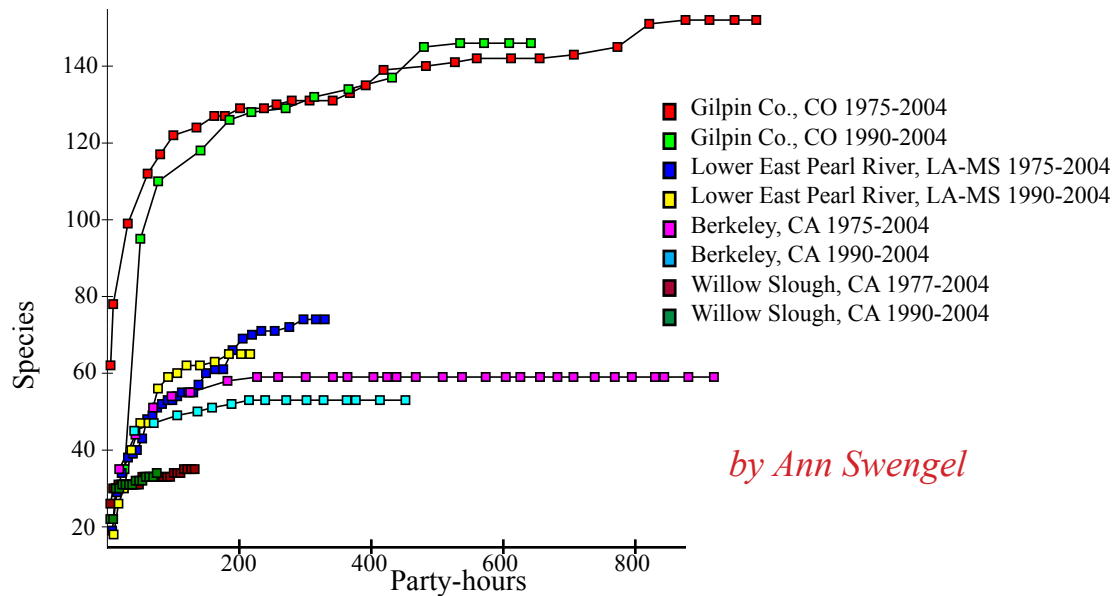


# NABA Butterfly Count Column



by Ann Swengel

## SPECIES ACCUMULATION CURVES

Many factors affect how many species occur on a count. Some dates have more species in flight than others; the more time spent in the field, and the more sites and habitats visited, and the better the weather, the more species found. Circles nearer the tropics also have more species than arctic ones. After a circle has been counted once, then in subsequent years, “new” species will be found that haven’t been recorded in previous years, even if similar dates and the same sites are counted each year. We counters don’t find every species present at a site on one date. Also, as habitats change over time, some species may colonize the circle. The “accumulation” of new butterflies onto the species list slows down the more years the count has already been held. Thus, the “species accumulation curve” (see graph above) rises steeply at first, but eventually becomes a flat line. This graph shows how species got added to the list for four counts, by party-hours. (Party-hours equal the sum of hours spent by each party, or group of counters, in the field.) To measure the total effort expended to reach that number of species, each year’s party-hours are added on to the total from previous years. All these counts were held each year through 2004 since 1975, except for Willow Slough, which started in 1977. Gilpin County is the count north of Mexico holding the record for the most species

on a single count (111 in 1998). So it’s no surprise it’s at the top of the chart. But what about species no longer found on a count? Once on the list, always on the list...so to test for decline in species on these long-term counts, the accumulation is re-started in 1990. For three counts, the line re-started in 1990 is keeping pace with the original line. But the re-started line for Berkeley is stubbornly lagging behind at 53 species, compared to the 59 species on the original line. This suggests that species richness has declined in this circle. A net species loss may have occurred in the other circles too -- just not, apparently, from 1975 to 2004. The next column looks at how the count program can address that issue of longer-term species loss.

**TO ORDER THE COUNT REPORT**  
 Price for the 2004 report (in stock) is \$10 (NABA members) or \$15 (non-members).  
 Price for the 2005 report (shipped in May, 2006) is \$6 (NABA members) or \$10 (non-members) until April 1, 2006. Send your check or money order payable to NABA (in U.S. dollars) to: NABA Butterfly Count, 4 Delaware Road, Morristown, NJ 07960 USA. For more information, visit [www.naba.org](http://www.naba.org).

# Cafe con Leche in a Mexican Forest: a Rare Hairstreak Makes a Guest Appearance in Mexico

by Jeffrey Glassberg and Robert K. Robbins



Jeffrey Glassberg

On July 24, 2005, Glassberg was butterflying between Palenque and Bonampak, just east of Chancala, in the southernmost Mexican state of Chiapas. A hairstreak flew down from the trees and perched on a leaf about 3 feet above the ground. At a distance of about 12 feet, two photographs were taken before the hairstreak flew off.

Because of its very distinctive pattern, which can be confused with no other Central American hairstreak, the butterfly was thought to be a cafe-au-lait hairstreak (*Thereus lausus*), even though this species has not been previously reported from Mexico. Subsequent examination of the photographs confirmed this to be a female cafe-au-lait hairstreak. A female collected by William Schaus in Guatemala more than a century ago (now in the collection of the Smithsonian Institution and shown below) has the same color and markings, but is markedly faded. Other species

noted at this site included orange kite-swallowtail (*Eurytides thyastes*), black-barred cross-streak (*Panhiades phaleros*) shining grayler (*Menander menander*), white-patched heliconian (*Heliconius sapho*), white-edged red-ring (*Pyrrhogyra otolais*), beautiful beamer (*Phocides belus*) and great bent-skipper (*Ebrietas osyris*)

*Thereus lausus* was discovered more than 125 years ago and occurs widely in lowland forest from southern Brazil to Belize (recent report) and now Mexico (this report). However, little is known about its biology, probably because this species is exceedingly rare. The caterpillars of close relatives in the genus *Thereus* eat mistletoes (plant family Loranthaceae), and males occupy mating territories along forest and shrub edges in the early morning before about 9:00 am. It is likely that cafe-au-lait hairstreaks share these biological traits. The English name refers to the underside pattern, with swirling white on a dark brown ground color.



Robert K. Robbins (2)