One set for each strain was left without the addition of the antibiotic. Platings were done after 0, 2, 4 and 6 hours of incubation at 30° C and colonies were counted after 48 hours of incubation.

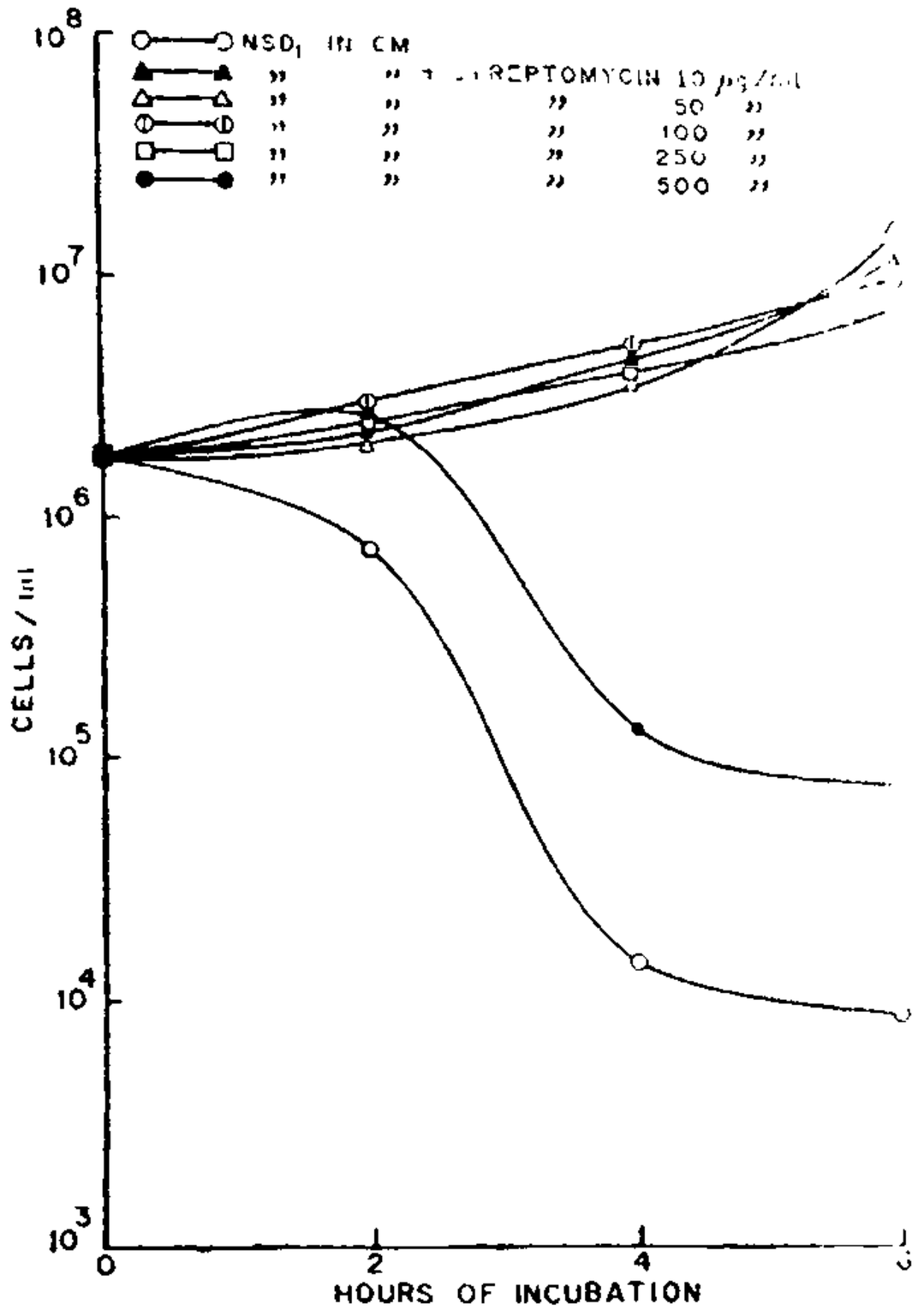

FIG. 3. Growth pattern of streptomycin dependent strain NSD_1 at different concentrations of streptomycin.

The complete inhibition of sensitive cell was more pronounced at higher concentration than at lower concentrations. Streptomycin sensitive strain H-13–3 showed killing effect in presence of only 10 µg/ml streptomycin and with higher concentrations none of the cells survived. Streptomycin dependent strain NSD_1 had difficulty in surviving in the absence of streptomycin (Fig. 3) proving thereby, that streptomycin was essential for its growth but strain H-13–3 and SM_1S_{10} had no such difficulty in the absence of streptomycin (Fig. 2). It has been established by Spotts and Stanier[6] that streptomycin causes some alterations in the structure of the ribosomes in such a manner that the dependent mutation hampers their ability to combine with certain types of messenger RNA. This may be repaired by the addition of streptomycin. The sensitive cells have great affinity for streptomycin which makes the ribosomes incapable of combining with messenger RNA but the ribosomes of resistant cells have no such affinity, being unaffected by streptomycin. Both resistant and dependent strains showed increase in growth in the medium containing low concentrations of streptomycin but decrease was observed in the case of high concentrations thereby showing that most probably, in this case, the ribosomes were adapted only for the lower concentrations of the antibiotic and that the protein synthesis was hampered at higher concentrations of the antibiotic.

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A NEW RECORD FOR *CARIDINA BRACHYDACTYLA PENINSULARIS* KEMP, 1918 (DECAPODA, CARIDEA, ATYIDAE) FROM INDIA

THE present note reports the subspecies *Caridina brachydactyla peninsularis* Kemp for the first time from continental Asia beyond the Malayan peninsula. The subspecies is quite common in a perennial pond and neighbouring semi-permanent pools on the outskirts of Guntur (16·18 N and 80·29 E: MSL + 31·88 m) in Andhra Pradesh, India. The rain-fed pond also receives some water from river Krishna through an irrigation canal.

A random sample of forty-five specimens from material collected over the period March 1973 to July 1974 was utilised for biometric studies. The data were compared with those of Kemp[1], as well as those of the syntypes in the British Museum (kindly sent by Dr. R. W. Ingle). There is general concurrence of the data.

The largest specimen examined is a berried female of TL 23·5 mm, CL 5·0 mm, RL 5·0 mm; the corresponding data for the largest male are 22·0, 4·0 and 4·5 mm. The rostrum (Fig. 1), which is of diagnostic importance, extends beyond the antennular peduncle and in some specimens, even a little beyond the antennal scale; its dorsal margin along its entire length is provided with a series of 31 to 46 teeth (usually 34–38), of which

2 to 4 lie on the carapace; the dorsal teeth are moveable, and a pair of setae are set between successive teeth. The ventral margin of the rostrum bears 6 to 15 teeth (usually 9–11); the distal part of the ventral border is unarmed: the ventral teeth are immovable, laterally compressed and without any setae between them.

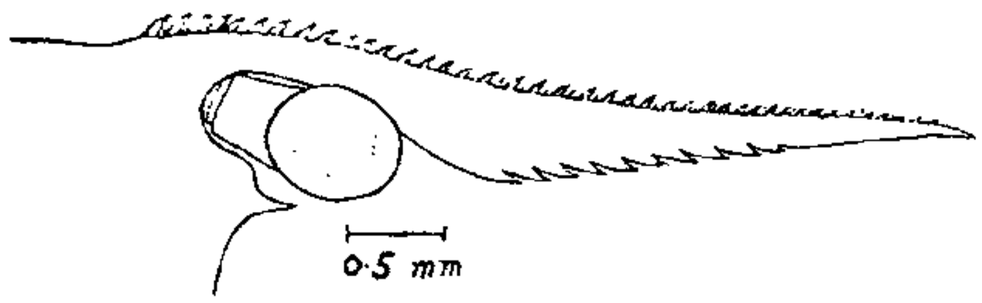

FIG. 1. *Caridina brachydactyla peninsularis* Kemp, 1918; rostrum (CL = 3·5 mm).

Body in general translucent; while minute orange, maroon and green chromatophores are scattered over the entire body, they are closer together along the posterior borders of the somites, on the telson and on uropods. Antennular peduncles and eyestalks have larger green and deep maroon chromatophores.

The nominate subspecies *Caridina brachydactyla brachydactyla* De Man has been recorded from Indonesian Islands and Andaman Islands (Tiwari and Pillai[2]), from brackish as well as freshwaters. The subspecies *peninsularis* Kemp has been until now known only from the Malayan peninsula. The type material of Kemp[1] was from near Patani in Thailand and from a stream of clear water in the Botanic Gardens of Penang Island. Johnson[3-5] recorded it from Singapore, from some mainland streams as well as from tidal but non-saline waters.

It is of interest to note that near Guntur, the subspecies *peninsularis* has established itself in lentic bodies of freshwater not connected to an estuary. We have so far not come across this subspecies in the lower reaches of river Krishna. The shallow pond and pools which the subspecies inhabits are overgrown with *Typha, Vallisneria, Ottelia, Ceratophyllum* and other macrophytes; the shrimps occur among the vegetation.

We thank M/s. M. K. Durga Prasad and Y. Ranga Reddy, Research Fellows in this Department, for initially drawing our attention to the material. We are indebted to Dr. R. W. Ingle of British Museum (NH), London, for sending us relevant data of the syntypes. One of us (K. R.) thanks the authorities of CSIR, New Delhi, for the award of a Research Fellowship.

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A NEW SANGUINICOLID CERCARIA FROM *AMNICOLA TRAVANCORICA* IN ANDHRA PRADESH

WHILE studying the infestation of freshwater snails with intra-molluscan stages, a cercaria belonging to a rare and little known group, *viz.*, 'Sanguinicolid cercariae' was recorded from Balacheruvu in Kaginada, Andhra Pradesh. The cercaria was found emerging from one out of 37 snails belonging to the species *Amnicola travancorica* (Benson). This is the first report of a freshwater sanguinicolid cercaria from this country.

The methods of study were the same as suggested by Cable[1]. Cercariae for measurement were killed in hot water. All measurements are in mm. Figures are camera lucida drawings of heat killed, well relaxed cercariae under coverslip, with the details added free hand.

The cercaria (Figs. 1 and 2) is small and the body is covered with small spines. The spines are larger at the anterior end. Tail is ventrally attached to the body, such that the body is almost at a right angle to the tail. Furcal rami are short, pointed and devoid of fin-folds. Both the tailstem and rami are covered with very small spines. Six to eight long bristles borne on conical elevations are present along the sides of the tailstem. There is no dorsal crest on the body. The tip of the body does not form an anterior penetrating organ as in the case of spirorchiid and schistosomatid cercariae, the oral sucker being absent. However, the spines at the anterior end are bigger and closely arranged. A pair of hollow piercing spines, characteristic of blood flukes are present at the tip of the body. Ventral sucker is absent. Ventral mouth leads into a long, club shaped oesophagus that extends to about one-half of the length of the body. Caeca are absent. There are a large number of unicellular glands in the body; whether these glands represent the penetration glands could not be ascertained, as the ducts were not clear.

Excretory system is mesostomate (Fig. 2). Excretory bladder is small. There are three pairs of flamecells in the body and none in tail. A single caudal excretory tubule has been observed in the present study, as also by several other workers in