

## Axel von Hillebrandt (1933–2024)

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On January 3, 2024 there died in Berlin Axel von Hillebrandt who made important contributions to the Jurassic invertebrates of South America.

He was born on April 12, 1933 in Tilsit, East Prussia (the present Kaliningrad region of Russia), and during the Second World War he and his family moved to Schweinfurt, a Franconian locality located north of Stuttgart and Munich.

Between 1959 and 1962 he studied geology in the Ludwig-Maximillians-Universität, in Munich, where, under the guidance of P. Schmidt-Thomé he graduated in 1957. In the 1960's he completed a dissertation on the Paleocene and its foraminifers of the Reichenhall and Salzburg basin, under the guidance of Herbert Hagn and Richard Dehm.

In 1965 he obtained his habilitation with a dissertation entitled “Foraminiferen-Stratigraphie im Alttertiär von Zumaya (Provinz Guipuzcoa, NW-Spanien) und ein Vergleich mit anderen Tethys-Gebieten” (Foraminiferal stratigraphy of the lower Tertiary of Zumaya, province of Guipuzcoa, northwest Spain and its comparison with other Tethys regions).

In 1962 he became Assistant Professor in the Technical University of Berlin, although he continued his link with Munich taking part in a geological expedition to the Hindu Kush mountain range, a western extension of the mountain ranges of the Pamir, the Karakorum and the Himalayas, located between Afghanistan and northwest Pakistan. There, in his explorations, he climbed more than 20 mountains with heights of more than 5000 m.

He was Professor in the Technical University of Berlin until his retirement in 1998, the year in which he became Emeritus. Between 1995 and 1997 he was a President of the Paleontological Society of Germany, of which he was designated Honorary Member in 2014. Between 1988 and 1996 he was member of the Jurassic Subcommittee of Germany and of the “International Subcommittee for Jurassic Stratigraphy”.

In his extensive career von Hillebrandt made important investigations on micropalaeontology, especially in the lower Tertiary, and on ammonites of the Lower Jurassic of South America, their taxonomy, evolution, biochronology and palaeobiogeography.

Between January 1966 and March 1968 he was in the Department of Geology of the University of Chile where, at the suggestion of Werner Zeil one of the initiators of the activities of German-



Axel v. Hillebrandt during the 9th International Congress on the Jurassic System, Jaipur, India, 2014

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Latin-American cooperation in Earth sciences and leader of the research team “Mobility of activated continental margins: the Andean geotraverse”, he did geological investigations, making profiles and palaeontological collections in the Jurassic of Chile and of Argentina.

Hillebrandt’s investigations were focused on the Andes of Atacama, between 26th and 29th S, where he made approximately 50 profiles. He also studied profiles in the Jurassic of the Domeyko range, between 25th and 26th S, and in the Coastal range of Chile. In May, 1967 he studied the Jurassic and Cretaceous of central Peru, between Pucara and Pampa Cross, to the south of Huancayo and in January, 1968 he visited the Jurassic of Espinacito Pass in the south of San Juan province, Argentina. Between 1966 and 1997 he visited all these regions, in these several opportunities realizing collections in the Jurassic of north, centre and south of Peru, in the mountain ranges of the Coast and Principal Cordillera of central and northern Chile and in the provinces of Mendoza and Neuquén in central-west Argentina.

The ammonites collected were studied by him in the Institute of Geology and Palaeontology of the Technical University of Berlin, Germany. For this study he consulted the collections, especially of South America, existing in the Humboldt University of Berlin, in the Institute of Palaeontology and Geology of Munich, Tubingen, Fribourg and Bonn, in the Museum of Natural History of Stuttgart and in the University of Gottingen.

Although the first palaeontological works of Hillebrandt were dedicated to the microfossils, fundamentally the foraminifers of the lower Tertiary of Germany and Spain, from 1970 onwards, he worked in the ammonite fauna and biostratigraphy of the Jurassic of South America, especially of Chile, and completed a series of important papers on the invertebrates, especially ammonites, of the Jurassic of South America, mainly of Chile, and also of Argentina and Peru.

His most important contributions include publications on the lower Jurassic, with monographs (Hillebrandt, Schmidt-Effing, 1981; Hillebrandt, 2000, 2002, 2006) on ammonites of the Hettangian, Sinemurian, Pliensbachian and Toarcian. He also described ammonites of the Aalenian, Bajocian, Bathonian, Callovian and Oxfordian (e.g., Hillebrandt, 1977; Hillebrandt, Westermann, 1985; Gygi, Hillebrandt, 1991; Gröschke, Hillebrandt, 1994; Hillebrandt, Gröschke, 1995). On such a basis he developed a detailed biostratigraphy of the lower Jurassic of South America, dealing also with aspects of palaeobiogeography and palaeogeography.

Additionally, he described porifers, bivalves, and crustaceans from the Jurassic of the region (e.g., Hillebrandt, 1971; Föster, Hillebrandt, 1984; Aberhan, Hillebrandt, 1996, 1999) and identified the presence of levels with fossils from the Upper Palaeozoic in Atacama (Hillebrandt, Davidson, 1979).

Professor Hillebrandt actively participated in the work of the International Jurassic Subcommittee and was the main leader of the working group that proposed the Global Stratotype (GSSP) of the Hettangian Stage to define the base of the Jurassic System, using ammonites, foraminifera, ostracods, C isotopes and radiometric ages, in Kuhjoch, Austrian Alps, and had the honour of setting the point or “Golden spike” there in 2011 (Hillebrandt *et al.*, 2007, 2013). In connection with this topic he made contributions on Hettangian ammonites and microfaunas.

With regard to the taxonomy, biostratigraphy and palaeobiogeography of the Lower Jurassic ammonites of South America, the contributions made by Professor Hillebrandt were of utmost importance, and can be considered as outstanding, both for their volume and their excellence.

In writing this review and farewell, I must regret the death of another of the colleagues with whom for decades I shared information and common interests, on topics to which, with coincidences and differences, we dedicated an important part of our lives.

## MAIN PUBLICATIONS OF A. von HILLEBRANDT

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