

Tertiary Avian Localities of Finland

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Abstract: Feather remains found in the Baltic amber stem from the birds inhabiting Eocene forests of Finland.

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INTRODUCTION

None avian localities are known from Finland as yet, but a chapter on Finland's Tertiary birds is included here, because avian remains found in the Baltic amber have their origin in the Eocene forests of Finland (Katinas 1983). According to this author, pieces of amber were redeposited from these pine (*Pinus succinifera*) forests southwards to the Zemplandija (formerly Samland) peninsula near Kaliningrad in Russia (formerly Königsberg in Prussia). From this secondary deposit, amber was washed out and floated to the coasts of Latvia, Poland and north-eastern Germany. All the "Baltic amber" seems to be of this origin, whenever found (Katinas 1983).

Remains of birds (feathers only) in the Baltic amber were described for the first time by Berendt (1845). Subsequent authors occasionally mentioned such finds and/or presented figures of them (see below). General information on the Baltic amber can be found, e.g., in Pelka (1920), Bölsche (1927), Andréé (1937, 1951), Bachofen-Echt (1949), Hardt (1954), Sadkvič (1970), Trofimov (1974), and Katinas (1983).

LIST OF LOCALITIES

(1) JANTARNYJ

Location: Kaliningrad Province, Russia; 54.52 N, 19.57 E (see Fig 1 in the chapter on Russia). Late(?) Eocene (cf. Andréé 1937, Katinas 1983). Although "Baltic amber" is

generally acceptable, I design here the name of the town Jantarnyj (= "Amber City" in Russian), around which the amber-producing deposits on the Zemplandija peninsula are laying (Katinas 1971), as the formal name for the "locality" of the Baltic amber. The real place of the origin of this amber, however, is Finland (Katinas 1983).

Avifauna: Feathers of undetermined birds, a few of which were tentatively identified as those of the Momotidae and Picidae (Berendt 1845, Giebel 1862, H. Meyer 1867, A.B. Meyer 1887, Andrée 1937, Bachofen-Echt 1929, 1936, 1944, Lambrecht 1933, Katinas 1983). Brief comments on the feathers from the Baltic amber and/or their figures seem to be widely scattered in the literature, so the list of references presented above will hardly be complete. The whereabouts of the remains is unknown, but the museums of Kaliningrad (Königsberg) and Sankt Peterburg (Petrograd, Leningrad) in Russia, Gdańsk (Danzig) in Poland, and Berlin in Germany are good candidates where to start the search for them. Keilbach (1982) presented a more extensive list of museums, where insect remains from the Baltic amber are deposited.

DISCUSSION

No summary of the avian record from the Baltic amber has been presented yet. However, recent progress in the comparative micromorphology of avian feathers (e.g. Messinger 1965, Brom 1986) started to create the necessary basis for such a review. That work could be rewarding, because other data on the Paleogene birds from north-eastern Europe are absent. Rich insect fauna, found in the Baltic amber, has already yielded interesting zoogeographical and ecological results (Handschin 1926, Ander 1942, Larsson 1978).

REFERENCES

- Ander L., 1942: Die Insektenfauna des baltischen Bernsteins nebst damit verknüpften zoogeographischen Problemen. *Lunds Univers. Årsskrift, N. F., Afd. 2*, 38(4): 1-83. (= *Kungl. Fysiogr. Sällskapets Handlingar, N. F.*, 53 (4): 1-82.)
- Andrée K., 1937: Der Bernstein und seine Bedeutung in Natur- und Geisteswissenschaften, Kunst und Kunstgewerbe, Technik, Industrie und Handel. Königsberg: Gräfe & Unzer, 219 pp.
- Andrée K., 1951: Der Bernstein, das Bernsteinland und sein Leben. Stuttgart: Kosmos, 96 pp.
- Bachofen-Echt A., 1929: Leben und Sterben im Bernsteinwald II-III. *Palaeobiologica* 2: 15-18, 264-269.
- Bachofen-Echt A., 1936: Das Vorkommen von Federn im Bernstein. *Nova Acta Leopoldina (Neue Folge)* 4: 341-347.
- Bachofen-Echt A., 1944: Einschlüsse von Federn und Haaren im Bernstein. *Palaeobiologica* 8: 113-119.
- Bachofen-Echt A., 1949: Der Bernstein und seine Einschlüsse. Wien: Springer-Verlag, 204 pp.

- Berendt G. C., 1845: Die organischen Bernstein-Einschlüsse im Allgemeinen. In: Goeppert H. & Berendt G. C. (Eds.), *Der Bernstein und die in ihm befindlichen Pflanzenreste der Vorwelt*. In: Berendt G. C. (Ed.), *Die im Bernstein befindlichen organischen Reste der Vorwelt*. Vol. 1 (1. Abteilung). Berlin: Nicolai, pp. 40-50.
- Bölsche W., 1927: *Im Bernsteinwald*. Stuttgart: Kosmos-Verlag, 78 pp.
- Brom T. G., 1986: Microscopic identification of feathers and feather fragments of Palearctic birds. *Bijdragen tot Dierkunde* 56: 181-204.
- Giebel C. G., 1862: Wirbeltier- und Insektenreste im Bernstein. *Zeitschrift für Gesammte Naturwissenschaften* 20: 311-321.
- Handschin E., 1926: Über Bernsteincollembolen. Ein Beitrag zur ökologischen Tiergeographie. *Revue Suisse de Zoologie* 33: 375-378.
- Hardt S., 1954: Der Bernstein, seine Entstehung und Verwendung. *Neue Brehm-Bücherei* 128: 1-44.
- Katinas V., 1971: Jantar' i jantarnye otloženiya južnoj Pribaltiki (Amber and amber-bearing deposits of the southern Baltic area). *Trudy Instituta Geologii* (Vilnius) 20: 1-156. (In Russian.)
- Katinas V., 1983: Baltijos gintaras (Baltic amber). Vilnius: Mosklas, 112 pp. (In Latvian.)
- Keilbach R., 1982: Bibliographie und Liste der Arten tierischer Einschlüsse in fossilen Harzen sowie ihrer Aufbewahrungsorte. Teil 1. *Deutsche Entomologische Zeitschrift (Neue Folge)* 29: 129-286.
- Lambrecht K., 1933: *Handbuch der Palaeornithologie*. Berlin: Gebrüder Borntraeger, 1024 pp.
- Larsson S. G., 1978: Baltic amber – a palaeoecological study. *Entomograph* 1: 1-192.
- Messinger N. G., 1965: Methods used for identification of feather remains from Wetherill Mesa. *American Antiquity* 31: 206-215.
- Meyr A. B., 1887: Notiz über im Ostsee-Bernstein eingeschlossene Vogelfedern. *Schriften der Naturforschenden Gesellschaft zu Danzig (Neue Folge)* 6: 206-208.
- Meyer H. von, 1867: Ueber fossile Eier und Federn. *Palaeontographica* 15: 223-252.
- Pelka O., 1920: *Bernstein*. Berlin, 148 pp.
- Sadkevič S. S., 1970: *Jantar' (Amber)*. Leningrad: Nedra.
- Trofimov V. S., 1974: *Jantar' (Amber)*. Moskva: Nedra, 184 pp.