

Blues in the Night

Could they have known the details, the ancient Greeks would have appreciated the life cycle of the blue-spotted salamander. For eleven and a half months of the year, the blue-spot is a dweller in the nether regions of the earth. It lurks in dank, sunless holes, two to four feet beneath the surface of the woodland floor, feeding on sow bugs, worms, and other subterranean creatures. Once a year, generally on the darkest, wettest nights of late March or early April, it emerges from the underworld to migrate through the rainy woods to temporary ponds, where it courts, mates, and lays its eggs. Then, its mission in the upper world complete, it crawls determinedly back through the forest to its hole for the remainder of the year.

The obscure night migration of the blue-spot has all the mythic elements the Greeks so loved, and even in our hedonistic and decidedly profane era, their dark existence holds a certain fascination. It is unfortunate that, like so many meaningful natural events in our time, this little drama may be threatened by current industrial processes.

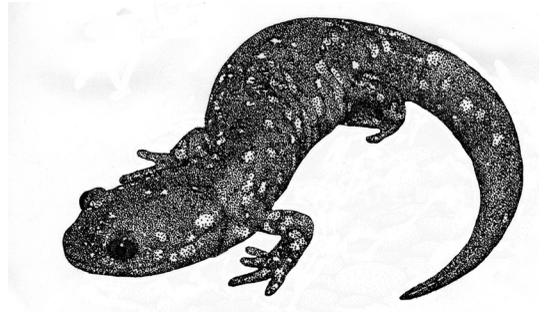
There was a temporary pond not far from a house I once lived in, a shallow, rounded pool hidden below the ridge of a small hill at the end of a dirt road. Each spring, on the first rainy nights of April, the black waters of that pond would be alive with the thrashing bodies of male blue-spotted salamanders desperately attempting to attract the attention of the females. Students who visited the pond during the late 1960s counted more than 50 individuals on one night; it was clearly an important breeding pool and probably had been ever since the glacier withdrew from the Northeast some 12,000 years ago.

During the early 1970s, a biology professor from a nearby university noticed a decline in the population of the species in that particular pond, and during subsequent years the numbers dwindled even more, so that by 1976 only one lone male remained in the pond. In 1978 he too disappeared.

As it turned out, herpetologists throughout the Northeast had noticed similar

drops in salamander populations in the region, and by 1977 it was determined from several separate studies that, in effect, events taking place in the Midwest were killing off the salamanders of New England. Acid precipitation caused by stack emissions in the industrial triangle created by the cities of Chicago, Detroit, and Pittsburg were creating a chemical imbalance in the waters of the ponds where the salamanders breed and thereby killing the embryos. Blue-spotted salamanders are now considered rare in many Northeastern states.

It may seem of little import to the world at large that unless some substantial changes are made in the political sphere in the next few years the blue-spotted may disappear from the woodlands of the Northeast, and possibly from the world. Salamanders, after all, appear to have very little to do with the general course of things: human affairs continue, wars and rumors of wars flare and settle, and it may seem that the decline of the blue-spotted salamanders is not the worst thing that could happen to New England or the world.



But, as is often the case in such situations, there is a greater message in the plight of this obscure amphibian. For one thing, salamanders, like birds, are indicator species. When they begin to disappear for no clear reason it is a sign that some broader ecological upset is at work in the community. For another, it has been calculated that the biomass of salamanders in a given tract of woodland in the Northeast probably exceeds that of birds. The blue-spot, in other words, is not such an insignificant creature. In fact, viewed from the long perspective of geologic time, the blue-spot must rate as one of the more successful inventions of evolution.

The ancestral form of the blue-spotted salamander developed sometime during the Carboniferous period, some 350 million years ago. In its time on this earth, it has survived the upwelling of continents, periods of intense volcanic

activity, innumerable glacial advances and retreats, a 12-million-year drought, whatever it was that killed the dinosaurs, and any number of similarly cataclysmic events. It is certainly a testimony to the insidious effects of that relative latecomer, *Homo sapiens*, that the blue-spot may not survive the rain that once gave it life.

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