

ERYTHRODIPLAX VENUSTA (KIRBY), AN AMAZONIAN SPECIES INTRODUCED INTO MINAS GERAIS, SE BRAZIL (ANISOPTERA: LIBELLULIDAE)

As referred by D.J. BORROR (1942, *A revision of the libelluline genus Erythrodiplax [Odonata]*, Ohio St. Univ., Columbus; — see also D.R. PAULSON, *List of the Odonata of South America, by country*; updated Oct. 2000, <http://www.ups.edu/biology/museum/ODofSA.html>), the distribution of *E. venusta* encompasses the Amazonian parts of Venezuela, Surinam, Guiana, Bolivia, Peru and northern to western Brazil. Borrور recorded Brazilian material from the states of Amapá (Macapá), Amazonas (Manaus, Santa Isabel), and Maranhão (São Luis); the southernmost tip of its distribution map reaching Mato Grosso (near Cuiabá). Examining ca 4000 *Erythrodiplax* specimens in the A.B.M. Machado collection (ABMM), we found 45 *E. venusta* specimens, which confirm the presence of the species in the state of Amazonas (Taracá, Tabatinga) and are extending Borrор's distribution map to the Brazilian states of Roraima (Boa Vista), Rondonia (Porto Velho) and Pará (Belém, Tucuruí, Jacareacanga). The examination of this material from all Brazilian states showed *E. venusta* to be restricted to the Amazonian region, thus not belonging to the fauna of Minas Gerais, a state that has been intensively

collected, mainly by A.B.M. Machado and N.D. Santos, for about 50 years. It was surprising therefore, that on February 26 and April 9, 1994, 5 ♂ *E. venusta* were collected at the Sumidouro lake (municipalities of Pedro Leopoldo & Lagoa Santa, Minas Gerais, southeast Brazil, 19°32'05"S; 43°56'28"W), a locality situated as far as 1300 km from the hitherto known southernmost range of this species, in Mato Grosso. One of the collected specimens was in general condition. Between April 9 and May 5, 1994, we searched for *E. venusta* at 10 other natural lakes in the Lagoa Santa region, but without success. Unsuccessful attempts were again made at the Sumidouro lake and its surroundings on April 13 and 18, May 15, September 21 and December 8, 2000, at a time when *E. venusta* is on the wing at the Amazon region. On January 8, 2001 however, a single specimen was found there again.

With a surface of ca 5 ha, the Sumidouro lake is situated on the Lagoa Santa Karst highlands, dominated by open farmland and the remnants of cerrado (Brazilian savanna) and deciduous forests. The water level varies considerably during the year, but at the time *E. venusta* was collected the lake was full and the shore pastures flooded. The local dragonfly community included: *Aphylla theodorina*, *Brachymesia furcata*, *B. herbida*, *Cacoides latro*, *Coryphaesha perrensi*, *Erythemis vesiculosa*, *E. plebeja*, *Erythrodiplax fusca*, *E. juliana*, *E. media*,

E. paraguayensis, *E. umbrata*, *E. venusta*, *Homeura nepos*, *Idiataphe amazonica*, *Ischnura fluviatilis*, *Macrothemis lutea*, *Miathyria marcella*, *Miathyria hesperis*, *Neoneura sylvatica*, *Oligoclada abbreviata limnophila*, *Orthemis discolor*, *Pantala flavescens*, *Perithemis mooma*, *Tramea abdominalis*, and *T. cophysa*. With the exception of *E. venusta*, these species are common in the lentic systems of the karst region and most of them were present at the lake when visited by one of us (ABMM) in March 1975. At that time, no *E. venusta* was sighted. These circumstances indicate that this species has been introduced into the area not too long ago, and the question raised as to how it was transported there.

The possibility that *E. venusta* was brought to the Lagoa Santa region by some atmospheric phenomenon, involving wind transportation, cannot be ruled out. Such phenomena were shown to be responsible for many long-distance dragonfly displacements in different parts of the world (CORBET, 1999, *Dragonflies: behaviour and ecology of Odonata*, Harley Books, Colchester). However, in 1984 a modern airport was built in the area (Confins International Airport, ca 20 km from the Sumidouro lake) and started receiving regular cargo from the northern cities, like Manaus and Belém, where *E. venusta* occurs. Therefore it is probable that the species may have been incidentally introduced into the area by aircraft. The Confins Airport frequently receives ornamental and game fish from the Amazon region, bringing the possibility of eventual introduction of dragonfly eggs or larvae into the Lagoa Santa karst system. The fact that five *venusta* specimens have been found at the Sumidouro Lake, one of which in teneral condition, makes it unlikely that they have been brought as imagoes. Indeed, mainly in Europe, there are several examples of dragonflies having been incidentally introduced from regions remote from their original range, carried along with aquatic plants used for aquarium decoration (M.A. LIEFTINCK, 1978, *Ent. Ber., Amst.* 38: 145-150; – D. AGASSIZ, 1981, *Entomologist's Gaz.* 32: 21-26; – P. VALTONEN, 1985, *Notul. odonatol.* 2: 82-88; – D.A.L. DAVIES, 1985, *ibidem* 2: 99; – M. WASSCHER & E. GOUTBEEK, 1997, *Brachytron* 2[1]: 16-17). In the present case, it is interesting that despite the lake's reasonably rich Odonata assemblage, among which 6 *Erythrodiplax*

species, *E. venusta* was apparently able to get established itself there, as its appearance some 6 years after the first detection, may suggest. The possibility that a reintroduction occurred recently, cannot be excluded either.

For help in the field and in the laboratory, thanks are due to the biologists LUIZ A. ROCHA and DANIELA C. REZENDE.

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