

# **“Five undescribed species in ten days time”**

## **An interview with Dr. Rosser W. Garrison**

N. van Wouwen

On 9 July 2011, a WDA symposium was held in Leiden, the Netherlands, in lieu of the larger WDA symposium which had been planned for 2011 in Japan and which had been postponed because of the earthquake damage there. Brachytron grabbed the occasion and managed to secure an interview with Dr. Rosser W. Garrison, who with his wife Dr. Natalia von Ellenrieder are considered the authorities on the Odonata of Central and South America.

### **You and your wife are currently working in NCB Naturalis. What are you doing there?**

Well, we were invited by Dr. K.D. Dijkstra on the basis of funding from the Schure-Beijerinck-Popping Foundation to come and help identify the dragonflies collected by the late Dr. D.C. Geijskes and Dr. J. Belle in Surinam. During the past fortnight, we looked at some 20,000 specimens. NCB Naturalis owns one of the largest Odonata collections in the world, at least as large as the ones at the University of Michigan and perhaps larger than that of the British Museum. The collection is properly databased, there are references for all specimens in envelopes and on pins. The collection is very good where Neotropical species are concerned. Of course, the Liefinck collection of New Guinea dragonflies is also here. But the Dutch have been very good at collecting species wherever they went.

Now what we do is we compare the specimens with what we have in our books on neotropical dragonflies and damselflies (GARRISON, R.W., VON ELLENRIEDER, N. & J.A. LOUTON. 2006, 2010) in order to identify them. Not all could be identified, and we will have to compare those unidentified ones with specimens in our own collections.

### **So how does that tie in with your own work?**

I am working on a revision of the damselfly genus *Argia*. There is a huge diversity in *Argia*; it is the largest genus of New World Odonata. Although there are not many *Argia* species in Surinam, we have already found four or five new species. We are identifying them for NCB Naturalis. For us, it gives us access to material we didn't have before. And I must say Marcel (Wasscher) and Johan (van 't Bosch) are doing a really great job here identifying neotropical Odonata. Also they intend to publish which is great. Very little has been published so far on South American Odonata, it is one of the most poorly known regions where dragonflies are concerned. And there are some real problems on that score that need resolving. Current wildlife laws make it more difficult for people wanting to study Odonata in the field, and to collect and export material for study. We can fall back on the Williamson collection at the University of Michigan, but that will take years.

### **What else does your work include?**

Natalia and I are working on all dragonfly species from Mexico to Tierra del Fuego, we aim to create a system by which students (that is, anyone wanting to study dragonflies) can identify species reliably, at least to the generic level. We also want to create a clearer taxonomic structure and to report on our findings. So far we have studied some 80% of all described species. We made drawings of all relevant parts and created technical keys for identification.

In between working on our books, we wrote 17 publications and we shifted some genera and species as a part of the overall task we have set ourselves. To create the keys, we have used a computer system with a character matrix called DELTA (DEscription Language for TAXonomy) which is very useful.



**Figuur 1.** *Dr. Rosser W. Garrison and Natalia von Ellenrieder (Foto: N. van Wouwen).*

**Your books do not contain photographs. Why not?**

Well, when you're working in the field it is not always possible to both take pictures and collect specimens, we often have to choose between the one and the other. We did use photographs in the Yungas book (VON ELLENRIEDER, NATALIA, AND ROSSER W. GARRISON, 2007) but they are not always as good as I'd have liked.

**What is more important in your opinion, identifying species or issues such as global warming?**

Well, it goes together, in a way. You need to both document what is there and look at yearly phenology, look at phenology shifts. That way you can supply evidence of what is going on. For instance, in a country such as yours, species are well documented and monitored. So if a species wasn't seen three years ago, and now it is, then you can be sure something has changed. In the US, Clarence Hamilton Kennedy did a lot of documenting in the early 1900s in California, and we now see species that weren't seen then, so these new species have increased their range. Askew in the second edition of his book (Askew, 2004) wrote an addendum on that sort of thing. The question is where is the limit of a range? Dragonflies are proving to be a very succesful

type of organism. They adapt to new situations by shifting their range. But other research is also useful. We did a project once where we caught dragonflies of a particular species and marked them, then checked each day where they were. We found/recaptured some 70%, and we could establish that they moved daily up and down a river, distributed themselves in groups, and that adults had an average life span of about twelve days. We found out a lot of things, about duration of copula, ovipositing habits, roosting spots. Very interesting!

**Is there room for Dutch students in your work?**

Yes, certainly! Both the work here at the collection, and going out and finding what species inhabit a specific region. What Marcel (Wasscher) is doing, Jan (van Tol), Tim (Faassen) and Martha (Courbois), Vincent (Kalkman) and KD (Dijkstra), all of that is very good. And before Americans started doing dragonfly research, it was Europeans who started collecting and describing. Ris, Selys, Lieftinck, all of these people did a good job. And anyone wanting to work on dragonflies in California is very welcome to contact me. But also don't forget, we still make discoveries even in drawers, in old collections. There is still lots to be done!

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