an error (personal communication).

Furthermore, J. H. S. Gear, the present Director of the South African Institute for Medical Research, replied to my query: "There is no doubt that Dr. Pirie wished to honour Lord (Joseph) Lister, in naming this organism. When he suggested the name *Listerella hepatolytica* for the Tiger River bacillus, he noted that a group of organisms had been named *Pasteurella*, after Louis Pasteur and had in mind a similar honour for Lord Lister, in recognition of his great contribution to bacteriology." Although I have not been able to find a reference to Pasteur in Pirie's publication, the connection is logical since Pirie's field was plague.

Sir Spencer is not well known outside of South Africa. His main contributions were studies of diseases of mine workers, particularly pneumonia. His early studies on pneumococcus led to his appointment to the South African Institute for Medical Research. He also worked on the influenza bacillus and meningococcus. Capetown University awarded him an LL.D. He was a Fellow of the Royal Society of South Africa, and was knighted in 1920. He became director of the South African Institute in 1926 and probably held this post when Pirie was preparing his contribution for publication.

On the cover of Publication no. 20 of the Institute (vol. 3, March, 1927) there is the statement "Edited by the Director." I find it difficult to believe that Sir Spencer would have allowed the reference to Lord Lister to appear

if the organism had been named after himself. I also find it difficult to believe that anyone from a British Commonwealth country would have said Lord Lister if he meant Sir Spencer Lister. From the published material, I can come to no other conclusion than that Pirie meant to honor Lord (Joseph) Lister.

The year 1927 was the centenary of Joseph Lister's birth and, to anyone historically minded, an appropriate time to honor a man who had made significant contributions to bacteriology.

It may be pertinent that E. G. D. Murray (8), a South African by birth, who first isolated the organism, made no mention of this problem in his Flavelle Medal address to the Royal Society of Canada, "The Story of *Listeria*," although his reference to the Cinderella-like nature of the organism gave him ample opportunity.

So much is made of Lister's contribution to surgery that we tend to forget that, after a colleague had drawn his attention to Pasteur's contributions, he spent a great deal of time growing microorganisms. In his early work, he got the impression that bacteria, yeasts, and fungi developed from one another; but in correspondence, Pasteur pointed out that he must be working with mixed cultures. Lister then reasoned that by diluting his mixtures until a drop contained only one organism he should be able to grow that organism alone; on one of his first attempts, he obtained a pure culture of *Bacterium lactis* Lister 1873, the organism now known as *Streptococcus lactis*. He was thus the first to isolate a bacterium in pure culture.

In checking these facts, it was interesting to find that the other uses of *Listerella* as a generic name had been in honor of Lord Lister's father and brother.

Listerella Cushman 1933, a genus of foraminifera, was named in honor of Joseph Jackson Lister, his father, a wine merchant whose hobby was lens grinding. He produced the first achromatic lens, an accomplishment which earned him an F.R.S. He was interested in nature in general, and his children were all keen naturalists.

Arthur Lister, Joseph's younger brother, was an expert on the slime molds, and his "Monograph on the Mycetozoa" raised considerable interest in this group of organisms. *Listerella* Jahn 1906 was named in his honor.

It probably is unique that the same name was chosen for three quite different groups of organisms to honor the contributions to biology of a father and his two sons.

The name *Listeria* has been used for a genus of flowering plants, of diptera, and of butter-

flies, and *Listera* for a genus of molluscs, of hydrozoa, and of orchids; but there is no further connection with Joseph Lister or his immediate family.

The specific epithet *listeri* has been used for three species of bacteria: *Bacillus listeri* Henneberg 1903 [*Lactobacterium listeri* van Steenberg 1920, 814; *Lactobacillus listeri* (Henneberg) Bergey et al. 1923, 248; *Bacterium listeri* (Henneberg) Henneberg 1926, 113]; *Pseudomonas listeri* Weiss 1899, 260; and *Actinomyces listeri* Erikson 1935, 23 [*Streptomyces listeri* (Erikson) Waksman and Henrici 1948, 961]. Only Erikson indicated that the species was named for Joseph Lister, the father of antiseptic surgery. However, it can be assumed that the same holds true for the other two species since they were christened during the period when Lister was being feted on the continent.

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