

# The Louis De Pauw Award—A first recognition for citizen scientists in Belgian palaeontology

by **Anthonie Hellemond**<sup>1</sup>

<sup>1</sup>*Palaeontologica Belgica vzw - A Belgian Palaeontological Research Organisation; Oostvaardijk 61, B-1850 Grimbergen (Belgium); Palaeontologica.belgica@gmail.com*

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On Saturday, 2 October 2021, Palaeontologica Belgica presented Belgium's very first palaeontological citizen science award. In collaboration with and with the support of professional research institutions and the federal government, the award aims to valorise the achievements of citizen scientists in palaeontological research. Together with 'Scivil', the governmental platform for citizen science in Flanders, and the Vrije Universiteit Brussels (VUB), the promoters hope that this initiative will be followed by other scientific domains (biology, archaeology, astronomy, history, linguistics, earth and environmental sciences, etc.) where citizen scientists selflessly contribute to fundamental scientific research.

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## Introduction

Within Belgian palaeontology, citizen scientists have been conducting independent and non-funded research for many decades (Hellemond 2019). Over time, many of these self-taught researchers have become renowned experts in their respective fields of research. Despite the fact that they can count on numerous accolades from the international palaeontological community, there has been no official recognition for Belgian citizen scientists from any national, scientific or governmental institution until now. Nearly all neighbouring countries have been awarding citizen scientists in palaeontology for many years. The Van Der Lijn Onderscheiding in the Netherlands, the Mary Anning Award in the United Kingdom (Pal. Ass.), the Prix Saporta (APF) in France and the Zittel-Medaille (Pal. Gesellschaft) in Germany are just a few examples of awards granted in honour of the palaeontological contributions of self-taught researchers. Although citizen science has become an increasingly important topic over the past few years, the collaboration between professional and autodidactic researchers has always been an important part of palaeontological research (Catalani 2014; MacFadden *et al.* 2016). Awarding and recognising the contributions of citizen scientists can help to narrow the gap between professional and non-professional researchers (Soul *et al.* 2018). On Saturday, 2 October 2021, Palaeontologica Belgica presented the very first citizen science award in Belgium and rewarded two laureates for 2020 and 2021. This first annual event was hosted at the Vrije Universiteit Brussel (VUB) and attended by palaeontological representatives from industry, academia, non-profit organisations and research institutions, and supported by the Belgian State Secretary of Science Policy, Thomas Dermine.

## Louis De Pauw

The award is named in honour of Louis François De Pauw (1844–1918), whose name will forever be associated with the world-famous iguanodons of Bernissart, the mammoth of Lier, the cetaceans of Antwerp and countless other fossils which now belong to Belgium's unique palaeontological heritage (Figure 1). Most of these specimens were reconstructed and mounted by Louis François De Pauw at the end of the 19th century in what is now the Royal Belgian Institute of Natural Sciences (RBINS). Although Louis De Pauw had no formal academic training, he was extremely adept at studying, preparing, conserving and assembling (fossil) skeletons (De Pauw 1902; 1905). His work attracted great international interest at the end of the 19th and the beginning of the 20th century (Stockmans 1988). This resulted, amongst other things, in a Romanian project where he was asked to prepare and mount the *Deinotherium* of Mânzați (Cordier 2017). Unfortunately, De Pauw's scientific and intellectual legacy was forgotten over the course of history. The citizen science award in his name pays tribute to his pioneering work in Belgian palaeontology more than a hundred years after his passing.

The Louis De Pauw award aims to honour the efforts and contributions of citizen scientists, like Louis François De Pauw without an academic background in geology, biology or palaeontology, who selflessly dedicate themselves to palaeontological research in Belgium. The first (annual) award ceremony took place at the Vrije Universiteit Brussel (VUB), where Louis De Pauw worked as head curator (conservateur général) of the zoological collections of the Université Libre De Bruxelles at end of his career from 1884–1909. This initiative represents a first step in the recognition and contributions of citizen scientists within Belgian palaeontology.



Figure 1. One of the rare photographs of Louis François De Pauw taken between 1909–1918.

### Citizen Sciences

The award is unusual because it highlights a lesser-known side of citizen science where non-professional scientists not only provide data but also conduct (independent) research and publish their results. Ever since 2013, after the publication of the ‘Green paper on Citizen science of Europe’ by the European Commission, citizen science initiatives were set up and funded by different European governments (cf. Horizon 2020 and European commission reports; Warin and Delaney 2020). Although the term citizen science has been adopted by science communicators, policy makers and the public ever since, we often see that funded citizen science projects in Belgium serve as an easy way to obtain large data sets (crowdsourcing). Rarely however, are these same citizen scientists involved in the interpretation, analysis and publication of the results (cf. Scivil Jaarverslag 2019). This contradicts with the initial level of participation discussed in the ‘Green paper’ and later reports by the European Commission and the European Citizen science Association (cf. Horizon 2018–2020; Robinson *et al.* 2018). Striving for more inclusive participation of citizen scientists within all steps of the scientific method and beyond the framework of institutionalised research would constitute a positive evolution. The lack of any standard definition, and therefore variable interpretation of citizen science, can be countered by a continuous dialogue between governments and the scientific community (including citizen scientists). Making

it possible for citizen scientists to apply for future project calls and funding without obligating them to be part of a governmental research institution could be a first meaningful step towards the acceptance of scientific contributions made by citizen scientists in Belgium.

Within the international palaeontological community, as well as in Belgian palaeontology, there is a long history of citizen scientists conducting valuable (independent) research from field to journal (Groessens and Groessens-Van Dyck 2001). Yet in Belgium their input was often hidden in the background, and citizen scientists did not receive a lot of recognition for their scientific contributions by research institutions or political authorities (Hellemond 2019). This was especially the case before the 1980s, when collectors or ‘amateur palaeontologists’ provided new material from the field, but rarely studied it themselves. In those days, research was almost exclusively conducted by professional and certified scientists. This mentality slowly started to change in the 1960s when the first associations of fossil collectors and earth science enthusiasts started to emerge in Belgium (CMPB 1963; MKA 1963; HoNa 1965; AGAB 1967). A more scientific approach towards palaeontology and earth sciences in general was advocated within these organisations, resulting in a greater awareness of the scientific value in contrast to their initial aesthetic appraisal (Marquet 1978). Compared to the Netherlands for example, where the collaboration between professional and non-professional organisations extends back as far as 1946 in the case of the Nederlandse Geologische Vereniging (Boekschooten and Mulder 2021), we see a clear socio-cultural difference in the participation between non-professional researchers and their professional colleagues. Over time, this mentality resulted in what has been called the ‘Dutch polder model’, in which the differences between citizen scientists and professional researchers are vague or even non-existent (den Ouden and Pouwer 2018). This exemplary model is what the Louis De Pauw Award aims to facilitate in Belgium, as it fills the vast gap between Belgian professional and non-professional researchers who, in time, might be drawn closer to each other (Haug *et al.* 2020). A proactive and intense collaboration between professionals and citizen scientists might be an important step towards a fruitful partnership. Removing barriers in terms of approachability and eliminating condescension, competition, patronisation and implicit bias between and amongst professional and non-professional researchers will stimulate an inclusive and meaningful research environment in the future.

### Awardees

The first Louis De Pauw award (2020) was presented to Marcel Vervoenen (Figure 2). Originally a printer by profession, Marcel was able to develop a very special technique in the 1990s that made it possible to preserve



fossilised lumachellas (shell banks) in their unconsolidated, soft sediment context. These otherwise ephemeral discoveries provided additional insight into the influence that tides, storms or local events had on the fossilised fauna of Cenozoic seabeds in Flanders. Although he had no academic training, Vervoenen published a well-known manuscript on the taphonomy of Cenozoic seabeds from the Flemish region, in collaboration with the Belgian Geological Survey (Vervoenen 1995). He also studied the Pleistocene megafauna of the Bos Van Aa quarry in Zemst from 1979 to 1985 in collaboration with professional researchers from the Royal Belgian Institute of Natural Sciences. His ongoing international collaboration, eye for detail, hands on mentality and passion make him the perfect representative of what citizen science should be. His meticulously well-kept collections are an example of how private collecting can add value to scientific research (Rauhut *et al.* 2014). Large parts of his collections have been included in the permanent collections of different international research institutes.



*Figure 2. Marcel Vervoenen during his acceptance speech at the Louis De Pauw & Palaeontologica Belgica award ceremony in Brussels © T. Hubin 2021*

The 2021 citizen science award went to Mark Bosselaers, who, through numerous peer-reviewed publications and fruitful collaboration with the Royal Belgian Institute of Natural Sciences, has established himself as an authority on fossil cetaceans and tunicates (Figure 3). On a local level, this former art teacher does not shy away from cooperation with fossil collectors who, thanks to him, contribute to ongoing research. His contagious drive, amazing versatility and human approach make Mark Bosselaers a figurehead of what citizen science has been able to achieve to date, and may also achieve in future generations. As a citizen scientist, Mark has an impressive list of important scientific publications to his name. In addition, like many other citizen scientists, he spares neither time nor effort to save, store and make an inventory of all the material he has found or that has been brought to him by other collectors and volunteers. Because Bosselaers is also active abroad and has made valuable contributions to research, he has already deservedly received several international

awards such as the Saporta Prize in France in 2018 and the van der Lijn Prize in the Netherlands in 2019. Now, he has also received Belgian recognition.



*Figure 3. Mark Bosselaers during his acceptance speech at the Louis De Pauw & Palaeontologica Belgica award ceremony in Brussels © T. Hubin 2021*

### Scientific council

A scientific council consisting of representatives from the whole Belgian palaeontological community, as well as the executive and honorary (board) members of Palaeontologica Belgica decide upon next year's laureate(s). The results are discussed in a board meeting and kept secret until the actual award ceremony. This way the decision is something that has been agreed upon by representatives of the whole Belgian palaeontological community, not merely by members of one organisation. It is important that the entire palaeontological community participates and agrees upon the nominations, to avoid favouritism or biased voting results. This is contrary to the Palaeontologica Belgica award, which is awarded in the same ceremony as the Louis De Pauw Award, but which is selected solely by the executive board of the Palaeontologica Belgica organisation.

Nominations work on the basis that anyone who has contributed (or still contributes) to Belgian palaeontology on a regular basis can be nominated by the scientific council. The aim of the Louis De Pauw Award is focused on palaeontological research carried out within a Belgian framework. This does not mean that foreign citizen scientists are automatically excluded, but sufficient proof of their research on a Belgian palaeontological topic is required. University students in earth sciences, biology or palaeobiology can also be taken into account on the condition that their research is not already being funded by research grants and that it takes place outside the framework of their dissertation. Sufficient evidence should be presented that non-funded extracurricular research was conducted outside of the academic trajectory.

## Conclusions

The main goal of the Louis De Pauw Award is to give something back to citizen scientists who spend a considerable part of their time selflessly dedicating themselves to research. The award hopes to encourage younger generations to conduct independent research in their free time by lowering the bridge between academia and the public. After all, palaeontology is not generally a science that offers the prospect of a long-term, stable career. On the job market, palaeontological vacancies are scarce or often non-existent. A specialisation in palaeontology therefore rarely leads to job security. The Louis De Pauw Award can be an incentive to continue research on an independent basis even after an academic trajectory in geology, biology or palaeobiology.

Anyone with a passion or interest in science can become a citizen scientist. There are many fascinating projects that appeal to the public for studies that require the collection of data. In this context however, the Louis De Pauw Award transcends the current Belgian view on citizen science as it honours the efforts of citizen scientists who are engaged in all aspects of scientific research. Promoting citizen science in this way could elaborate the means of research in the (near) future. Sciences, including palaeontology, that often experience difficulties in funding could benefit from the contributions of citizen scientists working on unfunded research topics. An honorary award for the contributions of citizen scientists working on Belgian palaeontology could persuade other non-professional enthusiasts to engage in (independent) research themselves. This example could be picked up by other scientific fields such as archaeology, natural history, genealogy, astronomy, biology etc. In the long term, it would be beneficial to move towards an inclusive and diverse research landscape, more able to cope with the increasing stress and challenges that palaeontology in particular—and earth sciences in general—will likely experience in the coming years (e.g. increased budget cuts, shortage of staff, “brain drain”, reduced input from private investors, etc.). By speaking as one voice, uniting both citizen scientists and professional researchers, palaeontology can be put in the forefront of current debates such as climate change, loss of biodiversity, ecological turnovers and other related topics. Uniting forces could help palaeontology contribute to the relevancy of its existence towards the public and policymakers.

The term “citizen science” could hopefully be seen as an equal way of conducting research in the coming years. It is only a matter of time before the distinction between professional and nonprofessional research would lose its relevance, because both embody scientific research conducted by the same empirical methods. All scientific contributions are important regardless of who made them.

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