

An Update on *Celithemis elisa* Emergence in New York State

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Sue and John Gregoire, Kestrel Haven Migration Observatory, Burdett, NY 14818-9626.

Last year we presented the results of our 2nd annual count of emerging *Celithemis elisa* from our 35X40 meter study pond here in the Finger Lakes Highlands of New York State (*Argia* 19 (1): 10). For those of you who missed it or more likely have forgotten, the totals from our once-daily count over the entire emergence period were a respectable 2,455 in 2005 and an astounding 10,944 in 2006. Predictably we were in place and ready when they began emerging in 2007.

Right on target they began to emerge on 1 June. As in 2005 and 2006 the first few days were the most productive. Only 32 on the 1st, 475 on the 2nd, then...ignition! 1,328 on the 3rd, 2,355 on the 4th and 655 on the 5th. After those very busy days emergence slowed, following the pattern set the two previous years. This time they topped out at 6,497. Again, although we counted only those we saw as we did our once-a-day survey, emergence continued all day long, adding more to the total.

It would seem nothing stops this colorful species. We saw them emerge in pouring rain, strong winds, near freezing temperatures, desiccating drought and in the face of snapping bird beaks. Later some will fly, mate and oviposit during light rain or cloudy weather, cool or hot. Their presence is constant over a lengthy flight period, the longest so far here being from 13 June to 1 September.

Weather was once again extreme this year but seemed to play a small role in activity. While 2005 was very hot and dry and 2006 was very cool and wet, we hoped for something "normal" in 2007. We were disappointed by an early and persistent drought that resulted in a 1-meter stretch of barren bank between the water and surrounding vegetation before emergence even began. Crossing that "desert" profoundly increased the vulnerability of exposed larvae but, surprisingly, no birds caught on.

The 2007 total was lower than the year before, but so were numbers of all other species as well. Temporary ponds dried early, wiping out many dependent on that habitat while permanent ponds were pretty quiet, with thin populations. We suspect the low numbers overall were the result of good flight weather the year before.

As with any study, variables add to the mix of events to consider so it will be many more years before we feel we have much more to say about this species. Meanwhile we will continue to watch and enjoy them, and will keep you posted.