

STUDIES ON NEOTROPICAL PROTONEURIDAE. 9. *PHASMONEURA CIGANAE* SANTOS, CONSPECIFIC WITH *PHASMONEURA SANCTA* (HAGEN) COMB. N. (ZYGOPTERA)

When E.B. WILLIAMSON (1915a, *Proc. U.S. natn. Mus.* 48: 601-638; 1915b, *Ent. News* 27(1): 30-33) split the Selysian subgenus *Protoneura* into five genera, the correct identification of the 10 species referred by E. SELYS LONGCHAMPS (1886, *Mem. Cour. Acad. Belg.* 38: III+233 pp.) to this subgenus, became a challenge to the odonatologists. Thanks to the works of E.B. WILLIAMSON (1915a, loc.cit.); J. COWLEY & L.K. GLOYD (1938, *Occ. Pap. Mus. Zool. Univ. Mich.* 378: 1-18); M.J. WESTFALL (1964, *Quart. J. Fla. Acad. Sci.* 17(2): 111-119); and A.B.M. MACHADO (1984, *Odonatologica* 13(4): 585-589; 1985, *ibidem* 14(3): 211-217; 1985, *ibidem* 14(4): 363-368), most of these species can now be identified with certainty. However, the identity of *Protoneura sancta* Hagen in Selys, placed by E.B. WILLIAMSON (1915a, loc.cit.) in his genus *Psaironeura*, remained problematic since its original diagnosis is very laconic and lacks illustrations. The species has been described based on a single female from "Lagoa Santa (Venezuela), par Lund" — an obvious mistake, later corrected by SELYS (1886, loc.cit.) to "Lagoa Santa (Brésil) par Lund". Indeed this is one of the few examples of a dragonfly collected by the famous Danish paleontologist Peter Wilhelm Lund who, in the middle of the last century, lived in Lagoa Santa, a village situated about 50 km N of Belo Horizonte, Minas Gerais. The vegetation around Lagoa Santa by the time Lund lived there was studied in detail by the Danish botanist Eugenio Warming. It consisted mainly of cerrado (a sort of savanna) and small forested areas in valleys and along the rivers. Although the cerrado still exists, the forest has been almost completely destroyed. In order to try obtaining topotypes of *P. sancta*, for several years we have looked for protoneurids, mainly along the rivers and streams of this region, finding only *Peristicta aeneoviridis* and three species of *Neoneura*. Finally, within a small forest remnant at Fazenda Jaguara, not far from Lagoa Santa, we found a population of *Phasmoneura ciganae* Santos, in a shady rivulet with marshy banks. This finding and a good agreement of *P. ciganae* females with the laconic de-

scription of *P. sancta* led me to conclude that they were most probably conspecific. It was then that, at Ibirité, about 80 km from Lagoa Santa, I found a new species of *Phasmoneura*, coexisting with *P. ciganae* in the same forest. Thus, the possibility that the new species could actually be *P. sancta* could not be ruled out. However, thanks to the help of Dr Rosser Garrison (Azusa, CA, USA) I had access to drawings of pertinent characters made by him of the holotype of *P. sancta*, deposited in Hagen's collection at the Museum of Comparative Zoology of Harvard University. The presence of CUP prolonged beyond the crossvein descending from the subnodus shows that the species does not belong in *Psaironeura* where it has been placed by E.B. WILLIAMSON (1915a, loc.cit). This venetional character could indicate that *P. sancta* belongs to *Epipleoneura*. However, the species of this genus never show the lateral prothoracic tubercle, as present in the holotype of *P. sancta* and in most species of *Phasmoneura*, including *P. ciganae*. On the other hand, a prolonged CUP has been described by SANTOS (1968, *Atas Soc. Biol. Rio de J.* 11: 221-226) in 100% of the females *P. ciganae*. Indeed the drawings kindly sent me by Dr Rosser Garrison showed that *P. ciganae* and not the new species from Ibirité is *P. sancta*. This is consistent with the fact that, in spite of intense search, only *P. ciganae* was found in the type locality of *sancta*, i.e. the region of Lagoa Santa.

Taking all that under consideration, I am now transferring *Psaironeura sancta* (Hagen in Selys) to the genus *Phasmoneura* and making *Phasmoneura ciganae* Santos a synonym of it.

Both sexes of *P. sancta* have been well described and illustrated by SANTOS (1968, loc.cit) from a large number of specimens. The species is reported by SANTOS (1968, loc.cit.) from forests in the states of Rio de Janeiro, Minas Gerais and Paraná. Material in my collection extends this range to the forests in Joinville, Santa Catarina. Thus, *P. sancta* seems to be endemic to the Atlantic Forest. In view of this distribution and the identification difficulties, the record of *P. sancta* from French Guiana, as reported by P. MACHET (1989, *Opusc. zool. flumin.* 40: 1-16), is most probably due to misidentification. SELYS (1886, loc.cit.) reported a specimen of *P. sancta* from "Pebas, Teffé (Amazone)". I have examined this

specimen and compared it with a female *Epipleoneura peruviansis* (Fraser, 1946), collected in tandem with a male identified by comparison with Fraser's type in the British Museum. There is no doubt that the specimen in Selys's collection is *E. peruviansis*.

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