

April 8, 1942

Dear Corbet,

Thanks for your letter. It is always a pleasure to see something of the Entomological Society, and I hope it will be possible next Winter to arrange a joint meeting with the Genetical Society.

At least I think that during war~~y~~ time different scientific societies ought to make a point of seeing something of each other, since general gatherings, such as those of the British Association, are presumably in abeyance.

I do not think it would be safe to use the relationship which Williams calls my distribution by way of the species estimated <sup>at</sup> 1200 to form an estimate of the individuals in the region, for as soon as one puts  $k = 0$  one is assuming mathematically that the number of species is infinite, or, in practical terms, that there are still a number of species so rare that they have only a small chance of being caught. This, of course, contradicts the other element in the argument, namely, that there really are 1200 species all of which could be caught in a sufficiently large sample.

I am sending herewith a copy of The negative binomial distribution.

Yours sincerely,

## MALAYAN BUTTERFLIES.

$\alpha = 132.2$

N (total indivs.)	S (total species)	x	$\frac{n_1}{n}$	S.S.C. collecting years.
14,555	623	0.991	131	4
100,000	877	0.99868	132	27.5
500,000	1088	0.999736	132	137.5
1,000,000	1179	0.99987	132	275.0
10,000,000	1484	0.9999869	132	2750
100,000,000	1775	(From graph)		27500
1,000,000,000	2070	(From graph)		275000

## TIOMAN BUTTERFLIES

$\alpha = 16.96$

N	S	x	$\frac{n_1}{n}$
157	41	16.98	0.9025
1,000	68.9	0.9835	16.5
100,000	147.6	0.99983	17.0
1,000,000	183.9	0.99998	17.0
10,000,000	223.1	0.999998	17.0

[Only 52 species of butterflies are as yet known to me from Tioman]

## MENTAWI BUTTERFLIES

$\alpha = 25.1$

(Recalculated data excluding Hesperidae)

N	S	x	$\frac{n_1}{n}$
3250	130.6	0.996	25.0
100,000	208.2	0.999749	25.1
1,000,000	266.0	0.9999749	25.1
10,000,000	323.7	0.99999749	25.1

## MEXICAN LILIIDAE

$\alpha = 6.53$

N	S	x	$\frac{n_1}{n}$
1413	36	0.9964	6.47
10,000	47.7	0.99835	6.5
100,000	52.7	0.99936	6.5
1,000,000	77.5	0.999936	6.5
10,000,000	92.6	0.9999936	6.5