

# **HAASIANA**

**A BIENNIAL NEWSLETTER OF THE NATIONAL NATURAL  
HISTORY COLLECTIONS OF THE HEBREW UNIVERSITY**

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**The Biological Collections of the Hebrew University of Jerusalem  
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Cover photograph of Northern bald ibises (*Geronticus eremita*) collected by Israel Aharoni on 1910 in the Syrian Desert near Palmyra. In 2002, a tiny population of this critically endangered species was rediscovered in Syria in the exact same location described by Aharoni, but has since become extinct. Cover photograph from the collections of Israel Aharoni at the Hebrew University of Jerusalem reviewed by Dr. Nir Sapir.

Contributions appearing in the newsletter should be considered as preliminary notes that have not been peer-reviewed.

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## Contents

<b>I. Introduction . . . . .</b>	<b>1</b>
From the Director .. . . .	1
From the Coordinator of the National Natural History Collections . . . . .	2
<b>II. The Bird Collection, including the collection of Israel Aharoni. . . . .</b>	<b>3</b>
<b>III. The Biological Collections — Reports of the Sections... . . . .</b>	<b>10</b>
1. The Herbarium . . . . .	10
2. Palaeontology, Archaeozoology and Comparative Osteology Collections of Mammals and Birds . . . . .	17
3. Aquatic Invertebrates, Arachnids and the Parasitological Collections . . . . .	23
4. Molluscs and Brachiopods . . . . .	29
5. The Fish Collection . . . . .	46
7. The Herpetology Collection—Amphibians and Reptiles . . . . .	54
<b>IV. Publications since 2012 . . . . .</b>	<b>60</b>

## **From the Director**

Once again, I welcome our readers and colleagues to this latest edition of Haasiana. As usual Haasiana is both a summary of two years of activity and a focus on one or more of the collections in Jerusalem. The main subject of this year's issue is the ornithology collection and the Aharoni collection (named after the first Hebrew Israeli zoologist). Haasiana also records the changes that occur in the Scientific Collections, and this year we particularly happy to welcome Dr. Efrat Gavish, an arachnologist who continues with the research of the late Dr. Gershom Levy on spiders, scorpions, and various other species.

We also continue with the documentation of the fauna and flora of Israel and the Middle East, together with colleagues in Israel and abroad. We are also continuing the digitalization of the collection databases in an updated new format, starting with the Reptiles Collection, but with plans to continue with the larger collections. The contributions of Dr Nir Sapir, Adi-Ben Nun and Gali Beiner have been particularly important in this new digitization project.

Prior to publication of this issue of Haasiana (but after its preparation and editing had been completed), we were deeply saddened to learn of the death of Dr. Nechama Ben-Eliyahu, our esteemed colleague and friend. Together with Dr. Daniel Golani, Dr. Ben-Eliyahu co-edited the Haasiana issues for many years. Dr. Ben-Eliyahu's many contributions to the Scientific Collections and her extensive research on Polychaeta, etc., will be presented in a future issue of Haasiana. In addition, we sadly noted the passing of Ms. Revital Kashi who worked in the past on computerization of the collection databases.

This year we welcomed Dr. Ariel Chipman in the new role of Acting Manager of the Scientific Collections whilst I was on sabbatical for eight months. Ariel's work during these months has been a inspiration and evidence of the growth and renewal that takes place within the collections

**Prof. Alan Matthews, Director**

## **From the Coordinator of the Collections**

The biennial newsletter Haasiana reports updates of the ongoing activities of the National Natural History Collections of the Hebrew University. This newsletter is named after the late Professor Georg Haas who was instrumental in establishing the scientific fields of Zoology, Paleontology and Natural History in Israel. Haasiana was first published in 1995 and since 2002 it has appeared every other year. Each issue of Haasiana includes the reports of each scientific collection, including recent activities of the collection staff during the previous two years. Each issue of Haasiana focuses on one particular collection and presents its salient projects in greater depth. The present issue focuses on the collection of the late Professor Israel Aharoni, in which were preserved specimens of many taxa of fauna; this essay was written by Dr. Nir Sapir. The last few years have seen a closer cooperation between the Collections and the Department of Ecology, Evolution and Behavior. A reassessment of areas and their purposes has been accomplished, which will benefit all. During 2013, a study room serving all the collections was designated. The room holds literature of all the collections.

The Staff of the Collections received with great sorrow the sad news of the death of Ms. Revital Kashi, who had worked with the late Dr. Shoshana Ashkenazi, who had been the head of the computerization project of the Scientific Collections. The Staff of the Collections have continued to receive the excellent assistance and support of computer scientists Adi Ben-Nun and David Shohami and of Ms. Sarit Levi from the secretariat of the Department of Ecology, Evolution and Behavior. The staff members of the Collections thank them for their cooperation and technical problem solving. Special thanks go to Dr. Nechama Ben-Eliahu for editorial assistance in the writing, editing and style quality of many issues of Haasiana.

**Dr. Daniel Golani**  
**Coordinator of the National Natural History Collections**

## II. The Bird Collection, including the collection of Israel Aharoni. . . . .

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The bird collection of the Hebrew University of Jerusalem was founded by Prof. I Aharoni (1882 – 1946; Fig. 1), containing specimens collected since 1906, before the establishment of the Hebrew University in 1925. Aharoni was an avid naturalist and a multi-lingual expert in near east and other (e.g., East European) languages. In his autobiographic book, “The Memories of a Hebrew Zoologist” (1943), he stated that “Even before my arrival to the land of Israel, my double life-long goal was clear to me: a) The study of wild animals in their natural habitat, in the birth place of each one of them, and b) The study of the original name of each creature, whom the desert dwellers (who live on their hunting and did not change their culture and way of life since the days of “Abraham” our father) are calling each living animal known to them”. Since his immigration to Israel in 1902, Aharoni travelled many times throughout the entire area between areas that are currently found within the borders of Israel, Jordan, Turkey, Iraq, and Saudi Arabia, to research the region’s wildlife. During his numerous expeditions throughout the Middle East, he collected specimens for different animal collections and gained expertise in the study of the region’s animals.



Fig. 1. Prof. Israel Aharoni.

Aharoni was responsible for important zoological discoveries, specifically (but not limited to) the region's avifauna. Aharoni collected many Northern Bald Ibises (*Geronticus eremita*) discovered in the Syrian Desert. This species is nowadays at the brink of extinction, surviving in the wild only in two locations: in southeastern Turkey under a semi-natural setting (the birds are captured during winter to reduce their mortality), and in southern Morocco in several colonies consisting of about 500 birds (<http://www.birdlife.org/datazone/speciesfactsheet.php?id=3791>). In 2002, a tiny population of less than ten individuals was located in the Syrian desert in the exact same locations where Aharoni had traced the birds a hundred years ago (Serra et al. 2004). Yet, since this re-discovery, the population has further declined and is now believed to have become extinct (<http://www.surfbirds.com/birdingmail/Mail/MEBirdNet/1410003?year=2013>

Aharoni was also the first to find the Thick-billed Lark (*Rhamphocoris clotbey*) in the Syrian Desert, as the species was documented earlier only in Africa, throughout the Sahara Desert. Another important desert inhabitant that was rapidly declining during the 19<sup>th</sup> century and the start of the 20<sup>th</sup> century is the Arabian Ostrich (*Struthio camelus syriacus*), a currently extinct subspecies of the Ostrich. This form was once wide-spread in the Middle East's deserts, including in Israel, but hunting caused its decline in the area until it became extinct. This relatively small-sized sub-species had several unique characteristics separating it from the other subspecies, among which, Aharoni described the differences in the characteristics of its egg (Aharoni 1943).

When the Hebrew University of Jerusalem was founded, Aharoni was already a renowned teacher and scientist and, consequently, he became one of the first professors of the newly established university. He founded a collection that was meant to become a zoological museum of local wildlife at the university's campus in Mt. Scopus. Aharoni wrote several books for students of zoology, providing important contribution to the development of the study of local zoology. His autobiographic book provides ample information about his teaching and, especially, his expeditions in the Middle East, as well as a rich description of different aspects of his personal life during several decades since his immigration to Israel. His animal collection was maintained by himself with the help of his daughter, Bat-Sheva Aharoni, a scientist in her own right (Fig. 2).

After his death in 1946, there were hardly any new specimens collected for the collection over a period of about twenty year, until the second half of the 1960's, after the six-day war in 1967. Since then, many specimens were collected by Uriel Safriel and his students, as well as by other people that found dead birds in the field. The birds were mainly from areas west of the Suez Canal, the Sinai Peninsula, and Eilat, with the latest specimen in the collection dated 1982. In Figure 3, we describe the frequency distribution of the specimen collection from 1906 till 1982, the period during which collection of specimens took place (see Fig. 3).



Fig.. 2. Prof. Aharoni and his daughter, Dr. Bat-Sheva Aharoni in the collection hall at Mt. Scopus campus of the Hebrew University of Jerusalem

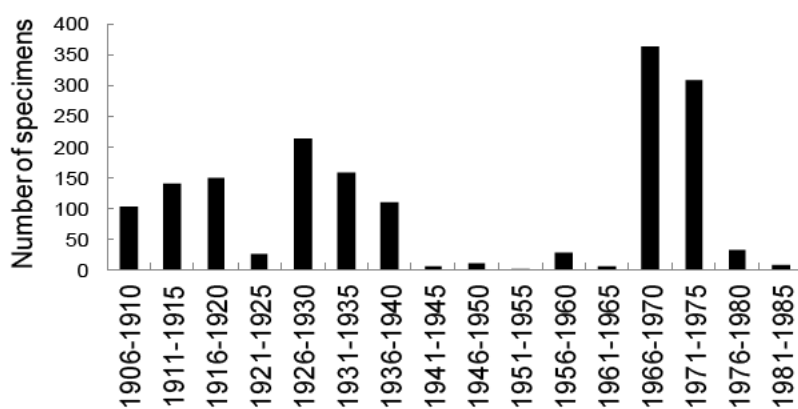


Fig. 3. The frequency distribution of specimen collection times of the Bird Collection, the National Natural History Collections, Note that an additional 476 specimens for which the year of collection is unknown are also included in the collection; this number is expected to substantially decrease following a forthcoming review of their particulars



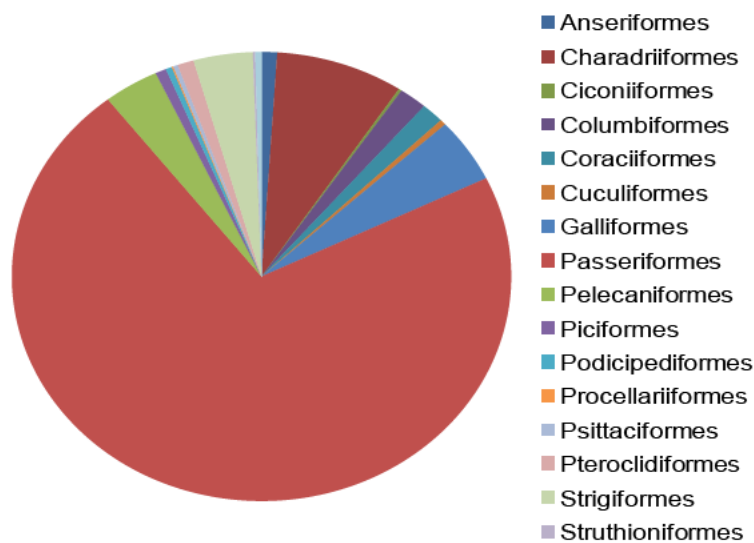


Fig. 4 describes the composition of the collection, by providing the proportion of the specimens in each of the sixteen avian orders. In Figure 5, we depict the proportion of specimens collected from different geographical areas.

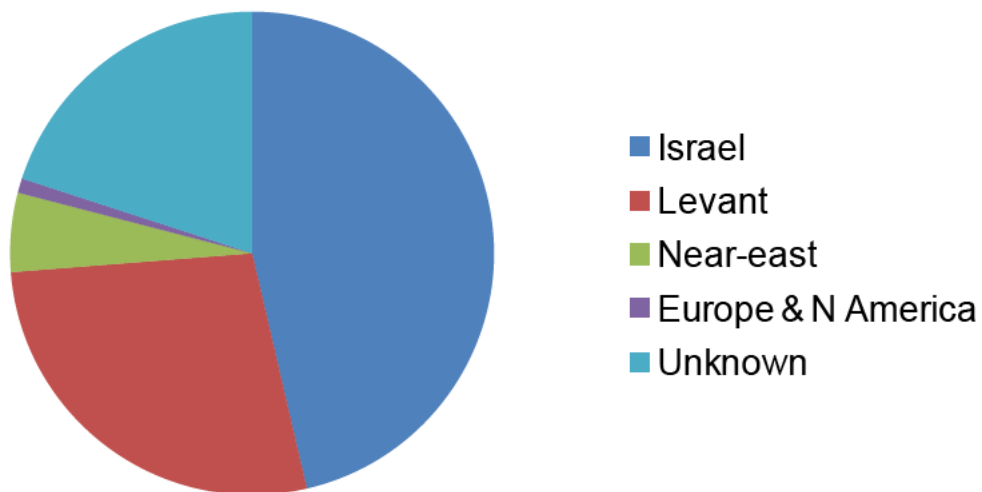


Fig. 5. The frequency distribution of specimens in relation to country of collection of the Bird Collection, the National Natural History Collections, The Hebrew University of Jerusalem. Note the large number of specimens of which their country of collection is currently unknown; this number is expected to substantially decrease following a forthcoming review of their details.

At some unknown time after the Six-Days War, the collection was moved from the Mt. Scopus campus to Givat Ram (now the Edmond J. Safra) campus and was stored in a basement. Several years ago, a suitable storage place for the collection was obtained and, since July 2012, the collection is stored in a designated room in Lubin building. During the transfer of the collection to its new location, the collection specimens were catalogued, their identifications were reviewed and their physical state of preservation was assessed in order to create a list of specimen-preservation

priorities. The collection was treated with pesticide and most of the collection material is presently stored in metal drawers and cabinets.. Very large specimens that could not be stored within cabinets, including Griffon Vultures (*Gyps fulvus*), Great white pelicans (*Pelecanus onocrotalus*) and Arabian Ostriches (*Struthio camelus syriacus*) were placed on top of cabinets (Fig. 6).



Fig. 6. Large bird specimens in the new collection hall of the Bird Collection, the National Natural History Collections. From left to right: Arabian Ostrich (*Struthio camelus syriacus*), Griffon vulture (*Gyps fulvus*), Great white pelican (*Pelecanus onocrotalus*), and Eurasian eagle owl (*Bubo bubo*).

The collection is presently used for research (by N. S.) on bird functional morphology, in order to assess contributing factors and interrelationships of morphological fluctuating asymmetry indices in birds. For this study, bird biometrics are taken from selected bird groups. In addition, the collection specimens are used for teaching in the course “Ecology, Evolution and Behavior of Birds”. Specimens are used to teach the students about different bird species in Israel, as a preparation for field work and for their general knowledge. Our future plans include a continuous expansion of the collection, and we expect to re-start collecting specimens during the coming year (2014), with a first specimen, a Barn owl (*Tyto alba*), that happened to be found dead by Ms. Rivka Biton in the court of Berman building in the Edmond J. Safra campus during November, 2013. We plan to advertise the collection among bird researchers in Israel and abroad in order to encourage the work on the collection, and will be happy to facilitate visits to the collection for interested researchers. In addition, a plan has been set to renovate the room adjacent to the collection hall, and to use it as an interactive class and exhibition room that will be devoted to teaching about the National Natural History Collections of the Hebrew University of Jerusalem.

The collection currently contains 2,040 specimens, some of which are of particular interest:

1. Arabian ostrich (*Struthio camelus syriacus*) – a female and two chicks, representing the remains of the once wide-spread population of this sub-species, were collected by I. Aharoni in northern Saudi Arabia, about 500 km east of Israel, on March 27, 1927 (Shirihai 1996). Due to the poor physical condition of these specimens, they are ranked among the highest priority for preservation and restoration.

2-Levant Darter (*Anhinga rufa chantrei*) – birds of this distinct Middle Eastern subspecies of the African Darter inhabited the Lake of Antioch (or Lake Amik) in southeastern Turkey until its drainage from the 1930's onward which led to the extinction of this population. Darters of this sub-species were seen in the swamps of southeastern Iraq at least until the 1990s', but the population's current status is unclear and it (and consequently the subspecies) might have become completely extinct nowadays. Aharoni described Darters from the Lake of Antioch during the breeding season, and the species was also known to visit the Hula Lake of northeastern Palestine and other wetlands in the north and coastal plains of Palestine during wintertime. The species was last seen in the Israel in the winter of 1957 in the Hula Valley (Shirihai 1996), with a more recent observation in the Sea of Galilee (Lake Kinneret) on 31<sup>st</sup> May 2004 ([http://www.israbirding.com/irdc/bulletins/bulletin\\_5/](http://www.israbirding.com/irdc/bulletins/bulletin_5/)). Aharoni and his fellow collector Yehezkel Hankin collected a total of 24 individuals, including chicks, from the Lake of Antioch.

3-Purple swamp-hen (*Porphyrio porphyrio*) – The swamp-hen is another species inhabiting the Lake of Antioch, and the form that existed there was of one of the Western Asian sub-species *caspius* or *seistanicus*. Seventeen specimens were obtained by Aharoni from the lake. Almost all the records of the species in Israel are of birds of the African sub-species, *P. p. madagascariensis*, likely originating from the Egyptian population. A single bird apparently exhibiting characteristics of the *caspius/seistanicus* subspecies was recorded in the Golan Heights on July 11, 1999 ([http://www.israbirding.com/irdc/bulletins/bulletin\\_2-2/](http://www.israbirding.com/irdc/bulletins/bulletin_2-2/)). The separation between these two sub-species is difficult and their current distribution in our region is unclear.

4- Northern Bald Ibis (*Geronticus eremite*) – Twenty specimens are present in the collection from the expeditions of Aharoni to the Syrian Desert. These include adults and chicks that were collected in the field and at the nests. These collections, and other collections of many individuals from this population to other bird collections, have probably contributed to the grim destiny of this population and species.

5- Carrion crow (*Corvus corone*) – a single specimen, collected in Jerusalem on 15<sup>th</sup> of February, 1907 represents the only record of this species in the country. It is not clear, though, whether this specimen represents an escapee or another case of unnatural human-related occurrence, as the details of the collection are unknown. This specimen will be further examined in the near future to ascertain its identity, in a hope to shed light on the species' status in Israel.

An important aspect that can be examined using the long-term bird collection is the dynamics of habitats suitable for different species, deduced from the locations of collected specimens. An obvious example of such dynamics is the change of habitat suitability for steppe and desert species in western Israel, specifically along the plains

of central and south Israel, located about 10 to 25 km from the shoreline. Aharoni collected many steppe and desert species in the area of Rehovot, Eqrone and Hulda. These include the MacQueen's Bustard (*Chlamydotis macqueenii*), formerly known as the Hubara bustard, the Saker Falcon (*Falco cherrug*), the Sociable Lapwing (*Vanellus gregarius*), the Desert Finch (*Rhodospiza obsoleta*), and the Lesser Short-toed Lark (*Calandrella rufescens*). These species are extremely rare or have not appeared at all in this area for many decades, and inhabit areas found in the northern Negev, about 60 – 100 kilometers to the south. Many of these species, specifically the non-passerines, have also become much rarer than in the days of Aharoni, likely due to different anthropogenic disturbances such as hunting and habitat alterations. The current habitat associations of the above-mentioned species suggest a strong steppe and desert habitat affinity, and we may therefore conclude that the area of Rehovot and Hulda was once similar in its physiognomic characteristics to current characteristics of the area found west of Be'er-Sheva, containing open, semi-arid, agricultural and shrub-steppe plains with scattered vegetation. A different explanation is that bird populations inhabiting this area became extinct due to human activities such as hunting, habitat destruction due to intense farming and poisoning, while those of the northwestern Negev did not.

The bird collection of the Hebrew University of Jerusalem, founded by Prof. Israel Aharoni, represents a unique source of knowledge of the birds of the Middle East, especially during the first third of the 20<sup>th</sup> century. The collection, which has been maintained under poor storage conditions for decades, is currently stored within new cabinets under stable temperature conditions in a designated room in the Lubin Building. We welcome researchers interested in studying the collection specimens. The planned development of the collection and its expected expansion in the future will surely re-establish its status as one of the leading bird collections of the nation and the entire region.

#### ACKNOWLEDGEMENTS

We would like to thank all the people involved with the planning, execution and construction of the new collection home in Lubin Building. Specifically, we would like to thank Gali Beiner, Dr. Rivka Rabinovitz, Sarit Levy, Orna Bar and Dr. Ya'acov Nisenbaum for their important help.

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