(Table 1). This variation might reflect a demographic shift in discipline of conservation biology, which might be independent of changes in behavioural ecology. It might also reflect variation in author submission behaviour, given the perception of increased anonymity. However although the most intuitive explanation is that the review policy reduced the potential for bias in the review process, double-blind review is not practised at BC, and increased submissions by females probably explains the observed pattern (R. Marrs, personal communication).

The variation in gender representation in JB (Table 1) was not attributable to a change in the proportion of papers published by female first authors ($z = 0.87$, $P = 0.39$) but, rather, increased publishing by male first authors (male first-authored papers; $z = 3.05$, $P = 0.01$).

Potential impact of journal review policies

A difference of 7.9% in the proportion of female first-authored papers following the implementation of double-blind review in BE is three times greater than the recorded increase in female ecology graduates in the USA across the same time period (http://www.nsf.gov/statistics/nsf07305/) and represents a 33% increase in the representation of female authors. Furthermore, this increased representation of female authors more accurately reflects the (US) life sciences academic workforce composition, which is 37% female (http://www.nsf.gov/statistics/wmpd/employ.htm).

The consequences of this shift could extend beyond publications. If females are less successful in publishing research on account of their gender, then given the current practices associated with appointment and tenure, and the need for women dramatically to out-compete their male counterparts to be perceived as equal [3], any such publication bias impedes the progress of women to more advanced professional stages.

It is worth noting, however, that because there are fewer women in more senior positions [15] (http://www.nsf.gov/statistics/wmpd/employ.htm), increased acceptance of manuscripts by less established researchers (who might be hypothesized to benefit more from a double-blind review policy) would result in increased representation of females.

Double-blind review is frequently criticized on the grounds that it involves an increased administrative load and that authors can be readily identified. However, the more compelling issue is whether double-blind review makes a difference. In light of our study, and evidence that the ecology and evolutionary biology community support double-blind review [12], now might be the time for journals to revisit this issue.

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Letters

Island rules cannot be broken

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In a recent article in *TREE* [1], Niven reviewed the controversy over *Homo floresiensis* [2], a new fossil hominine species from the island of Flores. To our knowledge this was the first attempt to explain how small brain size, short stature and certain morphological oddities in *H. floresiensis* conform to island life. We applaud his

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approach but disagree with his conclusions. Niven suggested that *H. floresiensis* is a plausible species based partly on its marked reduction in brain size, which resembles a trend found in other island species. However, although island mammals can be small brained, *H. floresiensis* breaks too many rules to fit the island pattern.

Island taxa tend to be different from continental species in predictable ways. Because isolation of a landmass from the mainland causes a reduction in land area, it also tends to cause extinction of a large number of species, particularly those with high energy demands. Insular 'survivors' are characterized by enhanced energy intake efficiency and decreased energy expenditure [3,4]. They show a reduction in expensive locomotor behaviours [3,4], a decrease in metabolic rate [5], enhanced capacity to enter torpor [5], enhanced fat storage, decreased fecundity and an increased lifespan [6], and a reduction in the size of brain and sense organs [4]. Among mammals, insular endemics also tend to be either dwarfed or large. Although dwarfing permits a larger population to be maintained on a small landmass [5], size increase reflects adaptations to energy shortage under low extrinsic mortality and high population densities [7]. In short, the morphological, physiological or behavioural traits that evolve on islands are consistent and support long-term persistence through novel functional adaptations to resource scarcity.

H. floresiensis and Flores do not conform to these trends for three reasons. First, in insular mammals, reduction in brain size is directed towards energetic costs that can be saved specifically under island conditions [4]. For example in the insular bovid *Myotragus* [4], used in support of the *H. floresiensis* case [2,8], the size of sensory and motor areas and related sense organs were reduced because functional demands on these performances decreased under release from predation pressure. No such changes are seen in *H. floresiensis*. Orbit (eye) size of *H. floresiensis* is within the normal range of *H. sapiens*, and since *H. floresiensis* was a hunter–gatherer, complex cognitive abilities are assumed to have remained intact [2,9]. There is no indication of which faculties *H. floresiensis* might have lost as a result of its noticeably small brain size [2]; furthermore, there is no evidence that loss of brain size was made possible by any island condition.

Second, *H. floresiensis* shows a series of traits that severely impaired locomotion and other functions, including weak muscle development [10], abnormal humeral torsion [10], extremely thin (2 mm) cortical bone of the weight-bearing leg bones [10], a curved tibia, a lack of normal anteriorly convex femoral curvature, important cranial–postcranial left–right asymmetries [10] and dental abnormalities that hamper correct occlusion [10]. Contrary to claims [2,8], these are not typical features of natural selection on islands. They compromise survival and seem incompatible with a hunter–gatherer life style.

Lastly, although it has been argued that Flores had a long-term history of being an island, there is little relevant evidence for this. The only indication of insularity is indirect, that is the presence of neonate and juvenile *Stegodon* that were claimed (without data) to be dwarfed [9]. Because dwarf *Stegodon* younger than 840 kyrs have not previously been known, this evidence is weak [11]. Direct evidence of insularity is particularly desirable given that the controversial *H. floresiensis* skeleton LB1 is dated at 18 kyr [9], a time that coincides with the Last Glacial Maximum (isotope stages event 2.2) [12]. Given that the Last Glacial Maximum was associated with a fall in sea level of 120–140 m [13], Flores was not likely to have been completely isolated when *H. floresiensis* was present.

The Flores hominine thus fails to follow island rules, and it might not even have been sufficiently isolated. It was proposed as a species based on a single individual, and several of the traits that characterize this supposed taxon are functionally unviable. Because island rules cannot be broken, we agree with arguments based on anatomy [10]: *H. floresiensis* is unlikely to be a valid species.

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