

Re: Group selection in the breeding of super chickens

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- *From:* "John W Edser" <edser@xxxxxxxxxxxxxxxx>
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dkomo <dkomo871@xxxxxxxxxxxx> quoted:-

"Today's models of group selection are as gene-centered as any other models of natural selection, including Hamilton's explanation of the evolution of altruistic traits. Many biologists are now quite comfortable with the idea that kin selection is a form of group selection, in which the interacting kin group is the target of selection, and the unit whose frequency changes during selection is the gene."

Jablonka, *Evolution in Four Dimensions*, p. 37

JE:-

What "the idea that kin selection is a form of group selection" means is that sterile reproductives and their parents constitute one grouped selectee. My point: a family and its immature offspring constitute just the one unit of selection because sterile reproductives have a zero fitness. IOW this group is *not* classically group selective. Sterile forms cannot be considered independent units of selection and cannot be deemed altruistic in fitness simply because they have no fitness to lower. Sterile reproductives are more like somatic cells than anything else. I am not attempting to split hairs, simply providing a *falsifiable* theory as to what empirically constitutes one selectee within Darwinian theory while maintaining Darwinism as monocentric. In contrast, Hamilton's polycentric inclusive fitness minimally allows three selectees which *biologically* contradict each other. These are: *c* which is the Darwinian fitness of the donor, *b* the transfer of resources from the donor to the recipients increasing their Darwinian fitness accordingly and *r*, the relatedness of each recipient to the donor. Note that *b* is always > 1 making Hamilton's argument *classically* group selective while simultaneously allowing *r* to reduce inclusive fitness to also be gene centric (deleting all gene fitness epistasis in the process). Each of these supposed independent levels of selection contradict each other leaving Darwin's parent to be reduced to the meat in just a mathematical sandwich.

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A group is a set of organisms tightly coupled enough that their fitnesses are dependent on the fitnesses of the other members.

JE:–

No. What you have described above is one biological individual which must remain fertile just to have any fitness. Groups of fitness independent individuals remain interdependent and not dependent. Mathematically, the difference is critical. The fitness of one fitness interdependent group will be equal to the simple sum of the fitnesses of all independent members within that group. OTOH the fitness of an dependent group will remain non additive (epistatic).

snip<

Regards,

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