consistent with recently reported metabolic differences between cones and rods, and among cone types in the cyprinid retina (*17*).

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Altruism in an Antarctic Fish

Daniels (*1*) concludes that males who occupied the nests of experimentally removed females in an Antarctic fish species were behaving altruistically as replacement nest guards. He rejects the hypotheses that the replacement fish were behaving selfishly or as parents. We disagree with his conclusions for the following reasons.

First, Daniels argues that his failure to observe displacement of females from nests is evidence that there was no competition for nest sites, even though such sites were also used by the fish as protection against predators when there was no ice cover (*1, 2*). More importantly, he reports a probability value of less than .01 for physical measurement differences between nest guards and nonguards [Mann-Whitney *U*-test; reference 18, in (*1*)], but he concludes that this statistic indicates similarity between them. A small probability allows rejection of the null hypothesis of "no difference." If guards are larger or in better condition than nonguards, it implies that occupying a nest site is selfish behavior that benefits the guard.

Daniels also rejects the hypothesis that the replacement fish (all males) were parents, since he did not see them in the vicinity of their nests before the females were removed. However, it was reported that the fish "roved," and one should therefore not assume that fathers would be frequently near their nests. Furthermore, in the majority of teleost families, males are the nest builders and guards of eggs (*3*). This suggests that the males who occupied the nest sites were the fathers of those eggs.

In light of the above, we feel that there is insufficient evidence for rejection of the hypotheses that replacement fish were behaving selfishly or as parents. We applaud the use of multiple hypothesis testing, but caution that more parsimonious explanations (*4*) of complex behavioral phenomena should be thoroughly investigated before acceptance of more complicated hypotheses.

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I conclude that altruistic behavior is a reasonable explanation of nest guard replacement in *Harpagifer bispinis* (*1*). However, selfish and misdirected behavior hypotheses are not discredited by the available data, but these hypotheses are less able to explain the entire range of observed behaviors. I argue only that the available data do not lead to the rejection of the altruistic behavior hypothesis.

Meikle *et al.* note a mistake in the original report (*1*); reference 18 is in error, and I apologize. I compare characteristics of guards and nonguards, using the Mann-Whitney *U* statistic and, as stated in the text, the measurements indicate no significant differences between the two groups. The probability value is incorrect and should read $P \simeq .22$ for standard length, $P \simeq .15$ for condition factor, and $P \simeq .33$ for fullness index.

The remaining arguments are simplified and incomplete. If individuals benefit from nesting, intraspecific competition for nests can be expected (*2*). I make no such claim for nest sites as stated in this comment. In fact, I state that the protected sites, that is, overhanging rocks and stacked rubble identical to nest sites, are abundant in the rubble bottom coves where *H. bispinis* is found. For competition to occur some resource, in this case the site, must be limiting (*3*); this does not appear to be the case.

Even if I had observed replacement guards near nest sites in the field, I would reject the parental behavior hypothesis for several reasons. I grant that fish rove and I do not assume that fathers remain near the nest. I argue that, for the father to be the first replacement guard, he should be found near the nest. If he is not, other fish can be expected to find the nest first and assume guard responsibilities, as they did in the laboratory. It is possible that the nest is readily identifiable to the father by the topography of the site (*4*) or a peculiar scent. This needs to be established; now it merely leads to the increased complexity of the speculation. That males build and tend nests in most teleost families where nesting has been reported hardly supports the contention that this is true in *H. bispinis*, nor does it suggest, as Meikle *et al.* say, that the male replacements fathered the eggs over which they assume guardianship. I agree that complex behaviors must be thoroughly investigated before hypotheses are rejected.

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