INTERGENERIC HYBRIDISATION BETWEEN *PREPONA* AND *AGRIAS* (LEPIDOPTERA: NYMPHALIDAE, CHARAXINAE)

Eurides Furtado
Caixa Postal 97, 78400-000 Diamantino, Mato Grosso, BRAZIL

Abstract – A hybrid was obtained, crossing by hand-pairing, the male of *Prepona omphale rhenea* Fruhstorfer = *Prepona rothschildi cuyabensis* Le Moult with the female of *Agrias claudina godmani* Fruhstorfer. The larvae were fed on *Hirtella gracilipes* (Hook. f.) (Chrysobalanaceae), the natural host plant for the female.

RESUMO.– Obteve-se um híbrido intergenérico, cruzando-se pelo método *hand-pairing*, o macho de *Prepona omphale rhenea* Fruhstorfer = *Prepona rothschildi cuyabensis* Le Moult com a fêmea de *Agrias claudina godmani* Fruhstorfer. As larvas foram alimentadas com *Hirtella gracilipes* (Hook. f.) (Chrysobalanaceae), a planta hospedeira natural da fêmea.

Key words: Brazil, Chrysobalanaceae, genetics, hand-pairing, hostplants, hybridization, Mato Grosso, Neotropical, South America.

Natural hybrids are rare, even among very common species. The only known hybrid from natural intergeneric crossing, between *Prepona* and *Agrias*, was collected at Huallaga River, Huanuco, Peru, and is entrusted to the Mays Collection, Malibu, California, USA. It is a beautiful male sample (Fig. 3), presenting the common characteristics of both genus: the dorsal surface coloration resemble *Agrias claudina lugens* Staudinger, the ventral surface has his color and drawings mixed, showing characteristics of the last species, and quite probably similar to *Prepona praeneste* Hewitson (Mays, pers. comm.; Barselou, 1983).

By rearing in the laboratory two of the more common species of *Agrias* and several of *Prepona*, observing their habits and the similarities between their immature stages, I was convinced that they are congeneric (Furtado, 1984). Later, this conviction was reinforced by a fortuitous collection of one adult larva of *Prepona pheridamas* (Cramer) feeding on *Hirtella gracilipes* (Hook. f.) (Chrysobalanaceae), the same natural host plant used in Mato Grosso by *Agrias claudina godmani* Fruhstorfer (Furtado, pers. obs.; Casagrande and Mielke, 1997). Coincidence of hostplant proved the possibility of obtaining a hybrid.

In this research, accomplished during the period October-Desember 1994, a female of *Agrias claudina godmani* Fruhstorfer (Fig. 1) was crossed with *Prepona omphale rhenea* Fruhstorfer, the priority name for *Prepona rothschildi cuyabensis* Le Moult (Fig. 2). The studied material comes from high Arinos River, Diamantino, Mato Grosso, Brazil.

MATERIAL AND METHODS

Females were bred in captivity, in a nursery made from plastic netting built with boughs of the hostplant, *Hirtella gracilipes*. The male *Prepona* specimens were captured in the wild.

With several virgin females of *Agrias claudina godmani* available, I initially tried (but was not successful) to collect males of *Prepona pheridamas* in the wild. In those collecting trips I got several males of *Prepona dexamenes* Hopffer, *Prepona eugenes* Bates and *Prepona omphale rhenea*, and all of them were easily hand-paired with *A. claudina godmani*.

RESULTS

The female *Agrias claudina godmani* that crossed with *Prepona eugenes* was destroyed by ants before having laid eggs. The laying of the female crossed with *P. dexamenes* was fertile, but all its larvae died during the second instar, which probably was caused by incompatibility with the host plant. The crossing with *P. omphale rhenea,* resulted in normal larvae, that fed on *H. gracilipes*, completed the life cycle in 68 days, a short time, if compared with the one of *P. omphale octavia* Fruhstorfer at 97 days (Muyshondt, 1973) and the one of *A. claudina claudianus* Staudinger at 93 days (Casagrande and Mielke, 1985).

***Agrias claudina godmani* female**
X
***Prepona omphale rhenea* male**

The larva of the fifth instar (Fig. 4) resembles *Prepona*, especially due the ochreous color and the latero-dorsal bluish-gray spots. The oblique bands are stronger than these as of the larvae of *Agrias*. The other characteristics are similar to that of the parental species, whose larvae are very similar, except for the ventral coloration, which is dark brown in *A. claudina* and ochreous in *P. omphale*.

All of the hybrids obtained (Fig. 5-8) were males and smaller than their parents, with wing length: 60-68mm. The morphology of the wings resembles that of *Prepona*. The wings coloration and patterns are mixed. The characteristic red color found in the female, is becomes lighter or turns orange in some offspring specimens. In the dorsal surface of the forewing, reddish color is predominant, as in *A. claudina*, with a small portion of the blue band of *Prepona*, in the inner margin. The blue discal area with the submarginal small ocelli remind of the characteristics of the male, but in some specimens, reddish spots characteristic of females appear in this part of the wing. The coloration and patterns of the ventral surface is intermediate (Fig. 8).

ACKNOWLEDGMENTS

To Dr. Olaf H. H. Mielke, of the Department of Zoology of Universidade Federal do Paraná, and to Prof. Gert Hatschbach, of Museu Botânico Municipal, both from Curitiba, Paraná, Brazil, for the identification of the hostplant; to Phillip Mays, from Malibu, California, USA, for the informations and pictures of specimens from his collection; to Dr. Everardo José Grossi and Mrs. Regina Rajs, both from Nova Friburgo, Brazil, for the translation and the revision of the manuscript into English language.

REFERENCES CITED

Barcelou, P. E.
1983. The genus *Agrias*. Compiègne: Sciecnes Nat. 96pp. 15 pls.
Casagrande, M. M. & O. H. H. Mielke
1985. Estágios imaturos de *Agrias claudina claudianus* Staudinger (Lepidoptera, Nymphalidae, Charaxinae). *Revta. Bras. Ent*. (São Paulo), 29:139-142.
1997. Plantas hospedeiras das espécies de *Agrias* Doubleday. (Lepidoptera, Nymphalidae, Charaxinae). *Revta. Bras. Zool*. (Curitiba), 14: 771-772.
Furtado, E.
1984. Contribuição ao conhecimento dos Lepidoptera brasileiros. I. Biologia de *Agrias amydon ferdinandi* Fruhstorfer (Nymphalidae, Charaxinae). *Revta. Bras. Ent*. (São Paulo), 28:289-294.
Muyshondt, A.
1973. Notes on the cycle and natural history of butterflies of El Salvador. I. *Prepona omphale octavia* (Nymphalidae). *J. Lepid. Soc.* (Los Angeles), 27:210-219.

FIGURES

Fig. 1. *Agrias claudina godmani*, female, dorsal and ventral views. Fig. 2. *Prepona omphale rhenea*, male, dorsal and ventral views. Fig. 3. Natural hybrid between *Prepona* and *Agrias*, dorsal and ventral views. Fig. 4-8. Hybrids between *Agrias claudina godmani* female and *Prepona omphale rhenea* male: 4) larva of fifth instar, latero-dorsal view; 5-8) adults males (5-7 dorsal views); 8) ventral view.