The venerable New York Grand Opera Company recently ended decades of summer performances under the skies in Central Park, citing what its conductor, Vincent La Selva, called the increasing unpredictability of the weather.

There were a few torrential minutes on Monday afternoon when it seemed as if Gotham Chamber Opera, entering this dodgy world of outdoor performance with a production at the Brooklyn Botanic Garden, should have followed Mr. La Selva’s lead.

But the downpour quickly cleared and a few hours later the location — the garden’s Cherry Esplanade — proved ideal for an idyllic performance of Daniel Catán’s tasteful 1991 opera “La Hija de Rappaccini,” the plot of which revolves around a lush garden filled with poisonous plants.

In the work — based on Octavio Paz’s play, which was based in turn on the Nathaniel Hawthorne short story “Rappaccini’s Daughter” — Rappaccini is a Faust-like scientist
committed to experimentation and the pursuit of truth, even at the ethically questionable expense of his daughter, Beatriz.

Rappaccini has inoculated Beatriz against his garden’s poisons so that she can tend the nasty, if beautiful, plants. But the treatment has made her toxic to living things, an unfortunate side effect when it comes to her budding romance with Giovanni, a student who is understandably disturbed when flowers wither at her touch.

Even after Giovanni has secured what he believes to be an antidote, things end in classic operatic fashion: poorly, with the woman dead.

The work’s original score had a sumptuously Straussian orchestration, but Catán, who died in 2011, also created a more agile (read: cheaper) variant for two pianos, harp and percussion, which is the version Neal Goren, Gotham’s artistic director, led on Monday. (The harpist was Catán’s widow, Andrea Puente Catán.)

The reduced orchestration retains the eerie shimmer of the original, the creeping twinkle associated with the forbidden garden. The vocal lines — ripe and vaguely impassioned, somewhere between Puccini and Berg — soar out easily over just a few instruments.

The problem is that the pared-down ensemble underlines a flatness in the opera’s dramatic arc that was masked in the original by the overflowing colors of a full orchestra. With fewer distractions the work’s languorous lack of vivid characterizations — its pretty, polite refusal to get as lurid or personal as it should — becomes more noticeable.

But it was hard to dislike anything too much on a gorgeous evening. As always with Gotham, the production — directed with a sure blend of realism and stylization by Rebecca Taichman — was well prepared, though the chamber orchestration’s clarity was necessarily muddied by the outdoor amplification.

The cast was excellent, led by the tenor Daniel Montenegro as Giovanni and the soprano Elaine Alvarez as Beatriz, both with appealing quivers of emotion in their voices, and joined by the mezzo-soprano Jessica Grigg, the tenor Brian Downen and the baritone Eric Dubin.

Near the end, as if on cue, the setting sun shot the sky through with garishly pink clouds, seemingly poison dripping from the airplanes overhead. Nature echoed the story’s grandeur and hysteria, even if Catán did not.