surveys conducted by several investigaters in India[1–10]. The purpose of this communication is to document its occurrance in domestic pigs (Principal source of infection to man) for the first time in India.

In March, 1978, 500 adult pigs (432 females and 68 males) slaughtered in Deonar abattoir, Bombay were surveyed for the occurrance of *T. spiralis*. In each case a piece of the pillar of diaphragm was collected in a small polythelene bag and brought to the Parasitology laboratory. Acid pepsin digestion method suggested by Gould[11] being most reliable (even for light infection) was employed for detection of larvae of *T. spiralis* and in each case, 5 g of the diaphragm was digested for four hours.

Larvae of *T. spiralis* were detected in three samples (one from samples collected on 8–3–1978 and two from the samples on 11–3–1978) belonging to female pigs. Their larval yields were 23, 10 and 1 per gramme of diaphragmatic muscle respectively. The exeysted larvae were coiled $2\frac{1}{2}$ times and had typical trichinellid type of oesophagus (Photomicrograph 1). The average

PHOTOMICROGRAPH 1.

body length was 1·175 mm. The measurements agree with those described by Gould[11]. The larvae of *T. spiralis* detected in the natural infection of bandicoots by Niphadkar[1] were smaller (0·6 mm to 0·8 mm long) in comparison with the present ones. The larvae harvested from the three specimens have been passaged in laboratory rats.

Although individual samples were examined, the source of infection could not be traced, as most of the pigs slaughtered are purchased by the licensees (butchers) from distant places of Maharashtra and the neighbouring states where organised pig farms do not generally exist.

The result of the present survey indicate that *T. spiralis* which is of great public health importance is prevalent in pigs in India and a routine diaphragmatic examination in slaughter houses is necessary. If one considers the way of raising pigs, the religious taboo and habit of consumption of pork after cooking in India, the spread of this infection in this country is limited.

Department of Parasitology,
Bombay Veterinary College,
Parel, Bombay 400 012,
November 20, 1978.

S. M. NIPHADKAR.
M. H. PARDHAN.
V. S. DESHPANDE.

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A NOTE ON THE COMPARISON OF TRYPTIC SUSCEPTIBILITY OF FISH MYOFIBRILLAR PROTEINS

TRYPTIC proteolysis of myosin or actomyosin results in the following changes: drop in viscosity[1], modification of NTPases[2], liberation of non-protein nitrogen[1], and fragmentation of the heavy chain[3]. A number of invertebrate and vertebrate myosins have been compared using some of these criteria[4,5,6]. In particular, viscosity has been found useful in differentiating myosin or actomyosin from unstable species[6]. The analysis of the logarithm of viscosity number, relative to the initial value (to be assumed as one), helps us to distinguish the proteolysis in two first order reactions[6]. The first rapid phase, which is over early in a few minutes, is specially suited to compare the myofibrillar proteins, on the basis of the rate constant K. An effect of the temperature of viscosity measurements on the value of K of some unstable fish actomyosins will be demonstrated here.

Procedures for preparing actomyosin from rabbit and fish muscle, as well as for tryptic digestion, have been already described in detail elsewhere[6]. Viscosity

measurements were made with Ostwald viscometers having the flow-time of 60–100 seconds for 0·6 M KCl containing 20 mM Tris-maleate buffer of pH 7 0. Rate constant K. from the slopes of the first rapid phase were calculated using the formula: $K = (\ln V_s - V_t)\ 1/t$; where V_s is the initial value of viscosity number and V_t a value after certain time t.

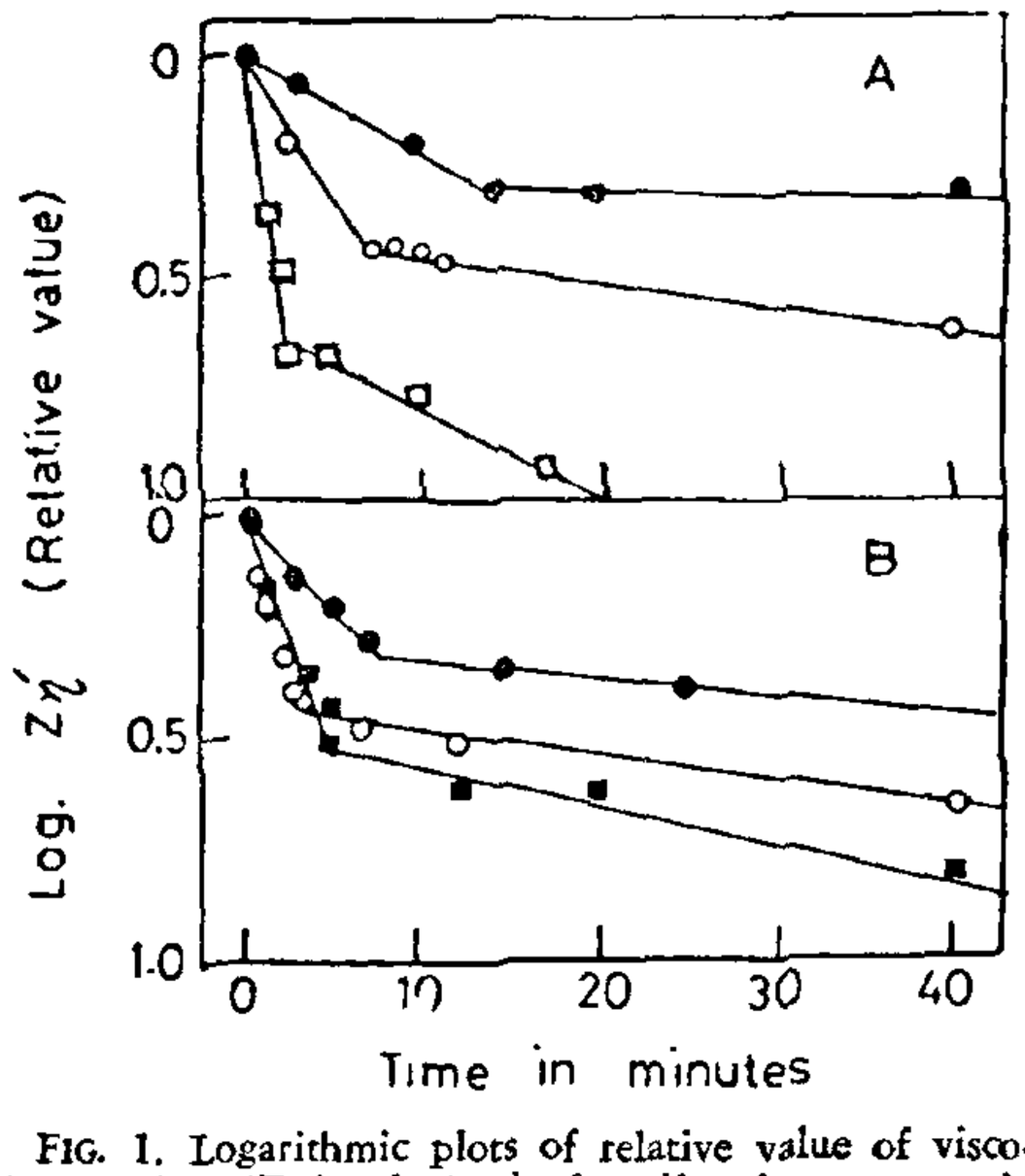

FIG. 1. Logarithmic plots of relative value of viscosity number ($Z\eta'$) obtained after digesting actomyosin of rabbit (●) bluefin tuna (○), carp (■) and flatfish (□) with 1/200 part (w/w) of trypsin.

The digestion was performed at 25° C and viscosity was measured at 10° C (A) and 20° C (B). Five times excess of soybean trypsin inhibitor was used. $Z\eta = Z\eta/2{\cdot}303 = \log \eta r/C$, where ηr is the relative viscosity and C, the protein concentration.

Results

Viscosity measured at 10° C shows that the first rapid phase of the drop in rabbit, bluefin tuna and flatfish actomyosin terminated in about 16–18, 6–7 and 3–4 minutes, respectively (Fig. 1A). However, if the temperature of viscosity measurement was 20° C, the duration of the first phase of rabbit actomyosin came down to 7–8 minutes (Fig. 1B). It was not possible to demarcate the first phases of bluefin tuna and carp actomyosins which in either case terminated in 4–5 minutes. The drop in viscosity of flashfish actomyosin was too rapid to give a reliable value of K. As evident from the data given in Table I, the interspecies difference in the values of rate constant are wide at low temperature viscosity measurement. Similarly, it was found that lowering the temperature of proteolysis from 25° C to 15° C results in wide differences between K values.

TABLE I

The first order rate constants (K′) obtained after digesting rabbit and some fish actomyosin with 1/200 part (w/w) of trypsin (Fig. 1). $K' = K/2{\cdot}303$

Name of various species	K′ at the first slope ($\times 10^{-4}$ sec^{-1})	
	Temperature of viscosity measurements	
	10° C	20° C
Rabbit	2·00	3·31
Bluefin tuna (*Thunnus thynnus orientalis*)	4·10	5·51
Carp (*Cyprinus carpio*)	..	5·51
Flatfish (*Limanda herzenstein*)	11·5	..

There is some evidence that at low temperatures carp myosin molecule undergoes little unfolding, as compared with rabbit myosin[7]. The extent of cleavage by trypsin is also arrested if the temperature of incubation is low. Therefore, the interspecies differences in tryptic susceptibility of fish and other unstable actomyosins or myosins can be better recognized using low temperature to measure viscosity. The usual temperature of 20° C appears to be high for this purpose. Still more useful would be a low temperature during proteolysis.

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Section of Ichthyology and Fisheries,
Department of Zoology,
Aligarh Muslim University,
Aligarh 202 001,
January 5, 1978.

ABSARUL HASNAIN.

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