

Christian Artuso comments on *Frontiers of Identification* (2/19/2007) article by Kerr et al

1) DNA barcoding is a fairly new technique and part of the purpose of this study was to test its applicability. This means that these results are NOT final and further study is required for any splitting or lumping. The authors themselves were not proposing splits or lumps but rather pointing to the possibility of cryptic species and other complexes based on their results. They suggest that an "iterative process" of barcoding and other approaches would be best to resolve issues of species status.

2) The table showing potential lumps is fascinating but there are several possible explanation for some of the high percentages of shared genetic material here. Those discussed by the authors include:

- a) recently diverged sister taxa where sequence differences mitochondrial gene cytochrome c oxidase I do not yet show (in this case more extensive work could find those differences)
- b) shared mitochondrial DNA because of hybridization as has been documented in many of the pairs discussed here such as the waterfowl and gulls. The authors suggest several interpretations for this such as their being either incipient species or well-formed species in the process of losing their genetic identity via hybridization upon secondary contact
- c) some of these pairs may be single species after all

3) A minor point of interest is that the authors suggest that in most cases they found 2 distinct genetic clusters (provisional species) in "medium-sized, plainly coloured birds" but high genetic "overlap" in "large and/or brightly coloured" species, i.e. humans split what humans can see!