

The authors have since learned from Robert Dana (pers. comm.) that he also observed females of *L. argyrognomon nabokovi* ovipositing on *V. caespitosum* in St. Louis County, Minnesota. His observations occurred on 5 July 1976 when several females were ovipositing on dwarf bilberry, or on debris immediately beneath; a few additional ova were found by searching the foodplant. Dana also noted that males seemed to concentrate their 'patrolling' over patches or mats of dwarf bilberry.

The northern blue, *L. argyrognomon scudderi* (Edwards) has been reported from Ontario, Canada (1979, Toronto Entomol. Assoc. Occ. Pub. 11:48), with a flight period and habitat similar to that of *nabokovi*. Dr. Nick Escott (1979, *ibid.*) reported *scudderi* also ovipositing on *V. caespitosum* on 17 July 1977 in northern Ontario. Is it possible that the Ontario population may be synonymous with *nabokovi*? Until a long series of each population can be thoroughly examined, we cannot be certain that the two subspecies are actually the same.

#### ACKNOWLEDGMENTS

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#### OUTBREAK OF *ASTEROCAMPA CLYTON* (NYMPHALIDAE) IN LOUISIANA

In the area adjacent to and including East Baton Rouge Parish, Louisiana, the tawny emperor butterfly, *Asterocampa clyton* (Boisduval & Le Conte), has at least 3 broods a year, occurring in early June, mid-July to early August and early September. Adult specimens have been taken from April through November. This species is usually extremely local but can be common in colonies in bottomland forests. In mid-July 1980, an unexpected population outbreak occurred in an area observed to extend as far north as Hamburg in Avoyelles Parish and as far west as Port Barre in St. Landry Parish. Tens to hundreds of butterflies (females were more conspicuous) could be seen daily within the city limits of Baton Rouge, where none or few had been previously recorded. Large numbers were observed flying across highways and many were killed by automobiles. The species was noticed in West Feliciana, West Baton Rouge, Avoyelles, Point Coupee, St. Landry and Iberville Parishes surrounding Baton Rouge. It was found to be especially common in areas where its food plant, hackberry (*Celtis laeviga* Willd.) occurred.

Two 10-minute counts were taken on 14 July 1980. The first count was made around a Mexican ash, *Fraxinus berlandieriana* A. DC. at 1700 hrs. CST; 105 female and 64 male *A. clyton* were counted feeding on sap, which was exuding from wounds caused by borers. This count included 3 mating pairs of *A. clyton*. Four *A. celtis* (Boisduval & Le Conte) and 1 *Polygonia interrogationis* (F.) individuals were also present. The second count at 1900 hrs. CST under and on a fig tree, *Ficus carica* L., and particularly on fallen fruit, revealed 101 female and 60 male *A. clyton* individuals including 4 pairs in copula. One *Papilio troilus* L., 2 individuals of *Euptychia hermes sosybia* (F.), 2 of *P. interrogationis* and 2 of *Limenitis arthemis astyanax* (F.) were also attracted to the fermenting fruit. In both counts many other individuals of *A. clyton* were flying in the near vicinity.

Egg masses were first noticed on 20 July. The number of eggs in 13 masses ranged from 27–135 with a mean of 59. An egg parasite, *Telenomus* sp. (Scelionidae), probably *T. rileyi* Howard, was identified from several of the eggs. The vespid wasp, *Polistes exclamans* (Vier.), and the spined soldier bug, *Podisus maculiventris* (Say), were observed preying on larvae on 12 August. The first adults emerged in late August and emergence continued into mid-September. They created a second outbreak which was not as large as in mid-July. One worn female was captured as late as 22 October.

A possible clue as to what upset the normal equilibrium of controlling factors for this species can be found in the climatic conditions in the Baton Rouge area in June, July and August 1980. Excessively high temperatures in June with an average daily temperature of 82°F, (1.7°F above normal), July 83.7°F, (1.7°F above normal) and August 82.2°F, (0.6°F above normal) were experienced. The areas surrounding Baton Rouge endured severe drought beginning in late May and lasting through August. Total precipitation in Baton Rouge, however, was above normal in June and July, due to heavy rains on 19–20 of June and 18 and 21 of July. These conditions have not been duplicated in Baton Rouge climatological history (recorded since 1890). Only 1921 parallels 1980 in high average temperatures for June and July and precipitation in the summer months. Average temperatures in 1921 were even higher than those in 1980, 83.1°F in July and 86°F in August. There is no recorded outbreak of *A. clyton* in 1921, which may be due to the extremely high temperatures or failure to report the phenomenon. It appears that very high temperatures in connection with rainfall in June 1980 created conditions which directly or indirectly fostered the population explosion in mid-July 1980. The continued above-normal high temperatures through August and the increased egg crop from the mid-July outbreak account for the second smaller population peak in late August to mid-September.

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