UNRAVELLING THE EVOLUTIONARY FORCES MAINTAINING THE PATTERNS OF PLUMAGE COLOUR VARIATION IN PIED FLYCATCHER (*Ficedula hypoleuca*) MALES

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The colour distribution of male pied flycatchers (*Ficedula hypoleuca*) across their breeding range provides a fascinating system for examining factors that influence the maintenance of phenotypic variation for adaptively significant traits. Dorsal plumage colour varies along a continuum ranging from light brown to completely black and appears to function in species recognition or as a secondary sexual characteristic depending on whether the dominant congeneric collared flycatcher (*Ficedula albicollis*) co-occurs in the area. When sympatric, the frequencies of brown pied flycatcher males, the most distinctively different morph, are higher than in areas of allopatry. In allopatry plumage colour is thought to be sexually selected, with the general hypothesis (albeit not unequivocally shown) being that darker males are preferred over light ones. The grand aim of this study is to delineate which evolutionary forces work to maintain the observed colour variation in pied flycatcher males across their breeding range. The part presented here quantifies the extent of neutral genetic variation between populations as measured by microsatellite loci. Population differentiation was found to be very low or moderate across the pied flycatcher breeding range. Populations from Central and southern Europe appear to be more differentiated from all other populations than do the more northern and eastern populations. The observation could either stem from differences in population sizes between the central and southern European in comparison to the northern populations or alternatively, be a result of the higher breeding site fidelity of the more southern populations. Patterns of plumage colour variation were not, however, found to vary in concert with patterns of microsatellite variation.