184 Leptospirosis

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Leptospirosis is a globally important zoonotic disease whose apparent reemergence is illustrated by recent outbreaks on virtually all continents. The disease is caused by pathogenic *Leptospira* species and is characterized by a broad spectrum of clinical manifestations, varying from asymptomatic infection to fulminant, fatal disease. In its mild form, leptospirosis may present as nonspecific symptoms such as fever, headache, and myalgia. Severe leptospirosis, characterized by jaundice, renal dysfunction, and hemorrhagic diathesis, is often referred to as *Weil's syndrome*. With or without jaundice, severe pulmonary hemorrhage is increasingly recognized as an important presentation of severe disease.

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Leptospira species are spirochetes belonging to the order Spirochaetales and the family Leptospiraceae. Traditionally, the genus *Leptospira* comprised two species: the pathogenic *L. interrogans* and the free-living *L. biflexa*, now designated *L. interrogans* sensu lato and *L. biflexa* sensu lato, respectively. Sixty-four *Leptospira* species with pathogenic (17 species), intermediate (21 species), and nonpathogenic (26 species) status have now been described on the basis of phylogenetic analyses **(Fig. 184-1)**. Genome sequences of all *Leptospira* species have been published, and this will undoubtedly lead to a better understanding of the pathogenesis of leptospirosis. However, classification based on serologic differences better serves clinical, diagnostic, and epidemiologic purposes. Pathogenic *Leptospira* species are divided into serovars according to their antigenic composition. There are more than 260 known pathogenic serovars, which are arranged in 26 serogroups.