Involutive Yang-Baxter groups

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A finite group G is called "involutive Yang-Baxter" (or an "IYB-group") if there is some $\mathbf{Z}G$-module M which admits a bijective 1-cocycle $\chi : G \longrightarrow M$. This property can also be characterized in terms of the existence of a particular one-sided ideal contained in the augmentation ideal of the group ring $\mathbf{Z}G$. It is an open problem to characterize those finite groups which are IYB. It is known that an IYB-group has to be solvable, and there is no known example of a solvable group which isn't IYB. So it might well be that all of them are. In this talk I will outline the basic properties of IYB-groups and report on some new constructions of these groups.