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The 8th International Conference on Fossil Insects, Arthropods and Amber Saint Domingo, Colonial City, Dominican Republic, 7–13 April 2019

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Introduction

Palaeoentomology started in the Eighteenth century with published papers on the curiosities of insects preserved in fossil resins, specifically in Baltic amber. The beginning of the Nineteenth century witnessed the first attempts to study and describe insects from sedimentary rocks. This discipline then developed during the latter Nineteenth and early Twentieth centuries, and resulted in some major published works and reviews. The last century was a period of relatively slow but continual development in this field of science. During the past three decades, palaeoentomology has grown significantly and exponentially in parallel to the increasing number of amber outcrops, due to international interest and the growth of scientific awareness in this subject. There is no doubt that the 1993 blockbuster film “Jurassic Park,” directed by Steven Spielberg, and based on the eponymous novel of Michael Crichton, captured the public imagination with the idea of insects in amber and a fascination with ancient life, and probably was a contributing factor in the quest to find new amber deposits. Prior to this time, interest in amber had been primarily focused on the Caribbean region (the Dominican Republic), and the Baltic countries, although it was recognized that amber occurs in various localities world-wide (Azar *et al.*, 2018).

Historical of the congresses

The growing interest in palaeoentomology, along with globalization (especially after the Cold War of the 1950s and 1960s), resulted in the formation of teams interested in studying fossil insects, with research in many countries, and encouraged serious collaborative international scientific exchanges. Consequently the Fossil Insect Network was established in 1996, based in Strasbourg, France, the headquarters of the European Science Foundation. Before that, only a few national meetings had been held, notably in Germany, and later in Poland. However, the growing interest was such that, in 1998, two international pa-laeo-

entomological congresses took place: (1) “Fossil Insects, Arthropods and Amber,” held in Moscow (Russia); and (2) the “World Congress on Amber Inclusions,” held in Vitoria-Gasteiz (Basque region, Spain). The success of these meetings was substantial, and it was decided then to hold future meetings at least every four years, and to produce a scientific conference proceedings volume. The interest in this field was such that such meetings began to be held even more often.

In 2000 the First “International Meeting on Palaeoarthropodology” was held in Ribeirão Preto (near São Paulo, Brazil), targeting non-marine arthropods and inaugurating the first Brazilian and South American pa-laeoarthropod symposia. In 2001, during the second “Fossil Insects, Arthropods and Amber” conference, held in Kraków (Poland), the International Palaeoentomological Society (IPS) was born and the meeting dubbed a “congress”. By the third congress in Pretoria (South Africa), common interests and increasing scientific collaboration resulted in the establishment of a single, combined congress on insects/arthropods/amber under the auspices of the IPS. Thus Fossils X3 (for short) was born (Azar *et al.*, 2018). The fourth congress took place in Spain in 2007 (Fig. 1), in which the new hardcopy journal *Alavesia* was launched. However, it was unfortunately a victim of the European credit crunch and soon ceased publication. In 2010, the IPS had its first congress in Asia, in Beijing (China), and participants had the opportunity to visit the well-known fossil beds of Daohugou and Liaoning (Fig. 2). In 2013 the sixth congress was held in Byblos (Lebanon) under the high patronage of His Excellency General Michel Sleiman, President of the Republic of Lebanon at that time. IPS members and participants were received in the Presidential Palace (Fig. 3), and there were also visits to several famous amber outcrops dating from the Upper Jurassic (Kimmeridgian) and Lower Cretaceous (Lower Barremian) (Fig. 3). On 1 October 2015, the IPS became officially registered in the police prefecture of Paris (France). In 2016 the seventh congress



FIGURE 1. The 4th International Congress on Fossil Insects, Arthropods and Amber in Vitoria-Gasteiz (Basque region, Spain, 2007). **A–C**, Field trip in the Lower Cretaceous amber deposit in Peñacerrada II, Álava Province. **D**, Field trip in the Lower Cretaceous amber deposit in San Juan (Eastern Spain). **E** and **F**, Excursions during 4th International Congress on Fossil Insects, Arthropods and Amber in Spain.

was held in Edinburgh (Scotland) (Fig. 4), and included a field visit to the emblematic site of Rhynie with its famous Rhynie Chert. During this congress, “International Fossil Insects Day” was established, which now takes place on October 1st of every year. Several French postal stamps commemorating this day were created (Figs 5 and 6). In Edinburgh it was decided that the city of Santo Domingo in the Dominican Republic would be chosen to host the 8th

International Congress in 2019. This is the first congress to take place in the Americas or the Western Hemisphere.

Publications dedicated solely on fossil Insects, terrestrial arthropods and amber

Since 1996, there have been several unsuccessful attempts to have a specialized scientific journal for our discipline, and today, with a significant growing number of publi-



FIGURE 2. The 5th International Congress on Fossil Insects, Arthropods and Amber in Beijing (China, 2010). **A**, Group photo during the Congress. **B**, Address of the chairmen of the organizing committee Prof. Dong Ren. **C–F**, Field trip in Daohugou. **G**, Field trip in the locality of Jehol biota.



FIGURE 3. The 6th International Congress on Fossil Insects, Arthropods and Amber in Byblos (Lebanon, April 2013). **A**, Reception at the Lebanese Presidential Palace. **B**, Field trip in a Jurassic amber deposit in Aintourine (North of Lebanon). **C**, Jurassic amber from Aintourine (North of Lebanon). **D**, Field trip in a Lower Cretaceous amber deposit in Jouar Es-Souss, Bkassine (South of Lebanon). **E**, Field trip in a Lower Cretaceous amber deposit in Roum-Aazour-Homsiyyeh (South of Lebanon). **F**, Field trip in a Lower Cretaceous amber deposit in Ouadi Jezzine (South of Lebanon). **G**, Field trip in a Lower Cretaceous amber deposit in Hammana (Central Lebanon).



FIGURE 4. The 7th International Conference on Fossil Insects, Arthropods and Amber in Edinburgh (Scotland, April 2016). **A**, Declaration of the International Fossil Insects Day during the opening ceremony of the congress. **B**, Award given to Dr Andrew Ross for his commitments in organizing the congress. **C** and **D**, Awards for best students' oral and poster presentations. **E** and **F**, Field trip in Rhynie. **G**, Group photo during the field trip in Burnmouth, in front of the earliest Carboniferous non-marine sediments. **H**, Gala dinner during the congress.



FIGURE 5. Envelopes of first day of emission of commemorative French stamps, celebrating the first International Fossil Insect Day on 1 October 2016. **A**, Stamp with inclusions from the Lebanese amber, representing the earliest preserved mite-insect parasitism; Bkassine amber (Lebanon). **B**, Stamp with *Enicocephalinus acragrimaldii* Azar et al., 1999, the earliest enicocephalid bugs, Hammana amber (Lebanon).

cations on fossil terrestrial arthropods and amber, there has been an urgent need and challenge to create the official journal of the IPS, a specialized high-quality platform to bring together recent research and discoveries in our field in an expedited manner. Consequently, based on the mutual efforts of IPS Executive Board members and Professor Diyang Huang from the Nanjing Institute of Geology and Palaeontology, we have finally succeeded. After long-term negotiations with several publishers, we reached an agreement with Magnolia Press to create “*Palaeoentomology*” in late 2018. Today we are working on our third issue of this journal (a special issue dedicated to

the proceedings of the 8th International Congress in the Dominican Republic), and we hope and wish for its continued success.

History of amber in Dominican Republic

Dominican amber (Fig. 7) was known by the indigenous peoples of Hispaniola, and was taken to Spain by Christopher Columbus as one of the treasures of the West Indies. The first written reference to Dominican amber dates back to 16 December 1492, when Christopher Columbus wrote in his diary that he met with a Taino chief on his ship, the Santa Maria. The chief offered Columbus

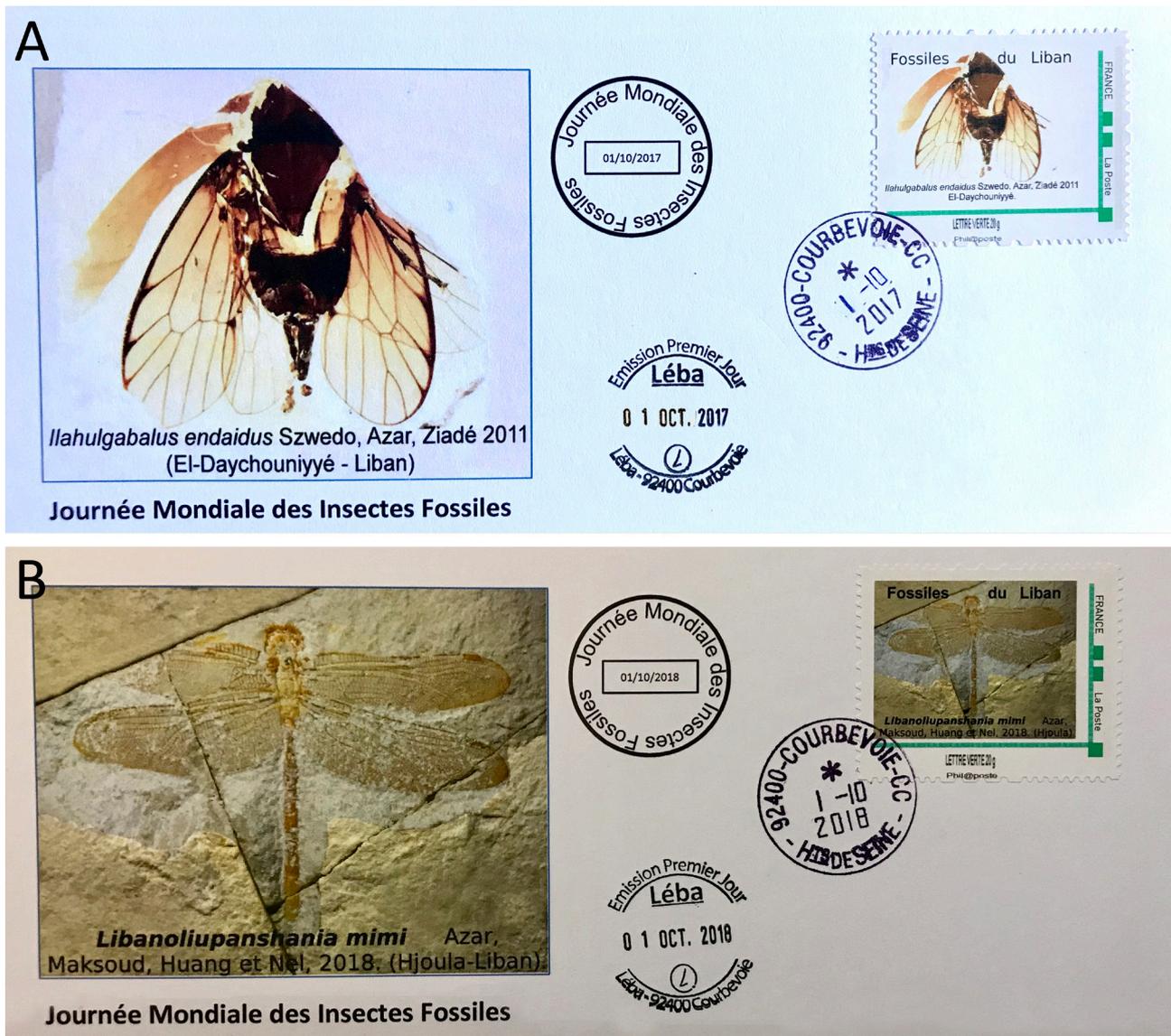


FIGURE 6. Envelopes of first day of emission of commemorative French stamps, celebrating the International Fossil Insects Day. **A**, Stamp with *Ilahulgabalus endaidus* Szwedo *et al.*, 2011, earliest Progonocimicidae preserved in amber, El-Daychouniyyé amber (Lebanon). Date of emission 1 October 2017. **B**, Stamp with *Libanoliupanshania mimi* Azar *et al.*, 2019, Hjoula limestone (Lebanon). Date of emission 1 October 2018.

a pair of shoes decorated with amber beads, in exchange for an amber necklace made from Baltic amber. Early indigenous Dominican cultures used the amber to create ornaments, which have been found in burial tombs. Fossils in Dominican amber were first reported by Lengweiler (1939), but it was not until later in the Twentieth century that Dominican amber became famous for the quality of its fossils, which include extremely well-preserved organisms: fungi, algae, plant remains, terrestrial invertebrates (arthropods, nematodes, gastropods) and vertebrates (amphibians, reptiles, remains of mammals and birds). Amber in commercial quantities is well-known from areas north of Santiago de los Caballeros and northeast of Santo Domingo (Vaughan *et al.*, 1922).

These mining districts are known respectively as the Northern Area and the Eastern Area. Minor occurrences of amber have been reported from the Plateau Central-San Juan Area (García & Harms, 1988; Harms, 1990). Until recently, the age of Dominican amber had been debated, and currently, following recent studies, it is constrained to the mid-Miocene, circa 16 million Ma (Iturralde-Vinent, 2001).

Santo Domingo's Colonial City

Santo Domingo is the capital and largest city in the Dominican Republic, and is in fact the largest metropolitan area in the Caribbean by population. It is the cultural, financial, political, commercial and industrial center of the



FIGURE 7. Dominican amber. **A–D**, Amber mining in hard conditions. **E**, Amber beads prepared for jewelry. **F**, Blue amber. **G** and **H**, Biological inclusions in Dominican amber.

Dominican Republic, with the country's most important industries being located within the city. Santo Domingo also serves as the chief seaport of the country.

Santo Domingo was founded by Bartholomew Columbus (brother of Christopher Columbus) in 1496, initially on the east bank of the Ozama River. It was later moved by Nicolás de Ovando in 1502 to the west bank of the river. The city is the oldest continuously inhabited European settlement in the Americas, and was the first seat of Spanish colonial rule in the New World. Santo Domingo is the site of the first university, cathedral, castle, monastery, and fortress in the New World. The city's Colonial Zone has been declared a World Heritage Site by UNESCO.

The Colonial City (where the Congress will be held) is a walkable grid of 16 short streets featuring Sixteenth to early Twentieth century architecture. Cobblestone lanes and iron street lamps lead to many small museums, shops, hotels, restaurants and bars tucked away on every avenue. The National Botanical Garden consists of 200 acres featuring numerous Caribbean and Dominican plant species, and is considered one of the finest in the world. The Malecon is Santo Domingo's famous oceanfront promenade.

The Congress will host participants from twenty countries, and will also feature excursions to the eastern and northern amber mines (in El Valle and Santiago de los Caballeros), as well as to the larimar mines in Barahona. It is noteworthy that larimar (also called Stefilia's stone: a rare blue variety of the silicate mineral pectolite) occurs exclusively in the Dominican Republic.

We sincerely believe that the 8th International Conference on Fossil Insects, Arthropods and Amber will not only provide the ideal platform for high quality scientific presentations and discussion, but will act as a networking and professional community nexus to inspire and facili-

tate future interdisciplinary and international collaborations.

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