

CORRESPONDENCE

This department is for the publication of informal communications that are of interest because they are informative and stimulating, and for the discussion of controversial matters.

Comments on Armadillo Priorities

TO THE EDITOR:

We respectfully submit for publication our comments on the paper by Binford, C. H., Storrs, E. E. and Walsh, G. P. "Disseminated Infection in the Nine-Banded Armadillo (*Dasypus novemcinctus*) Resulting from Inoculation with *M. leprae*. Observations Made on 15 Animals Studied at Autopsy."

This paper had been presented by Binford on 27 October 1975 at the Tenth Joint Leprosy Research Conference in Bethesda, Maryland and reprinted in the IJL 44 (1976) 80-83. The published version of this paper differs from that presented in Bethesda in that it mentions as an "Acknowledgment" that tissue specimens on armadillo No. 8 were supplied by Dr. W. F. Kirchheimer, U.S. Public Health Service Hospital, Carville, Louisiana, and specimens Nos. 5, 14, 16, 17, 18, 41, 61 by Dr. Sohan Issar of the GSRI Laboratory.

Binford credits Dr. Louis Levy, USPHS Hospital, San Francisco, California with having supplied for inoculation of seven armadillos suspensions of *M. leprae* from mouse foot pads. Binford does not mention however that the suspensions of *M. leprae* from human tissues for inoculating armadillos Nos. 5, 6, 8, 9 were supplied by Dr. Kirchheimer at Carville who in fact had prepared the suspensions for inoculation of GSRI armadillos No. 1 to No. 47 with the exception of the seven armadillos inoculated with mouse foot pad *M. leprae*. The work involved in the preparation of the inocula supplied by Dr. Kirchheimer was fully described in the first publication on experimental leprosy in the armadillo by Kirchheimer, W. F. and Storrs, E. E., IJL 39 (1971) 693-701. This kind of work could not have been done at GSRI at that time. A complete account of the autopsy of armadillo No. 8 was given by Kirchheimer in IJL 40 (1972) 229-242. The necropsy was conducted at Carville by Kirchheimer and Sanchez from Carville, and Dr. J. M. H.

Pearson, then from Leprosy Research Unit, Sungei Buloh Leprosarium, Selangor, Malaysia. The histopathologic diagnosis, bacteriologic work and identification of the acid-fast bacilli as *M. leprae* were done by Kirchheimer and his associates at Carville. As stated in the publication quoted above, in some instances, duplicates of the stained sections, or portions of the organs preserved in formalin, or of the paraffin blocks were sent to the Armed Forces Institute of Pathology, Washington, D.C. It is important to point out that Kirchheimer presented slides of his histopathologic and bacteriologic autopsy findings at the Sixth Joint Leprosy Research Conference at Bethesda, 26-28 July 1971, ten days after the autopsy.

On 2 August 1971, the sections were shown in Dr. Kirchheimer's laboratory to five members of the Japanese delegation to the conference, including Dr. Yoshio Yoshie, Chairman, Japanese Leprosy Panel.

It is of interest to mention that Kirchheimer presented histologic and bacteriologic biopsy data obtained by him at Carville from armadillo No. 5 at the Seventh Annual Leprosy Research Conference, Menlo Park, California, 29 February-1 March 1972. At this meeting he also presented viability data of leprosy bacilli at the inoculation sites of 17 GSRI armadillos (Kirchheimer and Storrs. Int. J. Lepr. 40 [1972] 212-213).

The autopsies of armadillos Nos. 5, 14, 16, 17, 18, 41 and 61 were done by Dr. Issar, then pathologist at GSRI. Binford participated only in the autopsies of armadillos 5 and 18. The two GSRI personnel named by Binford as co-authors did not participate at all in any of these autopsies. Histopathologic interpretations were always done by Issar at times in collaboration with Binford, who was supplied with Issar's histopathologic findings and with duplicate specimens. No bacteriologic work was done at that time at GSRI. The findings reported by Binford, Storrs and

Walsh do not add anything new to what was described in 1971 by Kirchheimer *et al.*

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Reply: *I appreciate your sending me a copy of the letter from Drs. Kirchheimer and Issar concerning their roles in the early studies of leprosy in the nine-banded armadillo. Dr. Kirchheimer last year sent a similar but much longer letter to the editor of the American Society of Microbiology News (ASM News) to which I responded. These letters were published in the October 1976 issue 42:659-661.*

My response in the ASM News began: "The letter of Dr. W. F. Kirchheimer concerning armadillos has caused me to review the history of the development of the nine-banded armadillo as a model for experimental leprosy. Space allows only a brief résumé. For future historians I will put my extensive records in the archives of the Leprosy Registry, AFIP."

Cognizant of the cost of publishing a single page in the IJL I do not think that reprinting my letter that was published in the

ASM News could be justified. Any reader who would like to read my résumé can request a reprint from me.

To clarify my role in the autopsies on armadillos performed by the staff at the Gulf South Research Institute, New Iberia, Louisiana, I should like for the following paragraph to be reprinted:

Dr. Kirchheimer was correct in stating that I was present at only 2 autopsies of the 15 we reported in the Int. J. Lepr. 44:80-83, 1976. These were the first 2 infected armadillos autopsied after No. 8. Because GSRI was not staffed for adequate histopathologic processing of armadillos, and Dr. Kirchheimer had stopped collaborating, I agreed, as Registrar for Leprosy, to do the histopathologic studies at the AFIP. Dr. Sohan L. Issar submitted carefully selected tissues on which I made the official histopathologic reports. At GSRI the files of the 7 animals autopsied by Dr. Issar were searched but no histopathologic reports were found. In the absence of adequate histopathologic processing of armadillo tissues at GSRI, the staff there could not understand Dr. Kirchheimer's statement that Dr. Issar had made the histopathologic evaluations.

Any reader seriously interested in the early history of the use of the nine-banded armadillo is invited to visit me and peruse my extensive file on the "Armadillo War."

—Chapman Binford, M.D.

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