

Sankaran Pillai, L. Ag., Farm Manager, Koilpatti, has won the prize. The committee consider that the "competitor had taken a good deal of trouble over the experiment, and that it represented an honest endeavour to fulfil the conditions laid down" and that the "essay showed signs of considerable care both in the execution of the experiment and the maintenance of the necessary records." In the opinion of the Committee, the experiment showed signs of immaturity, and it recommended the awarding of Rs. 150 only to which the donors have consented. We offer our hearty congratulations to Mr. Sankaran Pillai on the well deserved prize and also take this opportunity of offering our thanks to Messrs. Ranga Raju Bros. for coming forward to offer such an excellent prize and to Messrs. R. C. Wood, D. Balakrishnamoorthy and D. Ananda Rao for having acted as Judges.

We should like to record here, our regret and that of the committee of Judges, that only one should have competed in the whole of this Presidency, for such a valuable prize and to take to ourselves the warning, that, unless competitors come forward in much larger numbers and evince more interest than they do at present, we should lose the support of the generous members of the Union in such laudable objects. We hope our members will help us out of such a predicament.

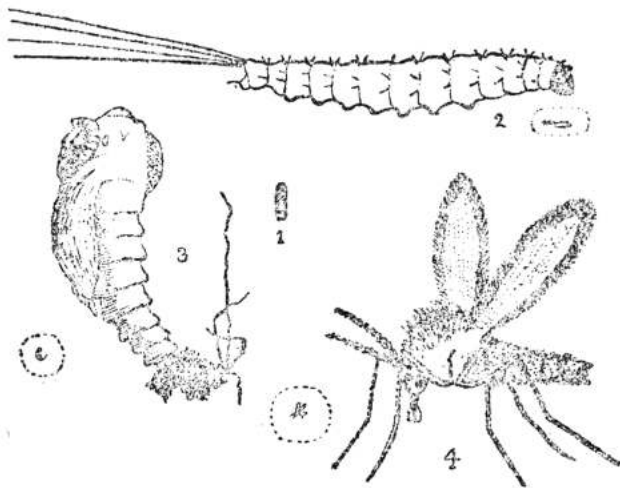
Some Blood-sucking Insects.

Chief among the blood-sucking insects are mosquitoes, sand-flies, bed-bugs and head-lice.

A knowledge of the life history of these insects would be of great help in dealing successfully with their extermination or diminution. Mosquitoes, as is well known, breed in stagnant water. The females lay a number of floating eggs raft-fashion closely-packed on the surface of stagnant water, the requisite condition being the presence of sufficient algæ as food for the offspring. From the eggs hatch out "wrigglers" which after undergoing the final moult turn into pupæ. The pupal stage lasts but for about 48 hours, when the mature insect emerges. The whole life-cycle from egg to mosquito is completed in about 10 days. The popular belief is that mosquitoes breed only in ill-drained marshes and swampy jungles and ponds or any other large reservoir of water, but occurrence of mosquito larvae has been commonly noted not only in large stagnating sheets of water, but also in gutters, in and outside houses, under culverts, in broken pots and vessels, in leaf sheaths, and even in tin trays used for the stands of cots or meat-safes, and in short, wherever there is sufficient water and the requisite conditions. If a careful search is made, the breeding places may, with few exceptions, be successfully traced out. In the case of large permanent reservoirs of water in the vicinity of our homesteads, great care should be taken that the water does not tend to stagnate. Wells should be kept clean. Small ponds for irrigation purposes in gardens, which offer excellent breeding places for mosquitoes may very well be treated once a week or even more frequently with a surface film of kerosene, or any mineral oil which will spread evenly over the surface and prevent the larvæ from breathing. If there is an undesirable marsh in the neighbourhood of inhabited quarters every effort should be made to drain it. It is certainly easier to cope with breeding places at home. Gutters in a backyard are very likely breeding places and should therefore be regularly disinfected and the water baled out, at least once a week, considering that from the oviposition to the emergence of the mosquito, there is an interval of ten days. Water in tin-trays used to isolate bedsteads or other furniture should have an application of kerosene or tar to keep away the female mosquitoes from ovipositing therein. When it is known that such terrible, yet common, diseases as malaria and elephantiasis

are carried by mosquitoes, it is needless to impress upon the importance of keeping away mosquitoes from our homes and the better method is to lay the axe at the root—destroying these unwelcome visitors in their harmless infancy.

Another little suspected and little known intruder in our homes is the sand-fly which no mosquito-curtain can keep out. The sand-flies are very tiny moth-like creatures, and are often found resting by day in damp places such as bath-room walls or shady corners. Their bite is pungent, and causes an almost immediate irritation. They are technically known as *Phlebotomus*, and very little is known of their life history but they have been observed in India, to breed among wet bricks and other convenient damp places and in Egypt, in the loam-soil of the Nile. These tiny insects are suspected to be the carriers of rheumatic fevers, like Dengue. It is difficult to see one's way through a remedial or preventive measure where nothing or little is known about this insect's life-history and breeding habits; but a general cleanliness in and around houses, especially in bath-rooms tends to minimise the pest in an appreciable degree.



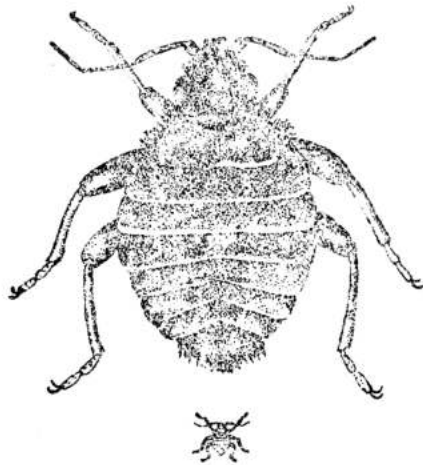
Sand-fly. 1. Egg; 2. Larva; 3. Pupa; 4. Fly. All the figures are considerably magnified, their natural sizes being indicated by the smaller figures inside the dotted lines (After Fletcher).

Fleas, in South India, are a pest with which the inhabitants of the hills have more to do than plainsmen. But elsewhere, in Europe and in higher altitudes, they appear to be very troublesome. King lake's experience of them in Palestine is interesting. "The fleas of all nations were there. The smug, steady, importunate flea from Holywell Street, the pert jumping '*puce*' from hungry France, the wary watchful '*pulce*' with his poisoned stiletto, the vengeful '*pulga*,' of Castile with his ugly knife, the German '*floh*' with his knife and fork insatiate, not rising from table, whole swarms from all the Russias and Asiatic hordes unnumbered—all these were there and all rejoiced in one great international feast." At any rate, the plainsfolk of Southern India may rejoice that it is not so bad! The life history of the flea is worth noting. "Eggs are laid on dirty clothes, in birds' nests (occasionally in house sparrows), or in a dusty corner. After an interval of several days, variable according to climatic conditions, there comes out a tiny vermiform larva provided with a frontal needle-shaped horn, which serves the purpose of breaking open the egg-shell. This larva feeds on all sorts of rubbish, provided a fair quantity of nutritive matter is found therein. At the first moult, it loses its frontal horn and grows fat and stout. Before pupating the larva which had been dirty brown hitherto turns milky white, and seeks a nook where it spins for itself a fine cocoon. The usual metamorphosis takes place and the pupa gradually turns brown and gives birth to the perfect insect."* A general cleanliness is necessary to prevent the overmultiplication of this pest. Bed clothes and all night apparel should be kept well-aired and exceptionally clean. Washing the floor, window sills, and odd corners in the house with tar-soap or phenyl at regular intervals and dusting likely breeding places with pyrethrum powder, has been known to keep down this troublesome insect.

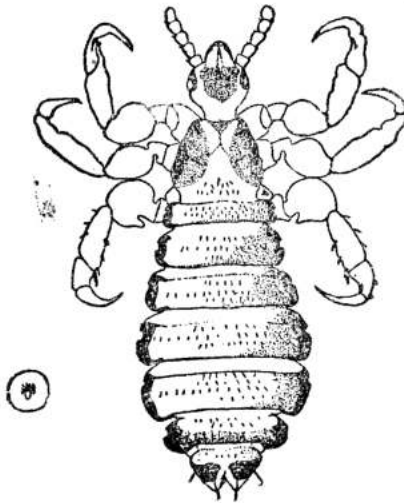
The bed-bug is another of these unwelcome vermin. It is all the more so, because of its baffling all honest control measures and holding its own. Curious stories about the subtlety of this bug in

*Extract from "Insects as Carriers of Disease" an article contributed by the writer to the Magazine of the St. Joseph's College, Trichinopoly for March 1911.

dropping from the ceiling right on to its victim, and copious literature have sprung upon this loathsome inhabitant of our homes; however curious may be the other stories about this pest, yet its tenacity of life is irrefutable. Its bloodthirsty habits are a matter of daily experience to many. The eggs of the bed-bug are laid in cracks and crannies in walls and furniture. Four or five moults are undergone before the bug attains maturity. The fully developed bug is as bloodthirsty as the little nymph. The nymphs as well as the adults are wingless. While sucking, the bug injects into the skin of its victim an irritant liquid, whence the itching. The bed-bug is capable of transmitting the parasite of kala-azar, an intermittent fever. Thorough cleansing with boiling water after using pyrethrum (Keating's) powder or petroleum or strong tobacco infusion seems to be an effective method. The Railways facilitate the spread of this noxious insect; it would, no doubt, be a good thing if railway carriages and other locomotive conveyances, in the interests of the public, were periodically disinfected, in airtight fumigating chambers with carbon bisulphide or Hydrocyanogen gas, under expert supervision.



Bed-bug. The small figure shows the natural size. (After Fletcher).



Head-louse. The small figure within the dotted circle shows the natural size.
(After Fletcher).

Last of all the blood-sucking insects, comes the head-louse. This insect is the result of the want of personal cleanliness in man. Rub the infected head with :—

Kerosene or Camphor oil—2 parts.

Olive or Gingelly oil—1 part.

and wash with Carbolic soap or dilute phenyl. Application of warm vinegar is advocated as a sure destructive agent of the eggs of the head-louse.

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The Tiruppur Cattle Show, 1919.

The Fair at Tiruppur was instituted by some pious people of old in connection with the car festival for the Deity there. People from different part of India flock there once a year with the double purpose of worshipping the Deity in the temple and