Complement

Contrary to what is said after formula (2.11) of the paper, the control of $\mathbb{P}(B_i^2, \tau = t)$ is not obtained just changing $s_i$ into $s_{i+1}$ in the derivation of the bound for $\mathbb{P}(B_i^1, \tau = t)$; as remarked by Ivan Torrecilla-Tarantino.

I have given a complete proof of the required control. It is adapted and explained in the proof of Lemma 2.1 of the paper

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by Marta Sanz-Solé and Ivan Torrecilla-Tarantino