

**REPLY TO NEHLICH AND BORIĆ'S "RESPONSE TO BONSTALL ET AL. 'FOOD FOR THOUGHT: RE-ASSESSING MESOLITHIC DIETS IN THE IRON GATES'"**Clive Bonsall<sup>1,2</sup> • Gordon Cook<sup>3</sup> • László Bartosiewicz<sup>4</sup> • Catriona Pickard<sup>1</sup>**OUR REPLY**

Nehlich and Borić (2015) regard our critique of their original study (Nehlich et al. 2010) as unfair in several respects. In the first place, they maintain that Nehlich et al. (2010) was merely a “pilot study,” and this accounts for the limited data set on which their conclusions were based. The title of the paper, however, describes it as a *case study*, which is quite different from a pilot study, and the former is the basis on which we chose to reinterpret their data.

Nehlich and Borić (2015:701) go on to suggest that despite its small size, their data set “may still be representative.” In our paper (Bonsall et al. 2015b), we provided evidence to show that their  $\delta^{15}\text{N}$  data for terrestrial mammals and fish are *not* representative for the Iron Gates. Yet in their response to our paper they have chosen to use their original data set as the basis for reconstructing Mesolithic and Neolithic diets using the FRUITS Bayesian mixing model (Fernandes et al. 2014). FRUITS is an excellent tool for dietary reconstruction, but the output is only as good as the input data. Also, for the results of FRUITS to be fully understood and interpreted by others, the prior information needs to be stated.

Nehlich and Borić (2015:701) claim that in their original study they “noted clear differences in sulfur values between periods.” While they observed low  $\delta^{34}\text{S}$  values at Early Mesolithic Padina and high values at Late Mesolithic Hajdučka Vodenica, their conclusions regarding the ages of some of the burials from Lepenski Vir and Vlasac caused them to overlook the overall temporal trend within their data and to place greater emphasis on differences between sites than between periods. It follows that their assertion that “chronological sorting of the data does not help in any way with the dietary reconstruction” (Nehlich and Borić 2015:701) is not one with which we would agree; chronology has a significant bearing on the interpretation of stable isotope data and must be reliably established for both human and food remains in any paleodietary study.

Nehlich and Borić (2015:702) suggest that lack of sieving in excavations that were the focus of their original study resulted in the remains of very young (“suckling”) animals being underrepresented in the faunal collections. Admittedly, as the bones of such animals are thinner and more porous than those of adults of the same species, they will tend to survive less well in the archaeological record. It is worth noting, however, that sieving was used in some 1960s excavations on the left bank of the Iron Gates in Romania—at Early Mesolithic Cuina Turcului, “Middle” Mesolithic Icoana, and Late Mesolithic Schela Cladovei, for example (Boroneanț and Bonsall 2013, in press)—yet (to our knowledge) suckling age animals are no better represented in those sites than they are in Mesolithic sites on the Serbian bank. It is also worth noting that the bones of infants were not infrequently recorded in human burials from the Iron Gates (Borić and Stefanović 2004; Bonsall et al. 2015a). While acknowledging that the taphonomic histories of disarticulated animal bones recovered from food refuse can be far more complex, the remains of juvenile large game are nevertheless conspicuously rare in the Iron Gates sites. To some extent, this may be explained by the fact that targeting

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a young animal in the presence of the dam is a risky enterprise yielding far less meat in return. In reality, however, the rate of undeniable taphonomic loss cannot be accurately assessed.

With regard to Vinča Belo Brdo, we did not overlook a published AMS date from this site, as claimed by Nehlich and Borić (2015:703). We commented (Bonsall et al. 2015b:695–6) that none of the individuals included in their analysis was directly dated, but referred to a date on “associated” (i.e. *from the same archaeological context*) human remains. Since there is clear archaeological evidence for fishing and shellfish gathering at Vinča but (currently) no evidence for heavy manuring of crops (from e.g.  $\delta^{15}\text{N}$  values of plant remains), it is not clear why Nehlich and Borić (2015:703) consider it “more likely” that the unusually elevated human bone collagen  $\delta^{15}\text{N}$  values of the Neolithic humans from that site resulted from crop manuring than from consumption of aquatic resources. This argument is all the more surprising when their own FRUITS model predicts a significant dietary intake of freshwater fish at Vinča (Nehlich and Borić 2015:Table 2).

For the present, therefore, we stand by our critique of the paper by Nehlich et al. (2010), but look forward to the results of our ongoing research on Mesolithic–Early Neolithic subsistence patterns in the Iron Gates, which will serve as a test of the conflicting interpretations that have emerged in the course of this instructive debate.

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