1096-37-2676 **Remus Radu*** (rradu@math.sunysb.edu), Institute for Mathematical Sciences, Stony Brook, NY 11794, and **Raluca Tanase** (rtanase@math.sunysb.edu), Institute for Mathematical Sciences, Stony Brook, NY 11794. *A structure theorem for semi-parabolic Hénon maps.*

Consider the parameter space $\mathcal{P}_\lambda \subset \mathbb{C}^2$ of complex Hénon maps

$$H_{c,a} = (x^2 + c + ay, ax), \quad a \neq 0$$

which have a semi-parabolic fixed point with one eigenvalue $\lambda = e^{2\pi i p/q}$. We give a structure theorem for those Hénon maps from the curve $\mathcal{P}_\lambda$ that are small perturbations of a quadratic polynomial p with a parabolic fixed point of multiplier λ. We prove that there is an open disk of parameters (inside $\mathcal{P}_\lambda$) for which the semi-parabolic Hénon map is structurally stable on the Julia sets J and J^+. The set J^+ in the bidisk $\mathbb{D} \times \mathbb{D}$ is a trivial fiber bundle over J_p, the Julia set of the polynomial p, with fibers biholomorphic to $\mathbb{D}$. The set J is homeomorphic to a solenoid with identifications, hence connected.

This generalizes the theorem of Hubbard and Oberste-Vorth (which characterizes Hénon maps that are perturbations of a hyperbolic polynomial) to the semi-parabolic setting. The technique of the proof is quite new and is inspired by the proof of Douady and Hubbard that the Julia set of a parabolic polynomial is locally connected. (Received September 17, 2013)