

THE SEROLOGICAL RELATIONSHIP BETWEEN *COWDRIA RUMINANTIIUM* AND CERTAIN MEMBERS OF THE GENUS *EHRlichia*

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ABSTRACT

HOLLAND, C. J., LOGAN, L. L., MEBUS, C. A. & RISTIC, M., 1987. The serological relationship between *Cowdria ruminantium* and certain members of the genus *Ehrlichia*. *Onderstepoort Journal of Veterinary Research*, 54, 331 (1987).

Although *Cowdria ruminantium* has been classified within the tribe Ehrlichia of the family Rickettsiaceae, there has been no extensive study conducted regarding its antigenic relationship to members of the genus *Ehrlichia*, or other rickettsial agents. The recent establishment of a method by one of us (L. L. Logan) for obtaining *C. ruminantium* antigens from primary neutrophil cultures for use in a serological test has enabled the comparison of 4 isolates of *C. ruminantium* with 4 *Ehrlichia* spp., 9 *Rickettsia* spp., 2 *Rochalimaea* spp., *Coxiella burnetii* and *Anaplasma marginale*. Using the respective IFA test antigens, all 4 isolates of *C. ruminantium* were shown to cross-react very strongly with *Ehrlichia equi*, causative agent of equine ehrlichiosis in the United States and Europe and, to a lesser degree, with *Ehrlichia canis*, the aetiological agent of canine ehrlichiosis. No relationship was found between *C. ruminantium* and *E. risticii*, *E. sennetsu*, *Rickettsia* spp., *Coxiella burnetii* or *Anaplasma marginale*. The strong association between *C. ruminantium* and *E. equi*, with respect to host-cell predilection (neutrophils), morphology and serological cross-reactivity is of major scientific and epidemiological importance, especially since *E. equi* has been experimentally shown to infect sheep and goats. The morphological and host similarity between *C. ruminantium*, *E. equi* and two additional members of the genus *Ehrlichia*, *E. phagocytophilia* and *E. ondiri*, leads us to suspect that all 4 agents may be antigenically related.

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Received 25 June 1987—Editor