Blattophila sphærolaima Cobb. Chitwood (1934) has described a nematode from Panesthia javanica which closely agrees with the description given by Cobb for Blattophila sphærolaima; but because of the very few differences between the two, Chitwood did not think himself justified to create a new species for his worm. He has described it as representing a new variety of Cobb’s species. The worm described in this paper differs from both of them in the following characters: (a) The vulva is relatively much farther posterior than in both the previously described specimens (41 per cent. of the body length from the anterior end of body as against 28 per cent. in Cobb’s specimens and 21 to 23.6 per cent. in Chitwood’s specimens); (b) the vagina is directed anteriorly as against that of Cobb’s and Chitwood’s species where it is described as directed posteriorly; (c) the tail is comparatively much smaller in length (15.2 per cent. of the body length as against 23.6 per cent. in Chitwood’s specimens). The writer considers these differences sufficient enough for the erection of a new species.

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AN INTERESTING CASE OF MIGRATION OF THE STONE-LICKING FISH, Garra mulya (Sykes), FOR BREEDING

On the 23rd March 1941, while making a collection of fishes in the upper reaches of the Kellar Stream, about 4 miles above Monieruma-thozhu bridge in the Pampadampara-Kombai bridge-path, Peerumedu Taluk, Travancore, the present writer observed shoals of Garra mulya (Sykes) dashing upstream over a fairly steep slippery rock where the water had spread out to a depth of hardly more than an inch. The sight was remarkable since it was a mad rush on the part of the fish, prompted by some irresistible force, to reach the pool above where there was a gentle flow of water. Enormous numbers of fish had collected together below the rock and were moving upwards in a body. At one dart they would traverse 1 to 2 feet over the rocky surface against the swift current and would attach themselves to the rocks firmly with the aid of their suckers and the paired fins, resting for a few seconds before attempting the next move. The water was hardly sufficient to cover the fish and wherever they attached themselves, the water arched over them due to the obstruction caused. One or two small depressions on the rock served as convenient resting places during the upward journey. Whenever a fish failed to effect a firm grasp by the aid of the sucker, it was carried down for a considerable distance. The fish chose the path of least resistance, as was evident from the fact that on one side of the stream, where the fall of the water was abrupt and vertical, no migratory activity was witnessed, whereas on the opposite side, where the gradient was lower, the activity was at its maximum. An estimate of the large numbers present can be made from the fact that over 40 lbs. of migrating fish, about 5 to 8 inches in length, were collected from a small side channel 10 yards long, 1 to 3 feet wide and a few inches deep by blocking it above and below.

The presence of people in close proximity did not materially disturb the fish in their migratory activities. Some of the coolies who accompanied the writer and who could hardly be dissuaded from the temptation of making as rich a harvest as possible, stationed themselves midway with sticks and knives and picked up the fish one by one as they ascended.

It is not possible to say when the activity had started and when it would have ended. It was noticed at 2 p.m. and the writer could not remain on the spot for more than 3 hours.
All this time the migration continued unceasingly. The local hill tribes, Mannans and Palikans, on being asked about this told the writer that such activities have been noticed by them, but they were not in a position to give any information as to the exact season and duration. This particular case observed by the writer does not seem to have any relation to rains, as no rainfall had been recorded in this area for over 2 months.

All the migrating fish were adults and they were so full of ova and milt that these streamed out profusely even when the fish were very gently handled. The females were relatively larger in size and more in number than the males. One medium-sized specimen measuring 6 inches contained 3,834 well-developed eggs. The early development is exactly like that of the Ceylon form, Garra ceylonensis ceylonensis (Bleeker) described by the writer in 1938.¹

Migratory breeding activity is well known in Cyprinid fishes. As regards Garra, Dr. S. L. Hora informs me that a photograph of migrating fish of this genus was published in some popular journal in 1920, though he has not been able to locate it. It would be helpful if any of the readers of this note could kindly give the reference.² Dr. Hora has referred to the mass movement of these fishes in the Records of the Indian Museum, 1921, 22, 637.

Garra mulliya (Sykes) is very common in the hill-streams of Travancore; it is called locally Kalilolotti, Kalilolotti, Kallotti and Kallamutti, referring to its habit of adhering to stones. It grows to a length of nearly 8 inches and is eaten by people resident in the hills, though not so much relished as some of the larger Cyprinids.

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¹ S Jones, Ceylon Jour. Sci., 1938, 6, 91.
² Dr. Hora thinks that the photograph referred to above may have appeared in the Times of London, Illustrated Weekly.

AN INDIAN SOURCE FOR COLCHICINE

The use of Colchicine for inducing polyploidy is now well known to plant-breeders. Clewer, Green and Tutin (1915) have chemically analysed the alcoholic extract from the tubers of Gloriosa superba L. (Lilacaceae) and found that in addition to other chemical compounds, it contains the alkaloid Colchicine to the extent of 0.3% of the dry weight of the tubers, as against 0.35 to 0.4% in Colchicum autumnale L. Colchicum autumnale L. is not a native of India but has a distribution in the temperate region round-about the Mediterranean and Central Asia. The only allied species found in India is Colchicum tuteum growing on the grassy slopes of the Western Himalaya.

The cost of the pure alkaloid is about Rs. 10 per gram and of the crude product Colchicum corn or seed powder is about Rs. 5 per lb. In view of the wide distribution in India and Ceylon of this weed Gloriosa superba L. and the great cost of the imported drug, it is suggested that attention may well be directed to the exploitation of this Indian weed for obtaining the valuable alkaloid.

In a preliminary experiment in these laboratories, maize seeds were treated with an extract of Gloriosa superba and sown. The developing roots showed tetraploid sectors—a result very similar to the effects of treatment with aqueous solution of Colchicine.

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* Vernacular names of Gloriosa superba L.