

## NATURALISTS FROM SIBIU AND THEIR FOSSIL COLLECTIONS AT THE NATURAL HISTORY MUSEUM FROM SIBIU

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### Rezumat

#### Naturaliști sibieni și colecțiile lor de fosile din Muzeul de Istorie Naturală din Sibiu

Intelectualii sași transilvăneni, ai veacul XVIII, și-au putut extinde studiile și în domeniul naturii. Bucurându-se de autonomie politică, relativ bine situați economic, având strânse legături cu știința apuseană și în primul rând reușind să invite personalități științifice din țările germanice, sașii erau purtătorii noilor curente în ceea ce privește cercetarea naturistă.

În Europa veacului al XVIII-lea era un larg curent, la modă, prin care reprezentanții de seamă ai societății își îndeplineau statutul în societate și prin strălucirea unor colecții artistice-științifice de valoare; acestea reprezentând investiții sigure, chiar dacă nu erau rentabile.

Sibiul, ca centru administrativ al Provinciei a contribuit la mișcarea naturalistă prin colecțiile sale, bibliotecă, ajutoare bănești care, au făcut, ca în scurt timp, acesta să devină și centru cultural-științific de notorietate internațională. În lucrarea de față dorim să readucem în atenția cititorilor trei colecționari de fosile, cu cercetări importante în domeniu care deși au trăit în epoci diferite au dovedit aceeași pasiune în activitatea de colecționare: MICHAEL JOHAN ACKNER (1782-1862) profesor și pastor, arheolog și mineralog; LUDWIG JOHANN NEUGEBOREN (1806-1887) profesor, pastor, mineralog și paleontolog și RICHARD ERNST BRECKNER (1900-1979) licențiat în arte, în jurnalistică, teatru – secretar și dramaturg a fost, și în intervalul 1944 - 1946, custode al colecțiilor paleontologice la Muzeul Societății. Toți trei au fost membrii Societății Ardelene pentru Științele Naturii (*Verhandlungen und Mitteilungen des siebenbürgischen Vereins für*

*Naturwissenschaften zu Hermannstadt*) cea care a fondat Muzeul de Istorie Naturală Sibian.

**Key words:** M. J. Akner, L. J. Neugeboren, E. R. Breckner, the fossil collections, Natural History Museum from Sibiu.

The Romanian Transylvanian intellectuals, determined by the necessity of stating their national, political and social rights, were especially preoccupied with researches concerned with topics from history and philology. On the other hand, the Saxon Transylvanian intellectuals from the 18th century extended their studies to the field of nature. Since they enjoyed political autonomy and were relatively wealthy, having close connections to the western science and especially because they managed to invite scientific personalities from the German countries, the Saxons represented the new trends in natural research. In 18th century Europe, there was this trend in fashion according to which high ranked representatives of society used to strengthen their statute also thorough the glow of several valuable artistic–scientific collections; these represented secured, even profitable investments. Transylvania owes a special qualitative leap in the activity of collecting to the baron SAMUEL VON BRUKENTHAL, who even reached the high rank of governor of Transylvania, an important personality of those eras, for whom collecting was not a purpose but a way of getting to know more about the past and the country history, about the natural resources, or to encourage the science men to study them. He is one of those who created the interest for collecting native values and thus contributing to saving and conserving them.

For a good period of time, ever since the 2nd decade and until the 8th decade of the 18th century, the most important part of the naturalistic literature in what concerns Transylvania was made up by monographical works about the Principality minerals, as an expression of the exquisite interest in the mining wealth of Transylvania. This was reflected in a generalization of the mineralogical and petro graphical knowledge needed for the activity of collecting; the mineral collections grew in numbers to such an extent that the foreign travelers would stop in various centers of Transylvanian culture, to study them. The fame of the mineral richness of Transylvania leads to an increase of the interest of the European museums to ensure samples from Transylvania in their collections.

In the current paper we intend to present three of the fossil collectors, famous and Sibiu and who stood out through their collections and through the writings about fossils, and who also contributed through their activity to the setting up of the Natural History Museum from Sibiu—to the deposit of its paleontological collections. We focused in the current paper on the fossil collections of L. J. NEUGEBOREN, M. J. ACKNER and R. BRECKNER.

Being the administrative center of the Province, Sibiu has contributed to the naturalistic movement through its collections, library, financial contributions which made it possible in a short while for the city to become a cultural – scientific city internationally known. A special impulse in promoting the native research, on scientific basis, had the constitution on May 4th 1849 of the Transylvanian Society for Natural Sciences (*Siebebürghische Vereins für Naturwissenschaften zu Hermannstadt*) located in Sibiu. The Society (is the abbreviation for the *Transylvanian Society for Natural Sciences from Sibiu*) aimed at the "thorough knowledge and ever more consistent research in the field of natural sciences, the arduous collecting...of the natural resources...the facilitation of the study by setting up a collection". According to the statements from the Bylaws of Constitution, the Society did not restrain from a territorial perspective, neither from a national one – it was opened to all the researchers who dealt with the scientific study of nature.

The initiative committee also included those whose activity of collecting and collections make up the object of this attempt. Thus, MICHAEL JOHAN ACKNER (1782-1862), professor and preacher, archaeologist and mineralogist, and LUDWIG JOHANN NEUGEBORN (1806-1887), were not only the initiators, but also the supporters of the Society. One of the arguments which can be brought to support this information is the frequent appearance of their names related to almost all the activities of the Society. The *Vereinsnachrichten* column of the Society journal (*Verhandlungen und Mitteilungen des siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt*) records this fact.

The love for nature as well as for man as integrating part of the environment, his education, determined them to make great sacrifices in order to collect and study representative items from the flora and fauna of the past eras, in a time when the natural sciences were at their very beginnings and people only considered exploiting the natural resources of the Earth. The Transylvanian collectors have the merits of having foreseen the utility for the future of collecting and systematically studying of representative pieces of the fossil fauna of the Province.

The statement made by FICHEL in 1778 in the paper "Beitrag zur Mineralgeschichte von Siebenbürgen", that he regrets the absence of mineral collections in Transylvania but by judging the number of natural science volumes in the baron SAMUEL VON BRUKENTHAL's library he believes that this activity would begin and would intensify, supports the opinion that the interest for the activity of collecting emerged towards the end of the 18th century.

The private libraries of the intellectuals from Sibiu, and especially that of the baron, have represented the starting points of a collecting activity undergone by scientific methods. Upon returning from the studies they had done in the big cultural centers of Europe, the

intellectuals from Sibiu were not only the supporters of the most advanced spiritual, cultural and scientific trends, but also of setting up libraries at the level of those they had found abroad.

Although the established natural science literature in end of 18th century and beginning of 19th century Transylvania was, like we mentioned before, represented especially by monographical papers about the mineral of the Principality, as a result of the necessity of exploiting the Transylvanian underground richness. In a paper on fossils, ACKNER (1849-1850) underlined that paleontology was a young science "highly instructive, forgotten for a long time by geologists and mineralogists".

The society members have noticed the importance of paleontology and have granted it a special interest. Thus, ever since the emergence of the Society there has been a section which had paleontology as subject of study, and one may say that the grounds for the personal paleontological collections of the founders, as well as of the museum were set together with the grounds for the founding of the Society. One of the objectives of the Society was also the creation of a museum. Their wish came true in 1895, when the natural History Museum of Sibiu was opened to the general public. Among the founding members of the Society there were naturalists who became through their researches internationally known paleontologists, promoters of several paleontological fields for this territory and not only. Among these were NEUGEBOREN and ACKNER. To this one may add later on, though not at the same level, BRECKNER.

There are no direct data connected to the numeric evolution of the personal collections of the three collectors which represent the topic of this study, but one may estimate their evolution from their activity of collecting for the museum, since the increase of the paleontological collections of the Natural History Museum from Sibiu is mostly due to the activity of the Society members. NEUGEBOREN, the caretaker of the mineralogical, geologic and paleontological collections, announced at a meeting of the Society in 1854, that these collections already encompass 950 ordered, labeled pieces to which other unordered, unlabeled pieces are added. 11 years later, in 1865, the paleontological collection already reached over 10,000 items belonging to 1, 325 species of fossils. In the Society journal, *Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt*, all the activities undergone are recoded with German meticulousity. Therefore, one may draw the conclusion that the personal collections of the three naturalists – which represent the topic of the current study- have increased, based on the fact that the number of paleontological items of the Museum has also increased.

The main way to acquire paleontological pieces was represented by field collecting, organized in the form of trips in rich fossil areas. For example, in 1866 the Society organized a trip meant to have as purpose the collecting of minerals and fossils from the Petroșani areas, the Zănoaga Mountains, Vulcan, to which especially the Society members participated. It was again the Society which gave travel scholarships having as purpose - the collecting of paleontological material. Such scholarships were given to each of the three scholarships who we studied.

Both the museum and the private collections have also increased through donations, acquisitions and exchange with significant universities, museums, institutes from Romania and from abroad. NEUGEBOREN, ACKNER, personalities of important position in the Saxon society of Sibiu have close connections with the geological, paleontological specialists from the Empire and not only. Most of the donations for the museums are due to the Society members, thus proving one more time the main purpose of the activity of the Society and of the museum: of increasing the level of culture of their fellow citizens, especially of the younger ones.

In 1852, the paleontological collections of the museum were made up of 1,800 items, organized in such a way so that the visiting public could see "great chunks of buck horns and diluvia skull, fish remains from crystalline", pointed out NEUGEBOREN (1852) in the Society journal.

The personal paleontological collections contained also doubles for various species which the collectors either sold or donated to the Museums. The acquisitions were necessary because those who were members of the Society were not rich people, who made a living from their own work and throughout all times the research and collecting required significant funds (many have bought pieces from other areas besides the local horizon). However, there were cases in which great collectors have bought small collections from their contemporaries because neither the Society, nor the Museum had the needed funds. This is the case of BIELZ, president of the Society, who in 1860 bought a collection of fossils from ZACHARIAS from Sibiu.

The great collectors from Sibiu have gathered fossils from various regions with the help of the un specialized collectors. Thus it is eloquent the correspondence carried out by the collectors with various people of diverse professions who at the same time with asking for advice related to social fields were also offering information related to the collecting spots of the fauna and were asking for help, for advices related to the determination and collecting of fossils. The professional contacts enabled also an exchange of information related to the fossils.

In the period when these collections were set up, the collectors – hobbyists according to the current denomination of this activity – are the ones who are sought after for collecting of information related to the paleontology of the local horizon and even for guiding in the field of those who came from across the borders and were interested in the geology of Transylvania.

### THE MICHAEL JOHANN ACKNER COLLECTION

**MICHAEL JOHANN ACKNER** played an important role in the evolution of the Society in the field of mineralogy and paleontology, an important personality of the Society in Sibiu who distinguished himself in various fields: education, mineralogy, paleontology, archaeology. After finishing his studies in Germany and several voyages in Renania, Italy and France, he comes back to Sibiu with a great passion for archaeology and geology. After a short period of teaching in the gymnasium of Sibiu, he settles in the Gușterița village, situated in the south – east of the city of Sibiu. Today a neighborhood of the city places at the bottom of the Pădurea or Gușterița Hill, it became famous among paleontologists due to the fossils discovered here by ACKNER, especially the quaternary vertebrates.

The priest and royal counselor, Ackner was known especially through his collection and archaeological researches and was members of the two Saxon cultural Societies of Sibiu: *Verein für Siebenbürgische Landeskunde* and *Siebenbürgische Naturwissenschaften zu Hermannstadt* (NEUGEBOREN 1866) Besides being the founder of the latter, he was one of its active members and an assiduous collector. This is proven by the often mentioning of his name in *Vereinsnachrichten* connected to the collecting activity of fossils for the Museum.



Michael Johan Ackner (1782-1862)

The collecting activity, started in the 20th decades of the 19th century represented the materialization of the studies and researches undergone in the field of geology (mineralogy, paleontology). An important paper with paleontologic subject is *Contribuția la geognosia și paleontologia fosilelor pietrificate din sud-vestul Transilvaniei* (1945) and for the first paper dealing with the ores from Transylvania *Mineralogia Transilvaniei cu observații geognomice* (1855) Ackner received the award of "The Association for Transylvanian Geography" („Asociația pentru Geografia Transilvaniei”).

The works published in this field did not remain without any echoes. His contemporary L.J.Neugeboren, a member of the same Societies and having similar activities, used to eulogistically appreciate Ackner's scientific attempts (NEUGEBOREN 1852). The often trips to Cisnădie (Heltau), Cisnădioara (Mischelsberg), around Cluj (Klausenburg) and across the Carpathians (WOLLMANN 1982) represented occasions for ACKNER to collect fossils. One can thus explain the fauna diversity of his collection. Compared to NEUGEBOREN's collection, ACKNER's is far richer as from the point of view of the fossil types and collection points, such as: Agnita, Bruuiu, Săcădate, Ilimbav, Daia.

The acquisition of the **ACKNER collection** from Hermann Ackner, his eldest son, for the sum of 4,500 florins, was recorded in Vereinsnachrichten (1866) in 1866. CZEKELIUS, caretaker of the paleontological collection of the Museum mentioned upon taking over the collection that it has a "strong Transylvanian character" and that the items of the ACKNER collection were personally collected and obtained from other collectors through exchange or acquisition.

The catalogue of the ACKNER collection, already renowned among the Transylvanian naturalists is published in the first issue of the Society journal (1850).

By studying the catalogue one may notice that it contained fossil items from almost all of the systematic groups (table 1).

Table 1

| Fossils – systematic groups | Places of collecting                            |
|-----------------------------|-------------------------------------------------|
| Plants                      | Daia, Săcădate, Cornățel, Glâmbocă, Băile Lăpuș |
| Sponges, corals             | Săcele, Zărnești, Brașov, Turnu Roșu, Dobârca   |
| Echinodermes                | Turnu Roșu, Căsnădioara, Cluj,                  |
| Cephalopodes                | Căsnădioara, Săcel, Brașov                      |
| Brachiopods                 | Brașov, Turnu Roșu                              |
| gastropods                  | Turnu Roșu                                      |
| Crustaceans                 | Turnu Roșu                                      |
| Bivalve                     | Turnu Roșu, Dobârca                             |

In a paper referring to the mineralogical and paleontological collections from Transylvania, NEUGEBOREN (1866), eulogistically talked about the ACKNER collection and pointed out that it was bought with the support of the "National Saxon House and of the Societies: "the Transylvanian Society for the Study of Nature from Sibiu" (*Siebenbürgische Verein für Naturwissenschaften zu Hermannstadt*) and "the Society for the Study of Transylvania" (*Verein für Siebenbürgische Landeskunde*)(*Verhandlungen*, 1867). In 1867 the doubles of the ACKNER collection were given to the Evangelic School from Sibiu (*Verhandlungen*, 1867:1). The collection was enlarged at a short time after the acquisition. Thus, NEUGEBOREN, as caretaker of the paleontological collections, thanks in a meeting of the Society to CZEKELIUS and MOEKESCH for the enlargement of the ACKNER collection with fossils from the surroundings of Cluj and Alba Iulia (*Verhandlungen*, 1867:238).

NEUGEBOREN mentioned in 1866 that in the ACKNER collection there were 3,791 items out of which 1, 728 were fossils (geognostical items) in which the following were represented: the "diluvia from Gușterița, the petrified plants from Thalheim – Daia- tertiary, Sebeșul de Sus, Porcești (lower tertiary), Căsnădioara (chalk formation and Gosau), Rășinari". The collection also included fossils belonging to the 1,315 species, the most valuable being those from Gușterița (mammal bones), from the Hârtibaciu Valley (plants, fossil fish, mammal bones), the Brașov area (certain corals), Săcădate (plants, tertiary fish), Turnu Roșu (Porcești), Căsnădioara, Buituri, Racoș, Muncelul Mic, Lăpușul de Sus, Cluj (NEUGEBOREN 1866).

The discovery of the many fossils from the Gușterița Hill, where ACKNER was priest, drew the attention of the paleontologists towards this fossil point. The geological works from the end of 19th century and from the first decades of the 20th century remind the fossils studied in the ACKNER collection from Sibiu, when presenting the potential from Gușterița. If



the fossil area from Turnu Roșu is known especially due to the works and collection of NEUGEBOREN, Gușterița is known due to the discoveries of ACKNER. The naturalist ACKNER, unlike NEUGEBOREN, did not work, outside volunteering as member of the Society, inside the museum, and obtained special performance in the field of archaeology. The papers with exclusive paleontological theme are few and the ad notations made by NEUGEBOREN and later on by KOCH related to incorrect determinations, point to the fact that time was not on his side in going deep into this field. However, NEUGEBOREN did not lose the opportunity to praise ACKNER's collecting activity, mentioning that through his collection several fossil groups were completed and dedicates him a species of bivalve *Cardium acknerii* (NEUGEBOREN 1851).

From the records from the Vereinsnachrichten column of the Verhandlungen journal one might notice the continuous increase of the ACKNER collection after its acquisition by the museum. It was only in 1891, that VON SACHSENHEIM, caretaker of the collection of the Museum from that period, worked on recording the collection (Verhandlungen, 1891:XV). Unfortunately, this registry was not kept and an inventory registry made by BRECKNER, at the beginning of the 20th century and kept in the Natural History Museum does not point out data referring to the ACKNER collection, but only the existence of isolated pieces donated by ACKNER. The entire collection, as museum entity, used to exist in the museum before 1955. We conclude this from the fact that Ilie (1955) makes references to the ACKNER collection when he presents the Pontian and the Pleistocene from Gușterița, in the geologic research of the Alba-Iulia-Sibiu-Făgăraș-Rupea area, namely in the stratigraphic descriptions. Currently, the ACKNER Collection does no longer exist in its form from the time of the acquisition, but only as isolated pieces among the "*Old collection of the museum*", also called "*the Society Collection*".

Although the collection does no longer exist as ACKNER left it, important items of this collection are presented and scientifically rendered. Had there been drawings of the fossil items, the reconstitution of the entire collection would have been possible.

### **THE LUDWIG JOHANN NEUGEBOREN COLLECTION**

Towards the end of the 18th century, Sibiu was the residence town of the governor of Transylvania and at the same time it came to be one of the important centers of natural science researches. It was in this context that **JOHANN LUDWIG NEUGEBOREN**, an important personality of the 19th century, risen from among the Transylvanian Saxons, completed his education, clerical and scientific activity.

NEUGEBOREN was born on August 2nd 1806 in Sebeş in the family of the high steward DANIEL GEORG NEUGEBOREN. He began his studies at the Gymnasium from Sibiu, and carried them on in Vienna, starting with 1822, where he attends the courses of the Protestant Theological Seminary. He remained in Vienna four years and a half, as he himself confesses later on. He dedicated his fourth year to the study of natural sciences. NEUGEBOREN has studies physics with professor dr. BAUMGARTEN (the future president of the Austrian academy), chemistry with professor MEISSER, mineralogy and crystallography with professor MOOS – from the Mineralogical cabinet of the Imperial Court from Vienna (all of whom are personalities of sciences who are still famous nowadays). During this time, NEUGEBOREN has acquired the knowledge necessary for the collector and researcher that he would later on come to be.

After spending a short while as professor at the Saxon Gymnasium from Sibiu (1834 - 1840), he changed the lecturing desk for the position of librarian and caretaker of the Brukenthal Museum. In the years following his superior studies he takes up a typical career – starts as lecturer and gymnasium teacher and later on works as clergyman. The school being a church institution which directly belonged to the religious community, there was this unwritten rule according to which every clergyman had to undergo a stage of school servicing. On the other hand, the clergyman was usually the bearer of a general knowledge, with inner vocation for scientific work and research, besides theology and a philosophical preparation. It is the period when NEUGEBOREN came to know the problems connected to the education of the youth in the field of natural sciences. And his having worked at the Museum of the baron Samuel von Brukenthal contributed to his acquiring the knowledge and the needed experience in museum activities (recording, conservation, etc.).



Ludwig Johann Neugeboren (1806-1887)

The year 1840 represents the beginning of this activity as paleontologist: NEUGEBOREN starts his trips in areas which would become famous in the field of paleontology also due to him. Thus as a result of the often trips to Porcești (Turnu Roșu, jud.Sibiu) he gathers Eocene fossils, especially shark teeth which represented an important collection of the Society Museum. The Eocene sharks fossil fauna from Turnu Roșu has provided him the material to write the first systematic monography from Transylvania and from the entire Romania - considering the current state limits (NEUGEBOREN, 1850).

Through the studies undergone on the foraminifera collected from Lăpugiu (Hunedoara), NEUGEBOREN can be considered **the founder of micropaleontology in Romania**. He wrote 15 papers in the field of micropaleontology, studies in which he described and illustrated a new genus and 147 new species of foraminifera. "The NEUGEBOREN collection of foraminifera" housed at the Natural History Museum from Sibiu has a special scientific value since it is made up of unique pieces with universal heritage value. The doubles of the micro paleontological material collected by NEUGEBOREN from Lăpugiu were sent to Vienna. At present they are hosted in the "K. K. Hof.Mineralien-Cabinett" collection from Vienna, accompanied by the items list written by NEUGEBOREN himself (CIOBANU 1996).

As recognition of this activity in the field of geology and paleontology, at January 1st 1855 the board of the Imperial Geological Institute of Vienna notified NEUGEBOREN that he was nominated corresponding member of this institution and two years later he was elected honorary member of the Belgian Royal Academy.

The NEUGEBOREN collection was bought on may 8th 1910, and it included fossils from Lăpugiu de Sus and Porcești (foraminifera, sharks remains, mollusks). Among these, the foraminifera from Lăpugiu and sharks teeth from Turnu Roșu are very valuable.

The Eocene sharks teeth collection from Turnu Roșu, based on which NEUGEBOREN has written his famous monography related to Eocene selachians was not maintained entirely. However, the foraminifera' collection from Lăpugiu de Sus (Hunedoara), far more fragile than the previous one, which contained 1,636 pieces out of which 403 are types for 79 species, was maintained. The collection material was gathered by NEUGEBOREN in 1846 – 1872 and used to write 12 scientific articles; however, he did not exhaust the entire material. The collection was partially revised by GHEORGHIAN (1968, 1998). The foraminifers' collection is very valuable, since it is the only one which contains micro paleontological materials from the type location and stratus.

The NEUGEBOREN collection has represented and still represents a starting point for two foraminifera and sharks fossil groups and made famous two fossil areas: Porcești and

Lăpugiu. Upon its acquisition, NEUGEBOREN's collection, unlike ACKNER's, was not so diverse from the fauna point of view, or from the collecting areas perspective. NEUGEBOREN on the other hand was a field opener for the paleontological research through the study of these two fossil groups, and his studies were accomplished at a high scientific level.

## THE RICHARD ERNST BRECKNER COLLECTION

**The RICHARD ERNST BRECKNER Collection** was bought in 1954 and it includes Miocene fossils from Lăpugiu de Sus and Eocene fossils from Porcești (Turnu Roșu).

BRECKNER (1900-1979), bachelor of arts with a prolific activity in journalism, theatre – secretary and play writer, despite his illnesses, was caretaker of the paleontological collections of the Society Museum in 1944 – 1946; during this time he collected the shark fossil teeth.

The collection was bought in 1954 by the museum from H.BRECKNER, a typography worker from the same village - data from accounting documents belonging to the archive of the Brukenthal National Museum. Next to the Eocene selaciens (teeth) from Turnu Roșu the collection also includes molluscs, echinoderms from the same fossil point, as well as mollusks from Lăpugiu de Sus (Hunedoara).

In the lexicon coordinated by SCHULLER and HEINZ (1995) it is stated that in the period 1933-1938, BRECKNER lived as free lancer from writing and from the scientific papers about the collection of Transylvanian fossils, with no mention of the name of these papers or where they were published.

BRECKNER's name, who has put together this valuable collection, is frequently quoted in the report of Binder starting with 1937, caretaker of the geological and paleontological collections (Verhandlungen, 1937/1938). In 1938, is a similar report, after praising BRECKNER's activity from the previous year, Binder stated that for the future the paleontological collections have found a zealous and competent caretaker in BRECKNER, who, after having dealt with "years of petrified tertiary's from Porcești especially with shark teeth", has taken over not only the Society collection, but also the Brukenthal collection and besides tedious activities of ordering, cleaning and maintaining the items, has taken over redeterminations of shark teeth. The catalogue of the paleontological collections initiated by BRECKNER in 1938 is kept at the National History Museum from Sibiu. Since the last issue of the Society journal dates from 1946, there are but few data regarding BRECKNER's activity.

The nationalization process, the often changes of the deposit locations, the absence of a paleontologist at the museum have all left their touch on the paleontological collections, to

such an extent that at the museum, besides the collection no other document related to the personality and activity of BRECKNER were kept. Since the Society journal presents his activity only up to 1944, fragments of his activity following this year are to be found in the documents of the museum archives. In 1944, the caretaker of the paleontological collection from that time, BARTMUS, thanks Richard Breckner for his continuous activity in this section and refers to him as caretaker of the paleontological collection.

Fortunately, the same as in NEUGEBOREN's case- though taking into consideration the proportion, both the activity and the collections are hardly known in the country and almost unknown abroad. A small part of the sharks teeth collection was determined by Breckner and the determinations prove the knowledge of the fundamental papers related to sharks teeth. He had in his care the entire paleontological collection of the museum. The Breckner collection is kept at the Natural History Museum from Sibiu, inv. nr. 34.145 – 43.457.

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Paleontology has never been a priority field for the research of the collections and their processing. Perhaps the number of museum employees has always been reduced, the lack of specialized literature, the fact that unlike the zoological and botanic items requested immediate processing, have represented the reasons why fossils have been less processed, have been less inventoried etc. Nevertheless, the paleontological collections of the three collectors from Sibiu represent landmarks in the study of the fossil groups and of the stratigraphy of areas such as: Turnu Roșu, Lăpușiu, Gușterița which became *locus tipus* also due to their contribution.

Regardless of the place in which he underwent his activity – school, museum, church – he fulfilled his duty not only with conscientiousness but also with a lot of passion, since he was constantly preoccupied with perfecting the respective field.

If today the Natural History Museum of Sibiu hosts one of the richest paleontological collections in the country, which it is used with the purpose of improving the relation man – nature, this is only the merit of the collector forerunners from the 18th century. One could claim neither that these passionate collectors and researchers at the same time foresaw the aggression deployed by man against nature, and therefore nor that they had an ecological conscience, but in fighting against the degradation of the environment, knowing it deeply is the first step. In this sense the example of their commitment for the knowledge and profound understanding of nature is strictly updated.

The personal paleontological collections, later on donated or sold to the museum point out the level of the paleontological research in Transylvania and especially towards the south of the depression.

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- Abreviere: „Verhandlungen” for Verhandlungen und Mitteilungen Siebenbürgische Verein für Naturwissenschaftlichen zu Hermannstadt.

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