

## Nature's Revealing Surprises

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*Everything in science depends on what we call an aperçu, a beholding of what lies at the basis of the appearances. Such beholding is infinitely fruitful. — GOETHE*



**D**URING JULY AND AUGUST you can sometimes come across wild bergamot (*Monarda fistulosa*) growing along roadsides and in old fields in our upstate New York region. The color of the flower heads (inflorescences), which consist of numerous individual flowers, varies from plant to plant. It can be paler or darker violet, and the violet can be more reddish or more bluish. Wild bergamot belongs in the mint family, and when you rub its leaves you can smell an oregano-like scent.

On a warm sunny day you find countless insects flying from flower to flower. They extend their “tongue” (proboscis) into the long flower tubes to drink nectar. One of the most impressive visitors is the hummingbird clearwing (*Hemaris thysbe*), a moth that beats its wings so quickly that you hardly see it while it zips from place to place and then hovers, often with its front legs lightly touching the petals of the flower as it drinks.

It is a joy just to stand and watch these moths, the numerous bumble bees, and the different butterflies moving in and through a patch of wild bergamots. You see that while the plants and insects are in significant ways their own creatures, they are also tightly connected with each other.

One day I was observing a patch and came across a surprise. I noticed a wild bergamot flower head that looked unusual (photo 4). At the place where one flower would usually grow within a head of flowers, a stem had emerged that resulted in a whole new flower head. Where a single flower “should be,” a whole head of flowers had grown. The head had fewer flowers than typical flower heads, but the grouping of small leaves at the base of the head (bracts) were of normal size.

It is common to consider such anomalies as “malformations,” “quirks,” or “abnormalities.” In such a view, they are deviations from the norm, expressing some mistake in the developmental process. But that is not what this anomaly said to



me. For me it was a revelation of the remarkable potential of the plant. But to see such revelations, you have to be open to them.

Such openness develops when through much observing you begin to get a sense of the plant as an organism that lives in transformation. We can see this in the ongoing development of new parts as old ones die away, the changes in leaf form along the stem, and the radical metamorphosis into a flower whose leaves (petals, stamens, and carpals) are very different from the

foliage leaves. Moreover, you observe again and again how the plant as a whole and in its parts varies when it grows in different environmental conditions. All this leads you to see the plant as a dynamic, flexible organism. As a result, you become open to further expressions of its transformative capacity.

And then such an anomaly appears as the one pictured here. Whereas normally the formation of a specific organ (the flower in this case) is connected with a specific place and time in the developmental process, the plant has the flexibility—the hidden potential—to do something quite different and instead develop a whole shoot with many flowers. A deeper wellspring of potency has broken through. It's as if the plant were saying through the anomaly: "Do you see all that I'm capable of?"

In witnessing such an anomaly I wake up from taking the plant for granted in a dreamy, everyday way. It is so easy to fall into the habit of not really perceiving and thinking. The unexpected flower head lets me see—in a momentary "aha"—the agency of the plant that my habitually looking eye normally overlooks. I get a glimpse of and am touched by the plant's creative potency. Thank you, anomaly.