THE TAXONOMIC POSITION OF THE HEDGE-SPARROW CONSIDERED FROM THE KARYOLOGICAL CHARACTERISTICS

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Most taxonomists place the birds of the genus *Prunella*, having a common name of the hedge-sparrow, in the family, Prunellidae, apart from the Turdidae. Baker (1924) regarded them as a member belonging to a subgroup of the Turdidae, commonly called the thrushes. Mayr and Amadon (1951) are of opinion that the hedge-sparrows belong to a group of the bunting-like birds, while Ripley (1952) claims to agree with Baker's view, because of the fact that the hedge-sparrows have the scutellate and tibiotarsus which are characteristic of the Saxicoloïdes. Thus, there are some discrepancies regarding the systematic position of the hedge-sparrow among morphologists. The present study has been undertaken to get a critical conception from the karyological standpoint as to the confusing opinions noted above.

In a former paper the present author (Udagawa 1952) reported the chromosomes of *Prunella rubida rubida* (Prunellidae), and *Luscinia calliope calliope* (Turdidae). In order to learn the relationship occurring between these two species, which have been considered to belong to different families, a morphological comparison of the chromosomes was undertaken in this paper.

The diploid number of chromosomes of *Prunella rubida rubida* was determined as 84 in the male, while in *Luscinia calliope calliope* it was 80. In the superficial configuration the chromosomes of *Prunella* are mostly of rod-type with an exception of the largest pair, the members of which are of distinct V-shape. The diploid complement of *Luscinia* contains at least 3 pairs of distinct V-shaped elements together with the remaining 74 rod-like elements. The macro-chromosome formula is represented as aV+bR+cR+dr+er+fr for *Prunella r. rubida*, while it is aR+bV+cJ+dR+ev+fr+gr+hr for *Luscinia c. calliope*. In Figures 1 and 2, the supposed homologous pairs of chromosomes are arranged in a serial order according to size. The chromosome formula is 2V's+82r's for *Prunella*, and 6V's+74r's for *Luscinia*. If it be assumed that each of the V-shaped chromosomes may be conceived as double, consisting of two rods associated at their inner ends, the total number of the chromosomes would be 86 for both species. Thus the numerical relation of chromosomes between
these two species, *Prunella*, and *Luscinia*, may be explicable as the result of the formation of multiple chromosomes by means of the union of two rods at their inner ends. A series of analogous facts have been known in many forms of animals which are taxonomically closely related. Thus, it can be said that *Prunella* and *Luscinia* are closely related because of the karyological kinship here demonstrated.

Based on the results of the karyological observations, the author should like to accept the view in agreement with the opinion of Baker and Ripley that *Prunella* is to be regarded as a subgroup of the thrushes (Turdidae). Probably, the bunting-like food habit of *Prunella* would be the result of environmental adaptation.

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**Literature cited**