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Stephen Bigelow, **Scott Morrison** and **Emily Peters*** (eep@euclid.unh.edu), Department of Math and Stats, University of New Hampshire, Durham, NH 03824, and **Noah Snyder**. *The extended Haagerup planar algebra*.

The extended Haagerup subfactor was the last unknown item on Haagerup's 1993 list of possible small-index subfactors. We construct this subfactor by constructing its associated planar algebra. This finishes the classification of subfactors with index up to $3 + \sqrt{2}$. Our construction works by identifying a planar subalgebra of the graph planar algebra of the desired principal graph. The challenge is to demonstrate that this planar subalgebra is small enough to be a subfactor planar algebra, which we accomplish by viewing some of the relations on the subalgebra as substitutes for a braiding relation. (Received September 14, 2009)