

Each specimen examined by Malakai was usually examined by direct smear by a European assistant of Dr. Buxton. When Malakai's specimen was found negative the Clayton Lane apparatus was used by Mr. Hopkins to confirm it. Later a long series were examined, as shown by the table below, by direct comparison.

COMPARISON OF CLAYTON LANE AND WILLIS TECHNIQUES.

Name.	Race.	Direct Smear.	Willis Method.	Lane Method.	Name.	Race.	Direct Smear.	Willis Method.	Lane Method.
3970 .. ..	C	..	—	—	4609 .. ..	C	{ —	—	+
4654 .. ..	C	..	+	+	Malaea .. ..	S	{ ..	+	+
4256 .. ..	C	..	+	+	Mate .. ..	S	{ ..	+	+
Malia .. ..	S	+	+	..	Kaisa .. ..	S	{ ..	+	+
Sefo .. ..	S	{ —	+	+	Taulanga .. ..	S	{ +	+	+
Fesul .. ..	S	{ —	+	+	Avoga .. ..	S	{ —	+	+
Suka .. ..	B	+	+	..	Kirita .. ..	S	{ —	—	+
Sikinaï .. ..	B	+	+	..	Tava .. ..	S	{ +	+	+
4515 .. ..	C	+	+	..	Niu .. ..	S	{ +	+	+
4569 .. ..	C	+	+	..	Pulimau .. ..	S	{ +	+	+
Toso .. ..	S	+	+	..	Savali .. ..	S	{ +	+	+
Sue .. ..	S	—	—	—	Tuemna .. ..	S	{ +	+	+
Soelei .. ..	S	+	+	..	Siota .. ..	S	{ —	+	+
Falaui .. ..	S	+	+	..	Teuila .. ..	S	{ +	+	+
Meki .. ..	S	+	+	+	Laneta .. ..	S	{ —	—	—
Kanki .. ..	B	..	+	+	Mua .. ..	S	{ +	+	+
Tauti .. ..	S	..	+	+	Mary .. ..	S	{ +	+	+
Alosina .. ..	S	{ —	—	+	Leu .. ..	S	{ —	—	—
Moe .. ..	S	+	+	..	Atua .. ..	S	{ +	+	+
Baiveri .. ..	S	+	+	..	Faala .. ..	S	{ +	+	+
Motoi .. ..	S	+	+	+	Nellie .. ..	S	{ +	+	+
Talala .. ..	S	+	+	+	Tonga .. ..	S	{ +	+	+
Petelo .. ..	S	{ —	—	+	Taea .. ..	S	{ +	+	+
Manogi .. ..	S	..	+	+	Etanti .. ..	S	{ —	+	+
Lafi .. ..	S	..	+	+	Eunati .. ..	S	{ +	+	+
Tauso .. ..	S	—	+	+	Willie .. ..	S	{ —	+	+
					Tunga .. ..	S	{ +	+	+
					Malakai .. ..	F	{ ..	—	+

This table is a copy of Mr. G. H. Hopkins's records of these tests. Under the heading "Race," S stands for Samoan, C for Chinamen, B for Melanesian, F for Fijian. The only Fijian examined was Malakai, my assistant, who was sure after his own examinations that he had no hookworms. On the first examination the Lane method and the Willis method found him negative. On the second day Willis found him negative and Lane found one egg. Malakai was a little indignant, and on return to Fiji insisted on 3 c.c. of oil of chenopodium to prove his microscopy correct, thinking that the one egg of the Lane method was an added infection carried in by the long forceps carrying the ring of fæces. However, a very minute examination of two days stools found one female and one male necator passed in the first twenty-four hours' motions. This seems to me a rather brilliant demonstration of the accuracy of the Clayton Lane method. It will be seen in the table that in seven cases specimens were repeated to the number of nineteen specimens: these are bracketed. In five of these seven cases Clayton Lane found a negative and a positive. In three of these cases Willis found a negative and a positive. It seems to me fair to say that where Clayton Lane finds a negative and positive in the same case that the worm content is probably one female. And it seems to me fair to conclude also that the Willis technique is accurate down to the question of a female worm or two as done under ordinarily careful field conditions.

In this table we find that fifty-four individuals were examined for hookworm ova by the Clayton Lane and by the Willis techniques. Clayton Lane and direct smear found fifty positives, and Willis found forty-seven positives, respective percentages of 92.6 and 87.

Where the question of hookworm-ova alone are concerned, and it seems desirable to show the last one of these, Clayton Lane shows a beautiful accuracy. The Willis technique is accurate down to a worm or two.

I am told that the Lane method makes no claim to demonstrate accurately ascaris or trichuris ova, nor did it in Apia. The Willis method does so more accurately than any other method of which I know.

In the South Seas specimens have to be examined within twenty-four hours or flotation methods are useless. Refrigeration is out of the question, and no proper method of keeping specimens for a period that lends itself to ready examination has yet been devised. The Clayton Lane method cannot be operated accurately by the average Native assistant, in my opinion, nor can it be used to advantage away from mixed centres. The Willis method can be used anywhere, and the stupidest assistant cannot hinder its accuracy. The Willis method is several times more rapid than the Clayton Lane method, and infinitely more economical.

In selected areas Clayton Lane technique might prove valuable in checking the results of field treatments. The Willis method is the desirable one for fields use where rates of infection are desired for decision as to mass treatments, and time and expense are objects, and where information is sought as to infections other than hookworm.