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THE HUMAN FLEA

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INTRODUCTION

Fleas are parasites. Parasites are animals (or sometimes plants) which live off another animal (or plant) called the host. Fleas live on the outsides of animals, in the fur, hair, feathers or on the skin.

There are many kinds of fleas in Papua New Guinea. Some normally live and feed on rats, cats, dogs or other animals. Only the human flea will live and feed on man. Other kinds of fleas may bite and feed on man sometimes, but they do not live on man. Fleas can pass on dangerous diseases from animals to man and from man to man.

The human flea likes to live in cool, damp conditions, especially in houses which are not swept out often, or in bedding which is not washed regularly.

DESCRIPTION

Fleas are small (about 2 mm long), shiny, brown, wingless insects. Their bodies are hairy, and flattened from side to side so that they are very thin. Their skin is very strong. The back legs of fleas are very powerful and are used for jumping. Fleas have special mouth parts for piercing the skin of their host.

Most warm blooded animals have at least one species (kind) of flea adapted to live on them. The human flea is specially adapted to live on man. Its scientific name is *Pulex irritans*.

BIOLOGY

The adult human flea lives close to the body of its host, in folds of clothing or bedding. It can go without food for 3 or 4 months. When the female flea has fed, it lays small, white eggs. The eggs fall onto the ground or into clothing or bedding. Several eggs are laid after each blood meal, and a single female may lay up to 400 eggs in a lifetime.

After about 7 days, small, white, hairy larvae (early stages) hatch out. The larvae have no legs. They feed on dust, dirt and especially the frass (droppings) of the adults, which contains the remains of blood meals. Flea larvae can be recognised as they walk because they move their heads from side to side.

The larva is fully grown after feeding for about 14 days. It then spins a cocoon (protective covering) of silk and pupates (enters the resting stage). The pupa does not feed. The adult flea emerges after about 14 days. The adult is soft at first, and then hardens. It stays in its cocoon until a person or animal on which it can feed passes close by. The flea jumps onto this host to feed.

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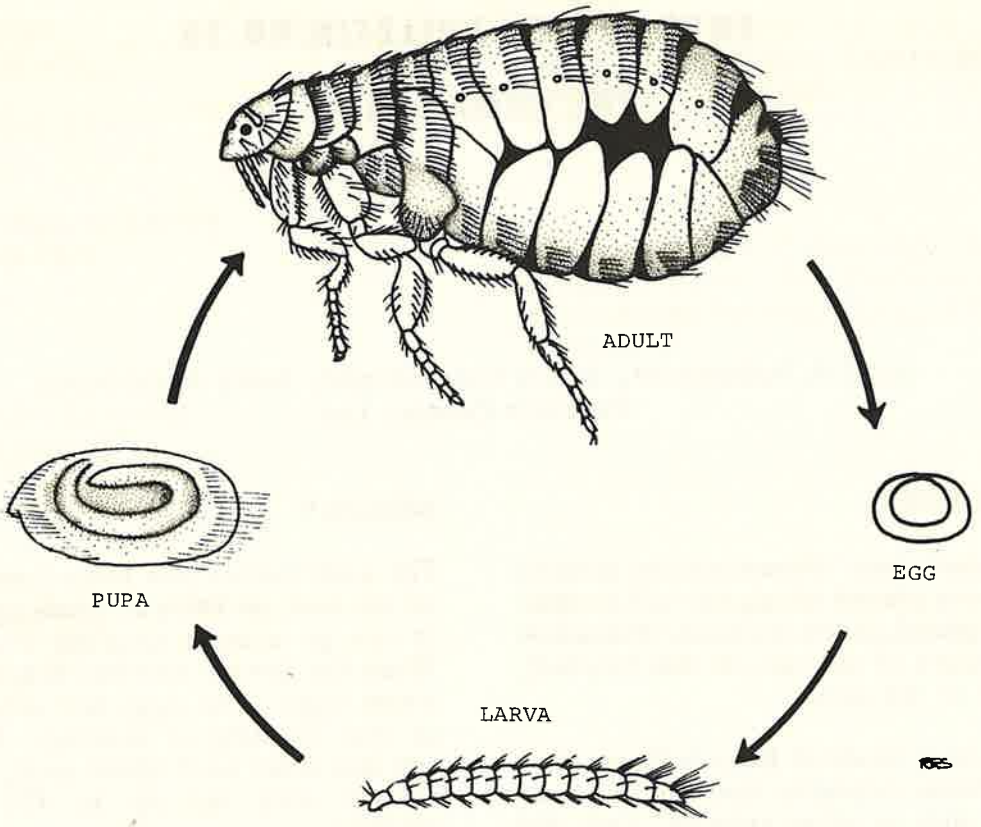

Life cycle of the human flea (about 25 times natural size)

ECONOMIC AND MEDICAL IMPORTANCE

There are several diseases which the human flea can transmit from man to man. These diseases, including Bubonic plague and murine typhus are passed on to man by the rat flea (*Xenopsylla cheopsis*). The rat flea can also act as host for some types of tapeworm which can occasionally infect children.

Fortunately, the serious diseases which can be spread by fleas are very rare in Papua New Guinea.

As well as spreading diseases, flea bites are uncomfortable, itch, and may become infected if they are scratched. Sometimes, a person's skin may react if there are many flea bites, and a serious rash may develop.

CONTROL

To control fleas, improved hygiene is most important. In serious outbreaks chemical control may be needed first.

Non-chemical treatment (hygiene)

By improving hygiene in the home, the number of places where flea larvae can develop will be reduced. Cracks and crevices inside houses, where eggs may fall, larvae develop and adult fleas rest, should be cleaned out and filled with a suitable filler. Improving general cleaning and housekeeping will reduce fleas. House floors should be swept regularly, clothing and bedding should be regularly washed and dried in the sun.

Chemical control

Where there is a heavy infestation of fleas, it may be necessary to first use insecticide to clear the infestation. After this the improved hygiene and housekeeping, as described above, should be practised to keep fleas out of the house as much as possible.

Chemical control of fleas can be carried out by using:

1. A solution of 5% carbaryl, applied as a spray around the edges of rooms and over cracks and crevices (if for some reason these cannot be filled in).

2. Aerosol formulations of Pyrethrins or DDVP, applied in a similar way.

DO NOT SPRAY INSECTICIDES FROM AN AEROSOL ONTO A PERSON.

Pets

Fleas on dogs, cats, pigs and other animals can build up to nuisance levels inside or under houses unless they are controlled. If pet animals are kept, the fleas on them can be controlled. Cat and dog fleas can be effectively treated using insecticidal collars or flea powders. You can buy these from many supermarkets and chemists. If these chemicals are not available in your area, then the best thing you can do to reduce animal fleas inside houses is to prevent pets from entering the house.

FURTHER INFORMATION

For further information and advice about human fleas and their control you should contact your Provincial Health Inspector. The Department of Primary Industry is not responsible for health matters in Papua New Guinea, but you can contact your nearest D.P.I. entomologist for help in finding the Department of Health officers who can assist. Entomologists are based at:

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