Transformation formulas for bilinear sums of basic hypergeometric series

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Abstract. A master formula of transformation formulas for bilinear sums of basic hypergeometric series is proposed. It is obtained from the author's previous results on a transformation formula for Milne's multivariate generalization of basic hypergeometric series of type *A* with different dimensions and it can be considered as a generalization of the Whipple-Sears transformation formula for terminating balanced $_4\phi_3$ series. As an application of the master formula, the one variable cases of some transformation formulas for bilinear sums of basic hypergeometric series are given as examples. The bilinear transformation formulas seem to be new in the literature, even in one variable case.