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The fate of *Bombus cullumanus*: regression and species status.

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*B. cullumanus* is known as a strongly regressing species in West-Europe. While the species once had a large distribution from S-Sweden to N-Spain, it now seems to be extinct. The last specimen was collected in 2004 in the Massif Central (France). There are two other taxa from disjunct areas that are very close relatives: *B. serrisquama*, from Spanish, Central- and East-European steppes, and *B. apollineus*, from the Caucasian mountain steppes. Despite their conspicuously different colour patterns and differences in ecology, these three taxa share a very similar morphology. Based on a study of CO1 barcodes, Williams et al. (in press) showed that these taxa appear conspecific. Most bumblebee species can also be accurately identified from the secretions of the male labial glands, which they use as species-specific recognition cues. We sampled and analysed these secretions. For *B. cullumanus*, *B. apollineus*, and *B. serrisquama*, we found that the male cephalic labial secretion are almost identical, sharing all of their components with similar relative abundances. As they do not show any difference in their species-specific recognition blend, we confirm that *B. cullumanus*, *B. apollineus* and *B. serrisquama* are best seen as conspecific. While the ssp. *cullumanus* is extinct, the ssp. *apollineus* and *serrisquama* remain more or less abundant in some parts of the original distribution area. However, the general regression of the whole species is so drastic that its long-term survival could be questioned.