found that these lice from mummies were quite distinct from the monkey-infesting forms. In fact, the writer has discovered that all these monkey Pediculids of America can be distinguished from any of the varieties of our head louse by the characters of the pleural plates. If the pleural plates of the man-infesting forms are viewed from the side they are found to be squarish and without lateral lobes. Now if the pleural plates of any of the *Ateles*-infesting forms are viewed from the side they are found variously shaped but not squarish, and in addition some of them are provided with well-developed lateral lobes.

It may be that the spider monkeys (*Ateles*) acquired their Pediculids originally from man but not from recent man. The time must have been thousands of years ago, more probably tens of thousands of years ago, for there are at least two or three quite distinct species of lice on *Ateles*.

Kellogg (SCIENCE, Vol. xxxviii, p. 601) attaches much phylogenetic significance to the occurrence of *Pediculus* species on *Ateles*, holding that it indicates that these monkey hosts represent American derivatives of the Old World anthropoids. It is possible in this case, however, that there has been a crossing-over, *i.e.*, that the *Ateles* lice have been derived from some of the near ancestral types of recent man or that the whole human complex of lice is of a more recent derivation and from certain unrelated monkey hosts. That lice may cross over from hosts of one phylogenetic group to those of a different phylogenetic group, "bridging the phylogenetic gap," the writer has pointed out in the case of the biting lice of the family Gyropidae. The lice of this family apparently have crossed over from their ancient and most favored hosts, certain rodents, to their more recent and less favored hosts, ungulates and primates.

It may be, however, that in *Pediculus* we are dealing with one of those generalized types that refuses to respond in the usual manner to the diversifications of the environments into which the group has thrust itself. In other words, it has become to an unusual degree more or less independent of the minor charges of environmental conditions. In this connection I would like to record here the infestation of two brown-hipped marmosets (*Lenotocebus nigricollis*) with a *Pediculus* species. There is strong evidence in these two cases, however, that the lice were stragglers from the badly infested *Ateles* species, yet many eggs were laid on both marmoset hosts by the lice. These infested marmosets were brought back from South America for the National Zoological Park by W. M. Mann in 1922.

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DECOMPOSITION OF CERTAIN ORGANIC TOXINS BY VANILLIN DECOMPOSING ORGANISMS[1]

HAVING found bacteria in many soils able to decompose certain toxins the question arose as to whether the same or different organisms of a given soil decompose the several toxins.

In order to answer this question, pure cultures of organisms able to decompose vanillin were isolated from several soils and used to inoculate a medium containing another toxin. Fifty cubic centimeters of medium were placed in each of several Erlenmeyer flasks as usual, and inoculation was made in duplicate for each organism. These cultures were then incubated at room temperature for about 10 days. The results obtained with vanillin (control) resorcinol, cumarin, quinoline, benzidine and caffein follow:

	Growth		Toxin present	
Organism	a	b	a	b
Vanillin toxin medium				
Vanillin 5a2	yes	yes	no	no
Vanillin 21a	yes	yes	no	no
Vanillin 22a1	yes	yes	no	no
Vanillin 130–1	yes	yes	no	no
Control	no	no	yes	yes
Resorcinol toxin medium				
Vanillin 5a2	no	no	yes	yes
Vanillin 21a	no	no	yes	yes
Vanillin 22a1	no	no	yes	yes
Vanillin 130–1	no	no	yes	yes
Control	no	no	yes	yes

In neither of the duplicate cultures of organisms of any of the four soils was cumarin, quinoline, benzidine or caffein decomposed. The results were negative as in the resorcinol cultures detailed just above. From these results it appears that these vanillin decomposing organisms are not able to decompose any of the five toxins tested—resorcinol, cumarin, quinoline, benzidine and caffein—under the rather favorable conditions of the tests and that they are able to decompose vanillin only.

In spite of the strong indications mentioned above there is some doubt of the specificity of these organisms, since it is not known whether they had ever decomposed vanillin before being brought into the laboratory for these experiments. Moreover, this must for the present remain an uncertainty because the samples were too small to analyze for vanillin.

It is highly desirable that this study be extended to other toxins, and also that organisms which decompose other toxins be tested for their ability to decompose vanillin and still other toxins.

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