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Jacqueline Anderson* (jacqueline.anderson@bridgew.edu), Bridgewater, MA 02325, and
Spencer Hamblen, Bjorn Poonen and **Laura Walton**. *Local Arboreal Galois Representations*.

Let $f(z) = z^\ell - c$ be a separable polynomial over a field K complete with respect to a discrete valuation v and with residue field of characteristic p , and let $a \in K$. Let $f^n(z)$ denote the n -th iterate of f . We examine the Galois groups and ramification groups obtained from the extensions of K containing all of the roots of the polynomial $f^n(z) - a$ in both tame ($p \nmid \ell$) and wild ($\ell = p$) cases, and show how these groups depend on the valuation $v(c)$. (Received September 20, 2016)