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**Margaret Beattie\*** (mbeattie@mta.ca), Department of Mathematics and Computer Sc., Mount Allison University, Sackville, NB E4L3A5, Canada, and **Daniel Bulacu**. *Braided Hopf algebras obtained from coquasitriangular Hopf algebras.*

Let  $(H, \sigma)$  be a coquasitriangular Hopf algebra over a field, not necessarily finite dimensional. Following methods of Doi and Takeuchi, which parallel the construction of Radford for finite dimensional quasitriangular Hopf algebras, we define  $H_\sigma$ , a sub-Hopf algebra of  $H^0$ , the finite dual of  $H$ . Using the generalized quantum double construction and the theory of Hopf algebras with projection, we associate to  $H$  a braided Hopf algebra structure in the category of Yetter-Drinfeld modules over  $H_\sigma^{\text{cop}}$ . Specializing to the quantum group  $H = \text{SL}_q(N)$ , we find that  $H_\sigma$  is  $U_q^{\text{ext}}(\mathfrak{sl}_N)$ , so that the duality between these quantum groups is just the evaluation map. Furthermore, we obtain explicit formulas for the braided Hopf algebra structure of  $\text{SL}_q(N)$  in the category of left Yetter-Drinfeld modules over  $U_q^{\text{ext}}(\mathfrak{sl}_N)^{\text{cop}}$ . (Received July 23, 2007)