

SECTION 3

The Diagnosis of Louse Infestations

LICE are wingless, dorso-ventrally flattened insects of the order Anoplura. They are important skin parasites of all domesticated mammals and birds. Lice are usually quite host-specific, that is, with few exceptions, each species of lice can live and reproduce on only one host species. The entire life cycle is spent on the host, and transmission is almost entirely by means of host contacts. The size of adult lice varies from slightly more than 1 mm. for the smaller species, to approximately 5 mm. in length for the larger species. Their bodies are distinctly divided into head, thorax, and abdomen. The three pairs of legs are attached to the thorax. All lice fasten their eggs (nits) to the hair of mammals and to the feathers of their avian hosts. The nymphs, which emerge from the eggs, are quite similar to the adults except that they are smaller, paler-colored, and do not possess mature sexual organs. Most species of lice complete a generation in about three weeks.

Technique for the Diagnosis of Lice Infestation

Most species of lice may easily be seen with the unaided eye. Louse eggs (nits) may likewise be observed, attached to the hair or feathers (Figs. 262, 265). Bird lice often attach their eggs in clusters at the feather bases (Fig. 271). Biting lice attract attention by their rapid movements. The examiner may acquire biting lice on his hands, arms, or body, especially if he handles the cadaver of a louse-infested animal several hours after death.

A hand lens of at least $\times 3$ magnification is very helpful in the detection of lice and their eggs. If microscopic observation is desired, lice may be captured by means of a finely-pointed forceps, placed in a drop of water or mineral oil on a slide, and immobilized by means of a coverglass. Low power ($\times 100$) is usually sufficient for the demonstration of morphologic details.

Lice are separated into two suborders, Mallophaga and Anoplura, depending upon feeding habits.

(1) *The Mallophaga*. These are the chewing or biting lice, so called because the anteriorly-rounded head is provided with mandible-like mouth parts (Fig. 270). They eat skin scales, feathers, skin secretions, and other organic debris found upon the skin. Certain of the bird lice apparently puncture the bases of the young quills, thus obtaining blood. It is quite probable that the biting lice will eat the blood that comes from skin wounds. In general, biting lice are yellow. Their legs are adapted for rapid movement over the skin and its coverings. All species of bird lice and the cat louse are of the biting type.

Species of chewing (biting) lice and their hosts:

Bovicola pilosa — Horse (Fig. 254)

Bovicola bovis. Red louse — Cattle (Fig. 256)

Bovicola ovis — Sheep (Fig. 260)

Bovicola peregrina — Sheep

Bovicola caprae — Goat

Bovicola limbata. Large yellow louse — Goat

Bovicola hermsi — Goat

Trichodectes canis — Dog, wolf (Fig. 266)

Trichodectes floridanus — Dog

Heterodoxus longitarsus. Marsupial louse — Dog, kangaroo, opossum (?) (Fig. 267)

Felicola subrostrata — Cat

Eomenacanthus stramineus. Body louse — Chicken, turkey (Figs. 269, 270)

Menopon gallinae. Shaft, or small body louse — Chicken, turkey, guinea fowl

Lipeurus heterographus. Head louse — Chicken

Lipeurus caponis. Wing louse — Chicken

Goniocotes gigas. Large louse — Chicken, guinea fowl

Goniocotes hologaster. Fluff louse — Chicken, guinea fowl

Goniodes dissimilis. Brown louse — Chicken

Lipeurus gallopavonis. Slender louse — Turkey

Goniodes meleagridis. Large louse — Turkey

Goniodes numidae. Feather louse — Guinea fowl

Lipeurus numidae. Slender louse — Guinea fowl

Anaticola crassicornis — Duck

Anatoecus dentatus — Duck, goose

Anaticola anseris. Slender louse — Goose

Trinoton anserinum. Body louse — Goose

Columbicola columbae. Slender louse — Pigeon

Goniocotes bidentatus. Small louse — Pigeon

Goniodes damnicornis. Little feather louse — Pigeon

Colpocephalum turbinatum. Narrow body louse — Pigeon

(2) *The Anoplura*. These include the sucking lice. In general they are larger than the chewing lice, and are colored gray to dusky red, depending upon the amount of host's blood they contain. The head of the sucking louse is elongated in order to accommodate the protrusible, piercing mouth parts. They are comparatively slow-moving insects, and are most frequently seen head down close to the skin surface. Their legs are adapted for firmly clasping the hair of the host. Sucking lice are more pathogenic than the chewing lice because of their blood-sucking habits. All species of domesticated mammals, except cats and birds, harbor sucking lice.

Species of sucking lice and their hosts:

Haematopinus asini — Horse (Fig. 255)

Haematopinus eurytetrus. Short-nosed louse — Cattle (Fig. 257)

Haematopinus quadripertusus. Tail louse — Cattle

Linognathus vituli. Long-nosed louse — Cattle (Fig. 258)

Solenopotes capillatus. Hairy, or little blue louse — Cattle (Fig. 259)

Linognathus pedalis. Foot louse — Sheep (Fig. 261)

Linognathus ovillus. Body louse — Sheep

Linognathus africanus. Blue louse — Goat, sheep

Linognathus stenopsis. Blue louse — Goat

Haematopinus suis. Common louse — Swine (Figs. 262 to 265)

Linognathus setosus — Dog, fox, coyote, ferret (Fig. 268)

HORSE

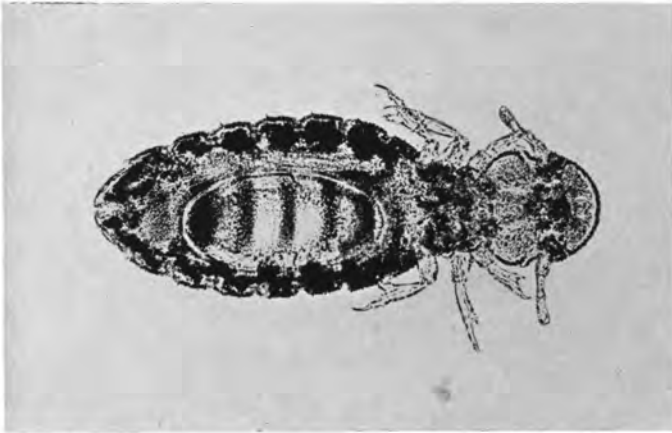


FIG. 254—Adult female **Bovicola pilosa**, the biting louse of horses. x 32.

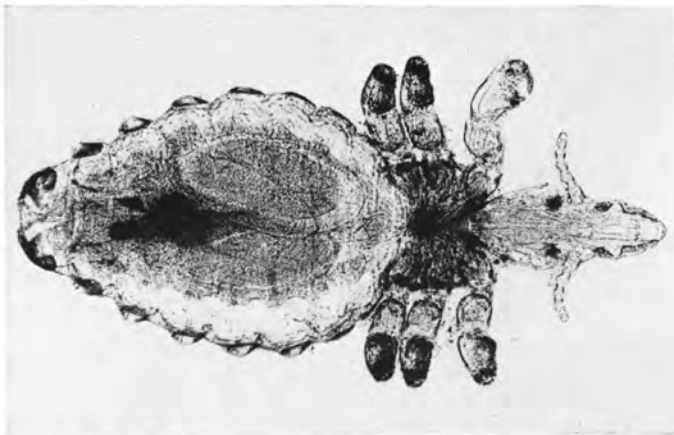


FIG. 255—Adult female **Haematopinus asini**, the suctorial louse of horses. x 25.

CATTLE

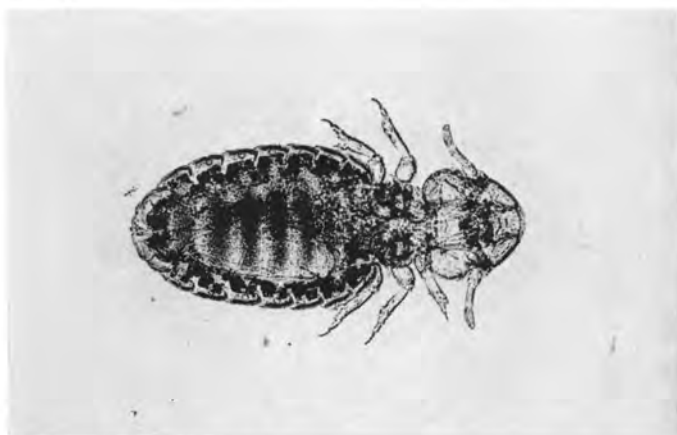


FIG. 256—Adult female ***Bovicola bovis***, the biting louse of cattle. x 32.

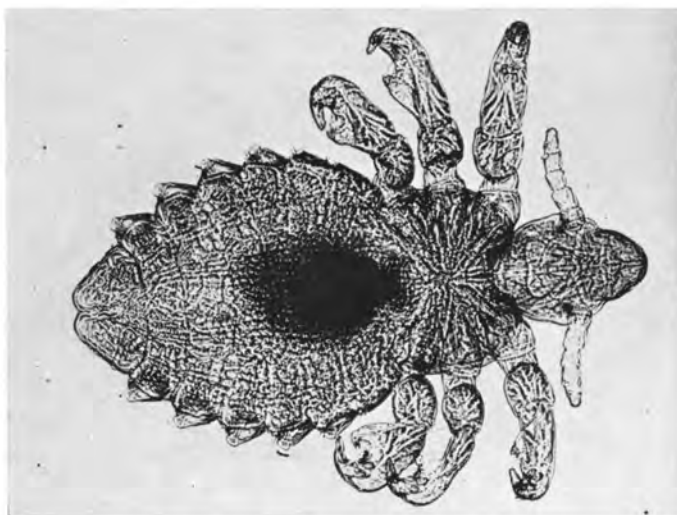


FIG. 257—Adult female ***Haematopinus eurysternus***, the short-nosed sucking louse of cattle. x 40.

CATTLE

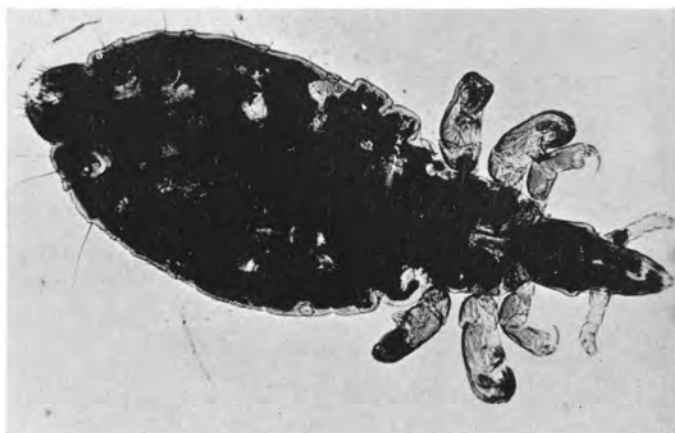


FIG. 258—Adult female *Linognathus vituli*, the long-nosed suctorial louse of cattle. x 40.

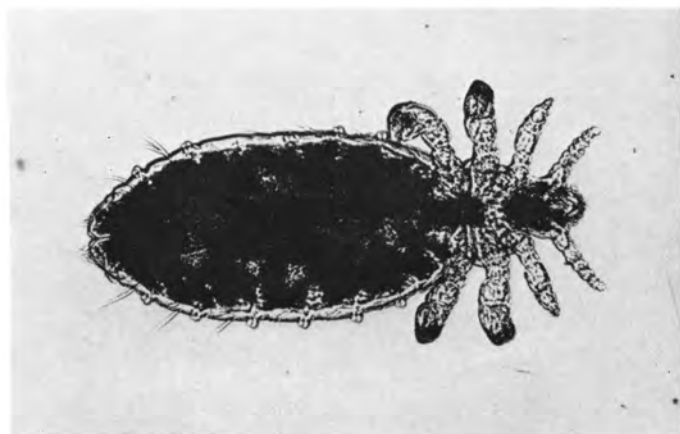


FIG. 259—Adult female *Solenopotes capillatus*, the little blue cattle louse. x 40.

SHEEP

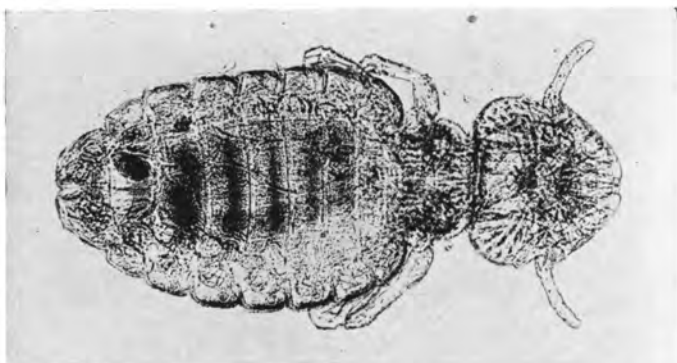


FIG. 260—Adult female *Bovicola ovis*, one of the species of biting lice of sheep. x 50.

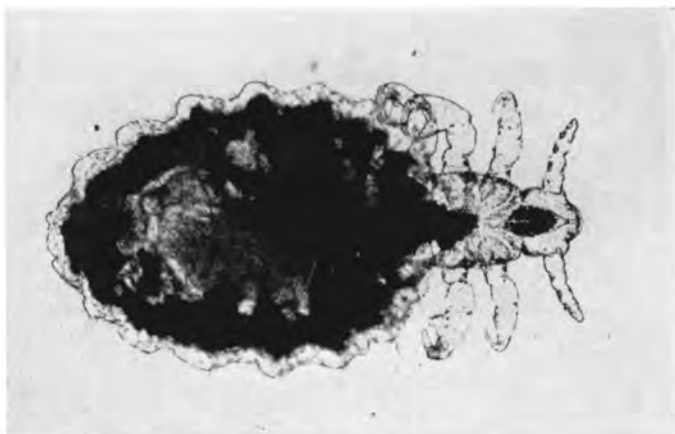


FIG. 261—Adult female *Linognathus pedalis*, the sucking louse of sheep. x 37.

SWINE

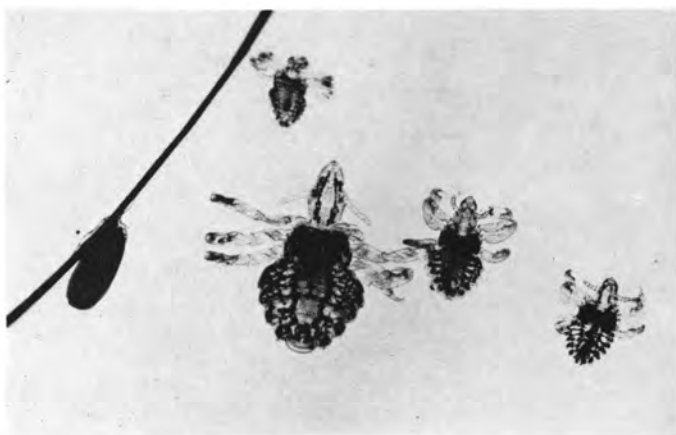


FIG. 262—Egg and nymphal stages of *Haematopinus suis*, the swine louse. x 10.

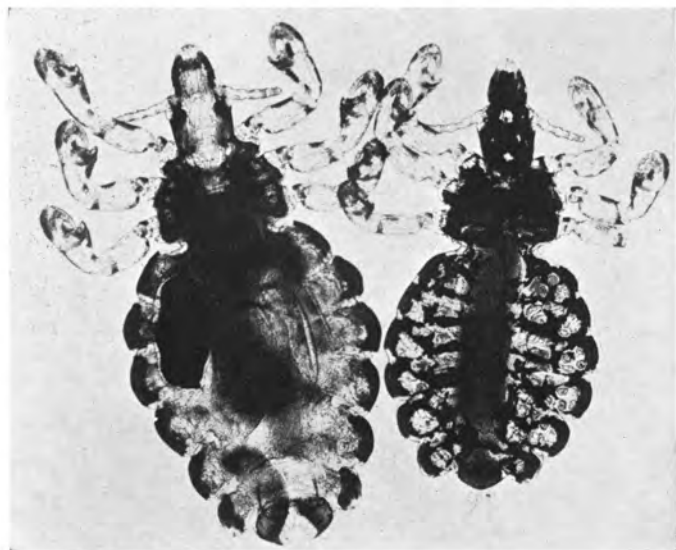


FIG. 263—Adult female (left) and male (right) swine lice, *Haematopinus suis*. x 15.

SWINE



FIG. 264—Swine lice, *Haematopinus suis*, and their eggs on the skin. x 1.3.



FIG. 265—Eggs of *Haematopinus suis*, the swine louse, attached to hairs. x 2.

DOG

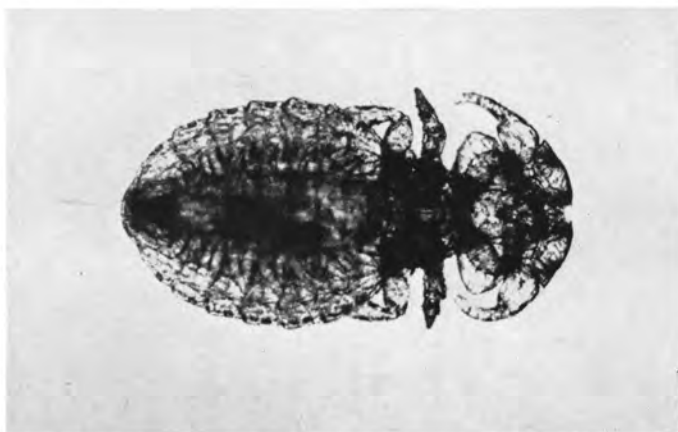


FIG. 266—Adult female *Trichodectes canis*, the common biting louse of dogs and wolves. x 35.

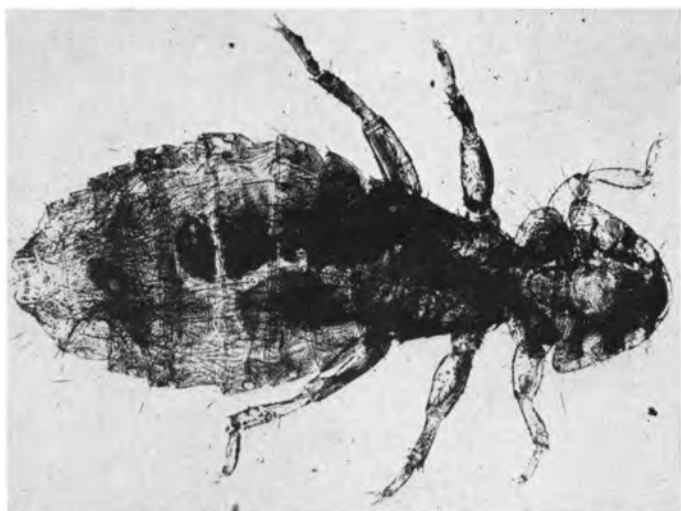


FIG. 267—Adult female *Heterodoxus longitarsus*, one of the biting lice of dogs, kangaroos, and probably opossums. x 40.

DOG

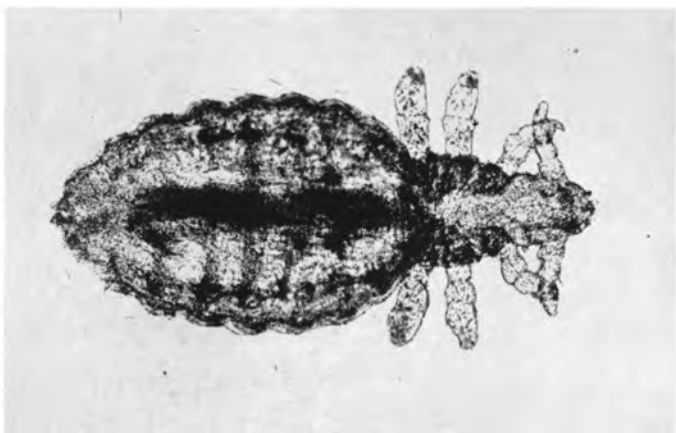


FIG. 268—Adult female *Linognathus setosus*, the suckling louse of dogs, foxes, coyotes, and ferrets. x 40.

CHICKEN, TURKEY



FIG. 269—Adult female *Eomenacanthus stramineus*, the body louse of chickens and turkeys. x 25.

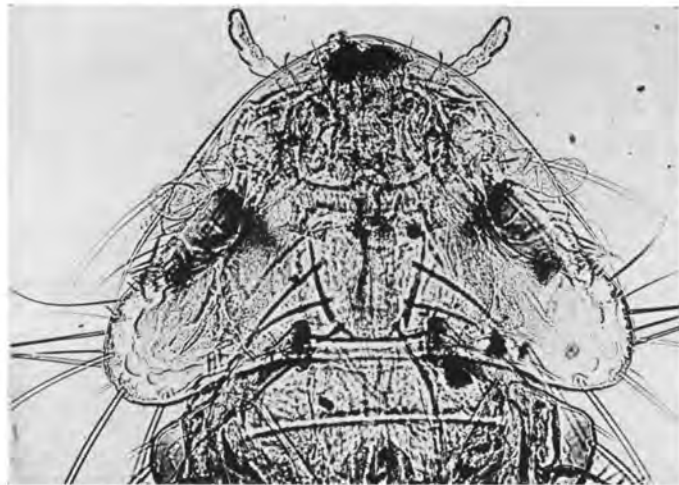


FIG. 270—Head of a biting louse, *Eomenacanthus stramineus*, the body louse of chickens and turkeys. x 100.

CHICKEN

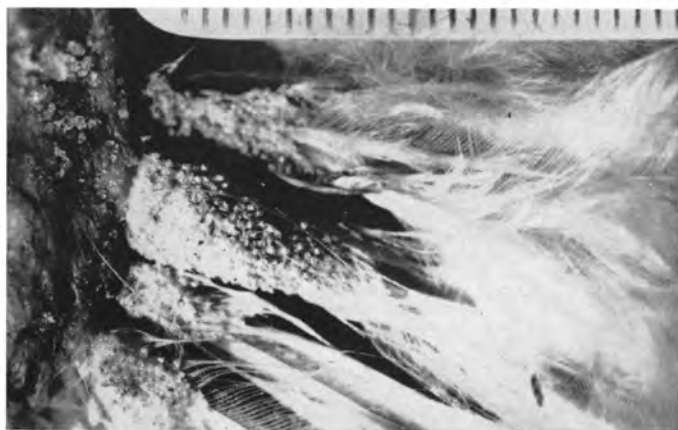


FIG. 271—Louse eggs on the bases of the feathers of a chicken.
x 2.7.