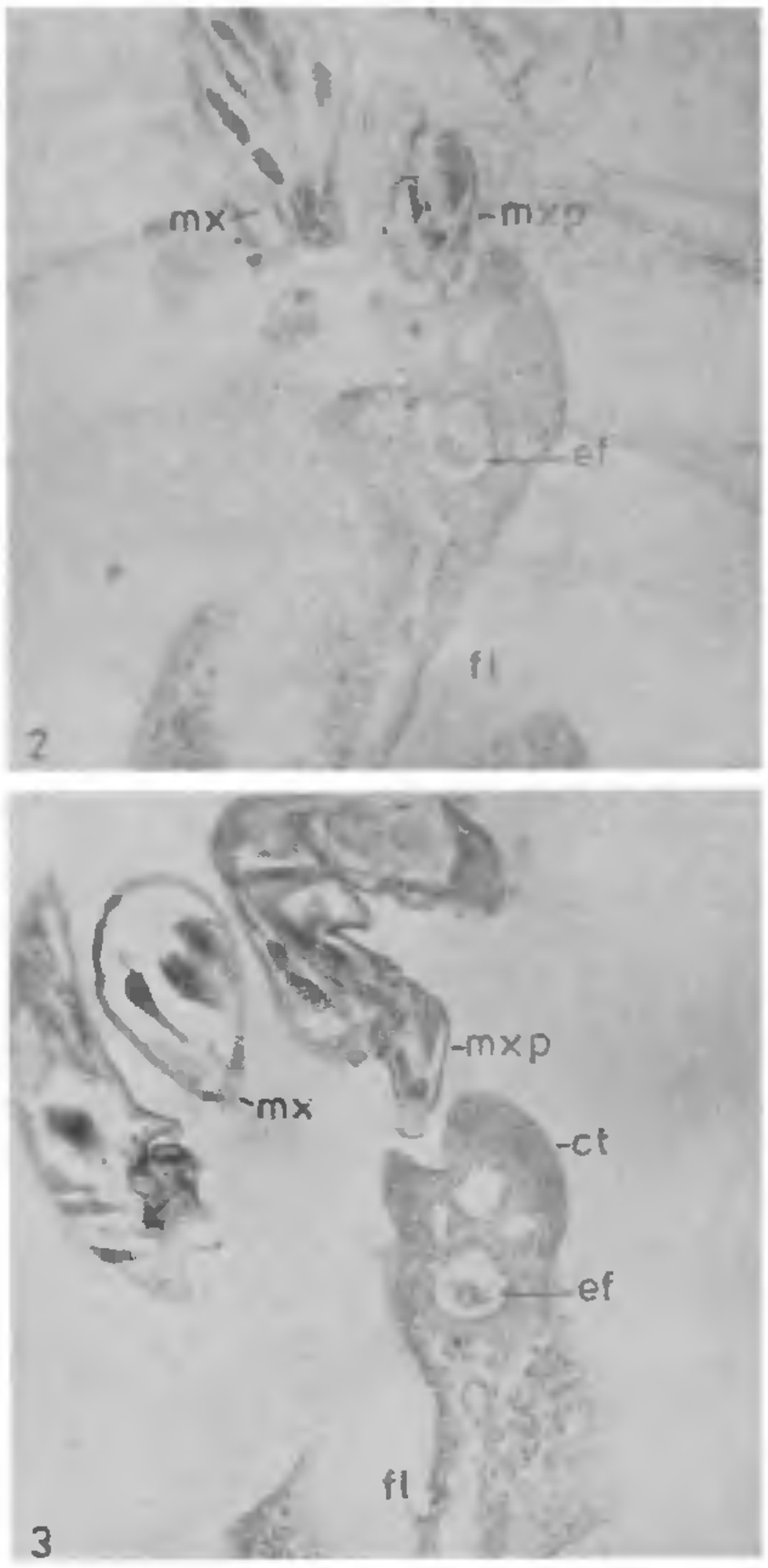

FIGS. 2–3. Cross sections of the primary gill filament of *N. timlei* infected with the male of *P. narcinae*. Fig. 2. A portion of the gill filament showing the maxilliped of the male attached to the connective tissue, × 80. Fig. 3. A portion of the gill filament showing the damage inflicted by the male, × 80. (ct : capping tissue ; ef : efferent vessel ; fl : gill filament ; mx : second maxilla ; mxp : maxilliped).

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A REPORT ON THE SEROLOGICAL EVIDENCE OF PORCINE YERSINIOSIS IN INDIA

STRAINS of *Yersinia enterocolitica* that are biochemically and serologically identical with the most common human strains of this organism, *viz.*, serotypes 3 and 9 of Winbald have been isolated from different animal species. However, serotype 9 has been more frquently isolated from pigs in Europe[1]. A serious problem of differential diagnosis, both in human and veterinary medicine, is the recently observed cross-reactions between the different species of Brucella and *Yersinia enterocolitica*-0-type-9[2]. The strong cross-reaction complicates the serodiagnostic work associated with brucellosis. There is no record of porcine yersiniosis in India. Therefore, this report is a preliminary one on the serological evidence of this disease, in pigs, due to *Y. enterocolitica*-0-type-9.

Serum samples from 710 pigs were collected from the Corporation pig slaughter house, Bangalore. These samples were subjected to a preliminary screening by the rapid plate test (RPT) for the presence of Brucella agglutinins. The positive reactors were subjected to the Standard tube test (STT) with both the Brucella and Yersinia antigen. In order to clarify whether the reactions were due to Brucella or Yersinia antibodies, the quantitative buffered plate test was employed[3]. Brucella and Yersinia antigen was prepared and standardised in the laboratory. Rabbits were immunised with *Yersinia enterocolifica*-0-type-9 and *Brucella abortus* strain 544. The hyperimmune serum to the two organisms raised in rabbits was tested with the homologous and heterologous antigen both by the spot and quantitative buffered plate antigen test.

The buffered plate antigen spot test using the Brucella and Yersinia antigen could not differentiate the hyperimmune serum raised in rabbits. However, by the quantitative test there was a 16-fold (4 titre steps) difference in the homologous and heterologous titres with the Yersinia hyperimmune serum whereas Brucella hyperimmune serum gave equal titres with

both the antigens. These results are in accordance with the results of others[3]. The basis[4] of these tests is that at the pH of 3·65, only the IgG_1 class of antibodies are active. The qualitative and quantitative differences in the IgG_1 antibiodies produced by the two organisms could be detected by quantitative buffered tests as the Brucella antigen has very little capacity to cross react with Yersinia IgG_1 antibodies, although Yersinia antigen can react equally with both Brucella and Yersinia IgG_1 antibodies.

Based on the above observations, the pig sera showing higher agglutination titres with Yersinia antigen than with Brucella antigen were considered as Yersinia positive. Similarly, those that did not react with Brucella antigen in the spot test but clearly with Yersinia anitgen were also taken as Yersinia positive. The comparative titres of the Yersinia positive sera are given in Table I. Samples which showed equal titres with both the antigens were taken as Brucella positive. Thus by the buffered Brucella and Yersinia antigen tests, 45 sera were positive for Brucella and 14 for Yersinia. The results of our studies further confirmed the results of other workers[5,6].

TABLE I

Showing the comparative titres of the 14 Yersinia positive pig sera to plain and buffered Brucella and Yersinia antigens

Serum sample Number	Plain antigen		Buffered antigen	
	Brucella	Yersinia	Brucella	Yersinia
	Titres			
1	20	40	—ve	1
2	20	160	—ve	1
3	20	20	—ve	1
4 and 7	40	40	—ve	1
5	40	80	—ve	2
6	40	80	—ve	1
8	80	320	—ve	1
9	80	80	—ve	1
10	80	80	—ve	2
11	160	640	—ve	1
12 and 13	640	640	—ve	2
14	—ve	80	—ve	1

Note: The titres are expressed as reciprocals.

As already mentioned, there is no report of the isolation of *Y. enterocolitica*-0-type-9 from pigs in India. But, according to the present study, there is serological evidence of the prevalence of Yersinia in pigs which interferes with the serodiagnosis of Brucellosis by the Standard agglutination tests and the CFT. Further, Yersiniosis being a zoonotic disease, it warrants isolation and epidemiological studies in man and animals.

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ISOLATION OF *ACENITOBACTER CALCOACETICUS* FROM THE CERVICAL MUCUS OF MARES SUFFERING FROM METRITIS AND ENDOMETRITIS

Acenitobacter calcoaceticus is reported to be present in soil and water and of late it has been isolated from healthy and diseased animals. Its pathogenicity is uncertain. However, it may assume a pathogenic role when the general resistance and physical condition of the host goes down[1]. Recently, this organism has been isolated from chronic cases of haematuria in race horses[2-3] and also from a barren mare[1]. The present report is of the isolation of this organism from mares suffering from metritis and endometritis.

During a study of the bacterial flora of the cervical mucus of mares, *Acenitobacter calcoaceticus* was isolated from the cervical mucus of two mares suffering from metritis and one from endometritis. The isolates had the following colonial, microscopic, physiological and biochemical chracteristics; the colonies on 8% blood agar plates were nonhaemolytic, greyish-white, convex with regular margins. The morphology of the organisms on staining with grams stain revealed gram negative coccobacilli. The organisms were non-motile, nonsporulating and noncapsulated. One isolate was negative for nitrate reduction. The other two gave weak positive reaction in the nitrate test after 48 hr incubation. Sodium citrate was utilised by only one isolate. Whereas, the other two isolates