

Re: Hardy–Weinberg law

Source: <http://sci.tech–archive.net/Archive/sci.bio.evolution/2004–06/0232.html>

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Date: 06/24/04

Date: Thu, 24 Jun 2004 04:29:28 +0000 (UTC)

>>**BOH:**–

>>*But, as we know know, in a finite population, there will be an excess of
>>homozygotes (because of inbreeding), so H–W isn't correct (but a
>>reasonable approximation if the population is large).*

GH:–

> *I am not sure how extensive you intended this claim to be, but I think it
is
> generally false. The finiteness of populations does not cause an excess
of
> homozygosity relative to HWC expectations. Similarly, there is no reason
to
> expect the excess of homozygosity to grow with decreasing population size,
> nor is there a reason to expect the degree of inbreeding to increase
> relative to that which would occur in random mating as population size
> decreases.*

BOH:–

OK, at the very least I should have specified random mating (which is specified under H–W as well). Under these conditions, a smaller population size means a greater chance of mating with a close relative (i.e. inbreeding), which leads to the increase in inbreeding over time (at least in the simple models).

On the point that the expected excess of homozygosity growing with decreasing population size, I agree. What will happen, under random mating (in a closed population etc. etc.), is that the rate of increase in homozygosity over time will increase.

How all this relates to the real world is another matter – this all started off with a discussion about the H–W model, rather than about reality.

JE:–

We know nothing of "reality" except via the theories that we have invented to suggest (guess) what it may be.

Thus your last sentence should read:

How all this relates to the real world is another matter – this all

started off with a discussion about the H–W model, rather than about testable theories of reality.

Please note I included "testable" because this is a science list.

Note also, that the "H–W model" is actually referred to in the literature as the "HW law", but I suggest that it is, in reality, just a HW distribution used to define a zero state, i.e. an allelic distribution within a heuristic population in which nothing of significance can happen. The fact that nobody except myself refers to the "HW law" as the "HW distribution" does not mean that my a reference is invalid. Rather, it highlights a consistent misuse of HW reasoning.

So, what was the theory of reality you were referring to and what was the model? Are they independent or is one derived from the other? If they are derived from one another which one is only derived and which process is used to make such a derivation?

Yours,

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