Ectoparasites of Local Pigs in Western Nigeria

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INTRODUCTION

THIS investigation was undertaken to determine the extent of ectoparasitism on the Nigerian local pigs and to provide basis for studies on diseases transmitted by them. Most of these pigs are owned by local citizens who keep them under free range system as scavengers. The recent drought in the Sudan zone of Northern Nigeria had resulted in a sharp increase in the price of cattle and many more Nigerians are turning to slaughtered pigs as source of protein. Consequently, investigations on the diseases of pigs which had been neglected in Nigeria are now receiving attention.

MATERIALS AND METHODS

This investigation took place at Ibadan (a big city) and Eruwa (a rural town) between March, 1974 and February, 1975. Weekly visits were paid to Ibadan abattoir during which five randomly chosen slaughtered pigs were thoroughly examined for the presence of ectoparasites. All the pigs were indigenous breeds locally raised by the citizens in various parts of Ibadan. In order to facilitate comparisons between monthly incidence of ectoparasites on the pigs, only 4 visits were made to the abattoir in any month. When a month contained 5 weeks, the fifth week was neglected.

Any ectoparasite found was removed with a pair of forceps and preserved in 5% formalin until identified. Scrappings of crusts and lesions were made with scapel, transferred to a slide containing two drops of paraffin oil and examined under the microscope for the presence of mites. Contents of pustules and abscesses were spread on slides, diluted with saline and examined for mites under the microscope. These procedures were also adopted at Eruwa except that monthly visits were made and local pigs caught alive while scavenging on refuse dumps were examined. 10 such pigs as well as 30-35 large white exotic pigs kept under intensive husbandary in a private farm were examined on each visit for ectoparasites. In this private farm, the ectoparasitic infestation was controlled by subjecting the pigs to spraying with ixodicides every fortnight. Furthermore, their movements were restricted to the environments of their pens. In both towns and on all occasions the age of the pigs was determined by their dentition.

RESULTS

The sucking louse, *Haematopinus suis* was the most predominant ectoparasite found on the local pigs in both towns (Table 1). Other ectoparasites found were *Amblyomma variegatum*, *Rhipicephalus*

TABLE 1
Ectoparasites of Local Pigs at Ibadan and Eruwa

Species of Ectoparasites	No. of pigs infested	% of total examined	Predilection Site	Age Analysis		
				6-12 months	12-18 months	Above 18 months
<i>Haematopinus suis</i>	281	78	All over the body	147	85	49
<i>Amblyomma variegatum</i>	49	13.6	Flanks, perineal region	38	8	3
<i>Rhipicephalus sanguineus</i>	18	5	Below origin of tail	13	4	1
<i>Demodex</i> species	220	61	Neck & shoulders	107	79	34
<i>Sarcoptes</i> species	79	22	Back and flank	55	18	6
<i>Tunga penetrans</i>	7	2	Belly and flank	—	4	3

sanguineus, *Demodex* and *Sarcoptes* species and *Tunga penetrans*. No ectoparasite was found on any occasion on the exotic breeds kept under intensive husbandry in the private farm at Eruwa. As shown by the age analysis of infested pigs in Table 1, the younger pigs possessed greater number of ectoparasites than the older ones. The pustular form of demodicosis and chronic infestation characterized by extensive thickening of the affected areas were most commonly observed on the older pig.

Generally, ectoparasites were more numerous on the pigs during the rains than the dry season. Fig. 1 shows the relationship between the incidence on pigs of adult and nymphal *H. suis* and rainfall at Ibadan. A greater number of pigs were infested during the wet than the dry season and a peak was reached during the heavy rains of May to July when all the examined pigs were infested. There was also a preponderance of the adult and nymphal stages of this species on the pigs during the wet season.

DISCUSSION

Although the helminth parasite on pigs had been classified in Northern Nigeria (Fabiya, 1972; Ikeme, 1970) and in Western

Nigeria (Akinboade, 1974; Olufarati, 1975) very little or nothing is known of their blood and ectoparasites. The results of this investigation show that the local pigs in Ibadan and Eruwa are infested mainly by four groups of ectoparasites and of these, the sucking louse, *H. suis*, is the most predominant. There is no doubt that the free range system which necessitated the scavenging of the local pigs on refuse dumps, sand and other dirty environments was responsible for the acquisition by the pigs of so large number of parasites. The exotic breeds at Eruwa private farm which were kept under intensive system and regularly sprayed with ixodicide were free of ectoparasites. The younger pigs were usually more active in search of food on the refuse dumps and this is probably responsible for their carrying a greater burden of ectoparasites.

As expected, parasites were more numerous on the pigs during the rains. It is also to be expected that a greater number of pigs would be infested with *H. suis* (Fig. 1) during the rainy season since it is known that this parasite is principally transmitted by contact of infested with uninfested animals. During rainfall, closer contact between the pigs is effected when they hoarde themselves

Fig. 1. Monthly incidence of *Haematopinus suis* on pigs in relationship with rainfall at Ibadan. The lower graph shows the numbers of pigs infested monthly with adult and/or nymphal *H. suis*.

together while seeking shelter in their dirty and overcrowded mud tents. This phenomenon is best manifested by the fact that during the heavy rains of May to July, all the twenty pigs inspected at Ibadan abattoir were heavily laden with *H. suis* but there was a sharp decrease in the number of pigs infested during the August break in rainfall (Fig. 1). During the dry season, the pigs spend most of the time outside and there is less contact between the individuals. The fact that nymphs of *H. suis* were found on the pigs throughout the year suggested that once the pig had acquired the egg or the first nymphal stage on its hair coat during scavenging, the other phases of life cycle are passed on the pig.

As long as most of the local pigs are scavengers, it is likely that they will acquire these ectoparasites which are vectors of several diseases. *R. sanguineus* had been incriminated in the transmission of *Babesia trautmanni* to pigs in Africa (Riek, 1968) and *H. suis* could transmit *Eperythrozoon paryum* to pigs as well (Seamer, 1960). These blood parasites had been encountered in local pigs slaughtered in Ibadan abattoir (Okon, 1975). Apart from the possibilities of these transmissions, these ectoparasites were observed during this investigation to have caused irritation, scratching, skin damage and restlessness with the result that the examined local pigs were always in poor conditions unlike the exotic breeds in the private farm. Since scavenging local pigs had been shown to be highly exposed to helminth infections (Akinboade, 1974) the net result is that they are in a permanent poor health. Hence, they always appear undernourished and their stunted growth can always be compared with the buoyancy usually observed among exotic breeds or even

indigenous pigs kept under intensive system.

Finally, it must be stressed that the incidence of *Tunga penetrans* on the local pigs is of public health importance. This flea, which is commonly known as "Jigger" has the pigs as the reservoir host (Gordeon and Lavoipierre, 1969) and humans can acquire the infection if and when they come in close contact with pigs. Although the incidence of *T. penetrans* in Eruwa was not investigated, discussions with the citizens revealed that the infection is common and that human infection arises from association with pigs. This was confirmed by most of those keeping pigs in their house.

CONCLUSION

During investigation into the incidence of ectoparasites on scavenging local pigs at Ibadan and Eruwa between March 1974 and February 1975, four groups of ectoparasites were encountered. These are lice (*H. suis*), ticks (*A. variegatum* and *R. sanguineus*) mites (*Demodex* and *Sarcoptes* species) and flea (*Tunga penetrans*). Younger pigs had a greater number of ectoparasites than the older ones. Exotic breeds kept under intensive system were free of ectoparasites. Parasites were more numerous on the pigs during the rains and a greater number of pigs were infested during this season. It was shown that the scavenging habits of the pigs must have been responsible for the acquisition of the ectoparasites and the disadvantages of free range system in pig production in Western Nigeria were highlighted.

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