where they alighted in such numbers on the surface of a pail of water that a groundsman was carrying, as to excite his astonishment and curiosity. On the 10th of May, 1953, I collected several scores of this same beetle from the shady side of an empty concrete swimming pool at Milner in the Fraser Valley. Moisture was condensing on the side of the pool and the beetles confined themselves to the wet areas; if one moved on to a dry patch, it soon came back to the wet surface. The sides of the pool were vertical and, from somewhere, hundreds of these insects arrived, but alighted only on the damp areas. I am deeply indebted to Hugh B. Leech for the preceding three identifications.

Finally, on March 4th, 1954, a couple brought me some beetles which, they said, were continually appearing in their bath tub; they wondered if they were of economic importance. The small beetles are *Cryptophagus bidentatus* Makl., recorded from Alaska, of which I have one specimen taken from the fur of a Shrew at Alta Lake; however, *bidentatus* has very small ommatidia in its eyes and these specimens have larger, rather projecting ommatidia; otherwise they are very similar. I promptly asked the people if they had any polypore fungi in the house and, as it turned out, he is a school teacher who collects fungi so these beetles must have come from one of his specimens.

In the bath tub was also a larger 5½ mm. beetle which keys out in Hinton's monograph to the genus *Megatoma*, family Dermestidae. Leng calls the genus *Perimegatoma*, but Hinton states that the genotype of *Perimegatoma* cannot be distinguished from the genotype of *Megatoma* so the latter name has priority. Of this genus I have only two species at the University: *P. cylindrica* Kirby which is a synonym of *P. falsa* Horn, and *P. vespulae* Milliron which is proving a pest of the first magnitude in the departments of Zoology and Botany at the University where it attacks insect material in our cabinets and the plants in the herbarium.

SOME RECORDS OF ECTOPARASITES FROM FLYING SQUIRRELS

G. J. SPENCER

Department of Zoology, University of British Columbia.

From a number of records on hand of ectoparasites from flying squirrels, I have selected only those instances in which I picked off the specimens myself by a uniform system of combing, brushing and laboriously examining under a low power microscope in order to obtain the greatest number of specimens without resorting to the Werneck-Hopkins method of dissolving the fur in hot caustic soda.

The same procedure is followed when examining birds and mammals, namely, parting the fur on the neck and head under a stereoscopic microscope to find an egg or a louse as an indication of infestation, and, if either is present, combing the head and neck first and then the whole body with a medium, then a fine-toothed comb and brushing in all directions over a large sheet of white paper with a stiff test-tube brush. Short-haired mammals or birds with short feathers on neck and head are subjected also to a rapidly rotating round brush twirled by a machine. Every animal is examined both as soon as received and again, after being held overnight in a refrigerator at 18° F. to either kill or stiffen any lice which would not release their hold under the first treatment.

The local flying squirrel *Glaucomys sabrinus oregonensis* (Bachman) is fairly common in the woods on the campus

Some records of Ectoparasites from Flying Squirrels

	VANCOUVER					Alta.
	A	B	C	D	E	F
	1 Nov. 1954 (per cat)	15 Nov. 1954 (per cat)	11 July 1955 Trapped	12 Aug. 1955 Trapped	12 Aug. 1955 Trapped	Alberta 1947
Sucking lice						
Microphthirus uncinatus (Ferris)	39	180	4		4	5
Neohaematopinus sciuropteri (Osborn)	13	127	19	16	28	3
Hoplopleura trispinosa Kell. & Ferris		70	6	3	7	8
Fleas						
Opisodasys vesperalis (Jordan)		16m. 21f.	4		2	
Monopsyllus ciliatus protinus Jordan		1				
Ticks						
Ixodes pacificus Cooley		1				
Mites						
Spp. undetermined		10 3spp.	13	1	6	

In the table above, specimens A and B were captured by the cat of President M. M. McKenzie which chewed off the head of specimen B before the squirrel could be taken from it. The finding on squirrel A of *Microphthirus uncinatus* (Ferris) constitutes, as far as I can find out from literature, the second record for this louse which Ferris named in 1919 as the genotype of a new monotypic genus. Ferris says "This is a very peculiar form, known only from North American flying squirrels of the genus *Glaucomys*. . . . known only from the original record from *Glaucomys sabrinus* at Yosemite National Park, California . . . This is one of the very smallest of all sucking lice, the male attaining a length of only about 0.35 mm. The insects are so small that as seen upon their host they are very likely to be mistaken for young of one of the other species which occur on these squirrels".

Specimen B would very probably have had a still higher parasite count if it could have been examined while the head was attached. As it is, the population present was the ultimate, almost the incredible, ever recorded from this host and certainly in record numbers. Apart from the huge populations of three species of lice, the numbers of the flea *Opidasys vesperalis* (Jordan) namely 16 males and 21 females, also seem to be a record and a considerable number may very well have escaped in the course of the rough handling the squirrel got before it fell into my hands.

Specimen D was the only one of the six recorded here, to have no *M. uncinatus* on it and specimen E was unusual in that the hairs of the back half, above the hind legs, were plastered with louse eggs that had hatched but the young had not survived. This was an unusual location for louse eggs which are almost invariably attached on top of the head or around the neck. Of the three species of lice, *H. trispinosa* occurred all over the body but the other two species did not overlap; especially on specimen B *M. uncinatus* was entirely dorsal over the shoulder blades and *N. sciuropteri* entirely ventral across the sternum. All three

species of lice are specific to flying squirrels.

Specimen F from Alberta, is included here because it was sent in as a whole animal, not merely as a skin, and I was able to work it over myself. Its main interest is that it harboured Ferris' minute species *uncinatus* which seems widespread in more northern flying squirrels.

References

Ferris, G. F. Contributions Towards a Monograph of the Sucking Lice, Part I: 49; Figs. 31-32. 1919.

Ferris, G. F. The Sucking Lice, Memoirs Pacific Coast Ent. Soc., Vol I, p. 115; Figs. 50, 51. Cal. Acad. Sc., San Francisco 18, Cal. 1951.

LIST OF INSECTS AND MITES ATTACKING TREE FRUITS IN THE INTERIOR OF BRITISH COLUMBIA[1]

R. S. DOWNING[2], C. V. G. MORGAN[3], AND M. D. PROVERBS[3]

Entomology Laboratory, Summerland, B.C.

This is the first published list of insects and mites that attack tree fruits in the interior of British Columbia. It includes only the species that have caused economic loss. Although some of them are but sporadically injurious, none are merely occasional or incidental feeders. An E in the host columns designates the pest as one of major economic importance against which control measures must be frequently taken; an S indicates that it is only sporadically injurious.

1 Contribution No. 3352, Entomology Division, Science Service, Department of Agriculture, Ottawa, Canada.
2. Assistant Entomologist.
3 Associate Entomologist.

Species	Apple	Apricot	Peach	Pear	Plum and Prune	Cherry
Acrididae, grasshoppers, various species		E	S	S	S	S
Anarsia lineatella Zell., peach twig borer		E	E		E	
Anisandrus pyri (Peck), pear blight beetle			S			S
Anthophila pariana (Clerck), apple and thorn skeletonizer	S					
Anuraphis bakeri (Cowen), clover aphid	S				S	
Anuraphis cardui (L.), thistle aphid		E			E	
Anuraphis persicae-niger (Smith), black peach aphid			E			
Anuraphis roseus Baker, rosy apple aphid	E					
Aphis pomi Deg., apple aphid	E			S		
Archips argyrospila (Wlkr.), fruit tree leaf roller	E	E		E	S	E
Archips cerasivorana (Fitch), ugly nest caterpillar						S
Archips rosaceana (Harr.), oblique-banded leaf roller	S	S	S	S	S	S
Aspidiotus ostreaeformis Curt., European fruit scale	E				E	S
Aspidiotus perniciosus Comst., San Jose scale	E	E		E	E	E
Bryobia praetiosa Koch, clover mite	E	S	S	S	E	S
Caliroa cerasi (L.), pear-slug				E	S	E
Carpocapsa pomonella (L.), codling moth	E	S	S	E	S	S
Cicadidae, cicadas, various species	S				E	S
Coleophora cerasivorella Pack. (= *C. occidentis* Zell.), cigar casebearer	S					
Coleophora pruniella Clem., cherry casebearer	E			S		E
Corythucha padi Drake, choke cherry tingid						S
Cyphoderris monstrosa Uhler, a cricket	S		S			
Datana ministra (Drury), yellow-necked caterpillar	E	S		S	S	S
Diptacus gigantorhynchus (Nal.), big-beaked plum mite			S		S	S
Edwardsiana rosae (L.), rose leafhopper	E				E	E
Empoasca maligna (Walsh), apple leafhopper	S					S