

Phylogeography and synchronous diversification of the *Corvus* corvids of the world

Gamauf, A.¹, Däubel, B.¹, Kryukov, A.², Pinsker, W.¹ & Haring, E.¹

¹Museum of Natural History Vienna, Dept. Vertebrate Zoology, Burgring 7, A-1010 Vienna, Austria; elisabeth.haring@nhm-wien.ac.at

² Institute of Biology and Soil Science, Russian Academy of Sciences, Vladivostok 690022, Russia.

The genus *Corvus* with its approximately 40 species is world wide distributed, except S America. Highest diversity is found in Australasia and SE Asian islands. Ten species (25%) are coloured black and white/grey, the rest are completely black.

We investigated the phylogeny of the genus *Corvus* employing DNA sequences of the mitochondrial control region. The study was based mainly on museum material allowing the analysis of more than 30 species. Inclusion of sequences of other corvid genera as available in GenBank confirmed the monophyly of the genus *Corvus*. Within the *Corvus* clade several distinct subclades can be distinguished. Some contain only single species or species pairs (e.g., *C. monedula* + *C. dauricus*; *C. frugilegus*; *C. palmarum*) while other clades are composed of many species (e.g., the Holarctic and African clade or the SE and E Asian clade). In general, the composition of the clades reflects geographic contiguousness. The basal relationships among clades remain unresolved with this marker sequence.

It is remarkable that each clade contains black as well as white/grey coloured representatives. None of the latter are found in N America, whereas almost all African species south of the Sahara show black-white pattern. The most parsimonious explanation for the distribution of plumage colour in the phylogenetic tree is that the pale markings evolved at least five times independently. The assumption that the white/grey colour pattern - which is found also in other genera of the family Corvidae, e.g., *Pica* - is the plesiomorphic state, is less likely.