lipopolysaccharides (4), but no fine line separates them from spotted fever group rickettsiae. Similarly, the classification of rickettsiae on the basis of molecular and immunologic characterizations is also problematic because of high sequence homology and serologic crossreactivity within and between the members of TG and spotted fever group. Distinct biologic differences, however, occur between TG and SFG rickettsiae with regard to arthropod vectors, in vitro growth, antigenic repertoire, pathologic features, and clinical manifestations. Although the diagnosis can be made serologically and confirmed clinically for most of the pathogenic rickettsiae, it is unlikely to serologically distinguish R. felis from R. typhi infections. The extent of human infections with R. felis is unknown at this time, and the disease needs to be studied clinically. The detection and identification of R. felis in a single human case has been carried out by PCR/RFLP and Southern hybridization (8). The detection of both R. typhi and R. felis presents a difficult diagnostic challenge since prompt diagnosis of murine typhus or infections with R. felis can be established only when rickettsiae or rickettsia-PCR products from blood samples are directly isolated. DEB-ELISA using monoclonal antibodies specific to either R. typhi or R. felis would be a useful tool to differentiate between these rickettsiae and closely related species.

Reported cases of murine typhus in the United States are largely focused in central and southcentral Texas and Los Angeles and Orange Counties in California. However, murine typhus-infected rats and rat fleas are hard to document within these foci, which suggests the maintenance of R. typhi in the cat flea/opossum cycle. Destruction and reduction of natural habitats displace many animals and force them to move into the hospitable environments of the suburbs and cities and subsequently increase the potential for “old and new pathogens” to reemerge and generate new outbreaks. The current distribution of the opossum in more than 40 states in the United States and the invasion of urban and suburban habitats by this opportunistic marsupial have also been aided by human activities. Opossums, freeranging cats, and rats in urban and suburban habitats where food and hospitable environments are plentiful, may live their entire lives in the same backyards. Therefore, their potential role in the murine typhus cycle as hosts to both R. typhi, R. felis, and their fleas warrants further investigation.

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