Edge-biregular maps

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A regular map is an embedding of a graph on a surface such that the automorphism group acts regularly, that is semi-regularly and transitively, on the set of flags of the map. A map with an alternate edge colouring is such that every edge is coloured with one of two colours, and the edges are arranged so that any pair of edges which are adjacent with respect to the embedding have one edge of each colour. An edge-biregular map has an assigned alternate edge colouring and is such that the colour-preserving automorphism group acts regularly on the corners of the map. This poster presents a classification of these maps for the torus and the Klein bottle as well as a classification for when the colour-preserving automorphism group is dihedral.