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Henri Décamps, an ecology open to societal concerns

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Abstract:

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Henri Décamps passed away on 10 January 2023. He was 87 years old. Elected correspondent of the Académie des sciences on 7 June 1993, he became a member of the Integrative biology section on 16 December 2008 and was also a member of the inter-section for applications of science. He was since 2004 a member of the Académie d'agriculture de France.

Henri Décamps, a CNRS researcher since 1961, was a specialist of the ecology of rivers and fluvial landscapes, which led him to become interested in ecotones, the contact zones between different ecosystems, and from there in landscape ecology. A pioneer in these two fields of research, he enjoyed a high international reputation and played a key role in their development in France, combining them in a highly multidisciplinary approach with the social sciences and humanities (SSH).

His early work focused on Trichoptera ecology: the larvae of many species build small sheaths that are well known to fishermen, as their presence is an excellent indicator of water quality. The same concern for water quality led Henri Décamps to review the different sources of pollution and their consequences as part of a project for the river Lot development [1]. The thread running through this early work was to remain with him throughout his career: a natural link between fundamental and applied research, and consequently between scientific ecology and SSH [2].

In his work on the Lot, the emphasis on the diversity of water needs (drinking water, industrial uses, irrigation water, and environmental needs) and the potential conflicts between these uses presently appears as more relevant than ever.

From then on, Henri Décamps played a leading role in major multidisciplinary programmes: the DGRST's committee on the management of renewable natural resources, the CNRS's PIREN (Programme de recherche sur l'environnement), and the UNESCO's MAB (Man and Biosphere) programme. In particular, he directed the PIREN's Grands fleuves initiative, covering the Garonne, Seine and Rhône, which was launched in the 1980s,

and chaired the committee on ecology and natural heritage management at the Ministry of the Environment. He was also president of the International Association for Landscape Ecology, which led to the organisation of its world conference in Toulouse in 1995.

In 1980, he was given the task of transforming the CNRS Vegetation Mapping Service in Toulouse, a service unit, into an ecological research laboratory. His open-mindedness and benevolence were, of course, not unconnected to this choice.

He and his team then demonstrated the key role of nutrient exchange between rivers and riparian terrestrial ecosystems, and their role in the carbon and nitrogen cycles in flood-prone areas [3]. In 1995, he was one of the few Europeans chosen by the International society of limnology to chair the Memorial Baldi Conference. His work as a whole has helped to demonstrate that the functioning of ecological systems requires a full understanding of the role of ecotones [4, 5],

which can be seen, in a somewhat caricatural fashion, as the membranes among ecosystems viewed as cells. His work on the interfaces between watercourses and terrestrial environments and their role in the carbon and nitrogen cycles in flood-prone areas has played an important role in the development of the notions of ecological corridors and connectivity, key concepts in biodiversity management. It was therefore only natural that he should be consulted when the Ministry of Ecology launched its green and blue network programmes in 2009.

On this basis, in his book *Printemps des paysages* (co-authored with Odile Décamps) [6] Henri Décamps developed a landscape ecology that combined the rigour of scientific ecology with a broad vision of social concerns. This combination, so characteristic of him, led him to participate, as editor-in-chief and through numerous articles, in the activities of the *Nature Sciences Sociétés* journal, a key tool for such pluridisciplinary thinking [7].

His experience and human qualities made Henri Décamps the natural promoter and coordinator of the Académie des sciences' report *Événements climatiques extrêmes: réduire les vulnérabilités des systèmes écologiques et sociaux* [8], published in 2010, a report that is more topical than ever.

The Académie des sciences is particularly indebted to Henri Décamps for his open-mindedness. We will also sorely miss his great benevolence and impeccable courtesy.

1. Conflicts of Interest

The author has no conflict of interests to declare.

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