

## Dr Pierre Baujard (1952-2001)



Pierre Baujard died on December 4, 2001, from a skin cancer he had been fighting for many months. Until the very end, he assumed, without any self-pity and in spite of great difficulties, what he used to refer to as his 'scientific service'. Thus, as part of this service, he actively participated just a few weeks before his death in the second meeting of the "*Réseau pour l'Etude de la Biodiversité des Nématodes et des Helminthes*", which he had co-founded and, in the very last few days, he took part, in spite of the great difficulties the simplest move presented, in an internal examination for promotion within IRD. The dignity, courage and will he exhibited when faced with the disease compel respect.

Pierre Baujard was born on June 13, 1952 at Bougie (now Bejaïa) in Algeria where his father held a position of responsibility in the local agricultural regulatory services. A short while later, his family moved back to France, to Bordeaux, where Pierre studied for his *baccalauréat*, which he obtained in 1970. He studied at the *Ecole Nationale d'Ingénieurs des Travaux Agricoles* in Bordeaux, then at the University of Bordeaux where he earned successively a *Diplôme d'Etudes Approfondies* and a *Doctorat de 3ème cycle* (PhD), both with distinction ('*bien*' and '*très bien*', respectively).

He was employed by ORSTOM (*Office de la Recherche Scientifique et Technique Outre-Mer*, now IRD, *Institut de Recherche pour le Développement*) in October 1980. He worked first for 10 months at the ORSTOM Center of Adiopodoumé, near Abidjan (Ivory Coast) before he was posted to the ORSTOM Center of Dakar-Hann, in Senegal, where he spent most of his career, from 1981 to 1993 and from 1999 to the end of his life. Between 1993 and 1999 he was a member of the ORSTOM unit at the *Laboratoire de Biologie Parasitaire* of the *Muséum National d'Histoire Naturelle* in Paris then, in 1998, he worked at the *Laboratoire de Nématologie CIRAD/IRD* in Montpellier.

Often labelled as a 'taxonomist', Pierre Baujard did work in this field, where he excelled, but his range of activities was much wider: of the 93 articles and book chapters he wrote, 33 are indeed on pure systematics but 28 other papers refer to ecological studies. In fact, his very first works to obtain his *Diplôme d'Etudes Approfondies* and his *Doctorat de 3ème cycle* described the nematode fauna of the Landes forest, in the southwestern part of France. Landes being a pine forest, he was one of the first authors in Europe to focus on potential problems linked to *Bursaphelenchus*. The rest of his publications deal with nematode control, nematode ultra-structure, and laboratory techniques.

As a taxonomist, he can be described as prudent and wise in the sense that, far from going hunting for new species, which would have been easy in Africa, he always tried, helped by his undisputed talent for observation, to enlarge the descriptions of named species, to define the extent of their intra-specific variability, and to identify their relationships with related species. His taxonomical decisions, concerning both description and synonymisation of species and higher taxa, have been very rarely contested. One would wish such an approach were followed by more authors. He studied several groups in the Aphelenchidae, Tylenchidae, Longidoridae, Trichodoridae and, more recently, Cephalobidae families, which he rearranged taxonomically, helped by data obtained through electron microscopy. He was thus able to settle the taxonomic position of many existing taxa, an activity which is more useful, but also more difficult, than the description of new taxa.

His studies on the ecology of plant nematodes affecting cultures in the Sahel, mostly in Senegal but also in neighbouring countries (Mauritania, Mali, Gambia, *etc.*), revealed or confirmed that the distribution of these nematodes depends on two major factors: first, the nature of the vegetation, of course, and second, the moisture regimen of the soil rather than its nature or texture. There is a strict relationship between a particular nematode species and the sometimes very narrow range of soil moisture values that supports its life. Also, the various species use different strategies to resist the stress of a dry season that can last up to 9 months: diapause of eggs or juveniles, anhydrobiosis of adults and migration towards deeper and moister soil horizons. Based on this understanding of the water factor, Pierre Baujard developed techniques for the culture of nematodes under strictly controlled soil moisture conditions. This allowed him to cultivate without major difficulties some species that had never been cultivated before, such as various *Scutellonema* spp. and members of the *Xiphinema americanum* group. He also studied the transportation of nematodes by the wind, which is often strong in the Sahel, a dispersal factor that is often neglected. He was certainly the most knowledgeable scientist on Sahel nematodes and their ecology. He also confirmed that the success of treatments of typical Sahel cultures (peanut, millet, cowpea) with DBCP (30-50% yield increase) was due as much to the plant-stimulating activity of this chemical as to its nematicidal action. Nevertheless, plant nematodes are harmful for these traditional cultures, as Pierre Baujard demonstrated for many of them by using the culture techniques he had developed.

Capitalising on his great technical abilities, Pierre Baujard was able to master the use of electron microscopy, and his contribution to the study of cuticle ultra-structure in some nematode families (in particular the Hoplolaimidae) is far from negligible in a relatively unknown field, except for Heteroderidae. The same technical gifts enabled him to improve the sieves used in electron microscopy and to participate in the development of a horse-drawn implement for nematicidal treatment adjusted for the small size of horses in Senegal.

In addition to his own research activities, Pierre Baujard directed, for the most part in Dakar, the work of a dozen students from Senegal and from various French engineering schools or universities for the preparation of Master or PhD theses.

He was quite proficient with computer tools, which allowed him to create a database of all the literature on systematics of plant-parasitic nematodes and to prepare lists of the species concerned. Unfortunately, Pierre did not have the time to complete these works, which were going to be widely distributed on CD-ROM.

Last, but not least, he was associated at a very early stage with the management of *Revue de Nématologie* and, following the successive avatars of this journal, he became Editor in Chief of *Fundamental and Applied Nematology* (FAN), then

co-Editor in Chief of *Nematology* after the fusion of FAN with *Nematologica*. He always assumed this delicate function in an efficient, precise, and benevolent manner.

He was able to handle all these tasks simultaneously thanks to his rather exceptional work power and to his entire devotion to his scientific activities: he was not known to have any hobbies and he did not know any Sundays.

Efficiency and precision were the dominant traits of Pierre Baujard's character. He was very principled and he was very demanding, first and foremost of himself. These two characteristics, together with the wide range of his abilities and his devotion to work, made him the very model of what an 'overseas scientist' should be: a relatively independent and essentially self-reliant person. This rectitude, this demand for truth, made it difficult for him to make friends, but the few friendships he did form were all the stronger for that. Such qualities have not always been recognised by his administration, with which he had some differences. His progression somewhat suffered as a result but, for him, this was not what mattered.

As an overseas scientist, he was perfectly integrated in Senegal where he trained young scientists from that country and where he worked in collaboration with Dakar University. But he went further than that: he had very close Senegalese friends with whom he could chat in Wolof (the major Senegalese tongue, which he spoke fluently). He supported a Senegalese family with five children, one of whom, Ismaïla Baujard-Coly, he adopted. He is also survived by a son, Florent, from his first marriage.

The death of Pierre Baujard is a major loss for nematology and in particular for tropical nematology. But it is also a major loss for his friends who will miss, apart from his qualities as a scientist, his intelligence, his good humour, his kindness, and his friendship, generous once granted, that made him such a pleasant and staunch comrade.

Having been in close contact with him since he joined ORSTOM/IRD, having worked in the same room at the Muséum in Paris for several years, the death of Pierre Baujard, my friend, deeply and durably affected me, as it affected his many colleagues in France and abroad.

Michel Luc