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Three special features appear in this issue of Eatonia. We thank I. Müller-Liebenau and V. Puthz for their work in preparing the Second International Conference on Ephemeroptera. We further thank J. J. H. Szent-Ivany and E. I. V. Ujhfizy for the article on mayflies in folklore, and we are most grateful to U. Jacob for the illustrations appearing before News and Notes and Recent Ephemeroptera Literature.

In addition, we thank all Ephemeroptera workers who have sent reprints, and continue to request your help in compiling future issues.

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EPHEMEROPTERA IN THE REGIMEN OF SOME NEW GUINEA PEOPLE AND IN HUNGARIAN FOLKSONGS

By Joseph J. H. Szent-Ivany and Elisabeth I. V. Ujhfizy

Many insect species of various orders and large spiders of the genus Selenocosmia (Mygalomorpha, Theraphosidae) are used by the people of Papua New Guinea to supplement their diet. Amongst the insects, the following species were recorded as food: the large cricket Brachytrypes achatinus Saussure; adults and instars of the large, spiny, black or brown coloured stick insects ("walking sticks") of the genus Eurycantha; adults of several species of tussock moths (Lymantriidae); adults and nymphs of the shield bug, Agapophyta boschmai Blöte (Pentatomidae), found in dense populations on pigeon pea (Cajanus cajan); larvae of the palm weevil, Rhynchophorus bilineatus (Montrouzier); the coconut rhinoceros beetle, Scapanes australis (Boisduval);

the giant Papuan **rhinoceros** beetle *Oryctes centaurus* Sternberg, common in sago palms, sometimes **also in** coconut plantations; and adults of the melolonthid pasture grub *Lepidiota vogeli* Brenske, at times a serious pest of pastures, garden lawns, golf courses, and air strips in the Central Highlands [Szent-Ivany 1956(1958); Catley 1963]. The pasture beetle, *Lepidiota vogeli*, is considered by the people of the Asaro Valley a delicacy. The adult beetles swarm in very large numbers for a short while after sunset or sometimes during the day in very cloudy weather. The beetles are collected **in** large beer bottles and cooked on open fire. Mr. R. S. **Carne**, Regional Agricultural Officer in the Central Highlands (**in** 1954; now Principal Agronomist at Highlands Agricultural Experiment **Station**, Aiyura) tasted the cooked **chafers** and he found them quite palatable [Szent-Ivany 1956(1958)]. **Many** other insect species were found as supplementary food amongst the people of the mountainous **Simbai** area of the Madang District of New Guinea by Dr. R. Rappaport and Professor A. **Vajda** of Columbia University (New York). These are **included in** a comprehensive paper on the economic insects of Papua New Guinea (Szent-Ivany; paper in preparation).

During the senior author's agricultural insect surveys in the Eastern Highlands in the **1950s**, Mr. Jim Taylor, coffee planter at Goroka and one of the leading pioneers of the Central Highlands of New Guinea, mentioned that at the time when he served as a patrol officer with the Administration of the former **Mandated** Territory of New Guinea in the **1930s**, he observed the swarming of a mayfly in very dense populations above the Sepik River in northeastern New Guinea. The mayflies were cooked and eaten by the people living in the area. Mr. Taylor himself prepared a meal from this mayfly species and offered **it** to one of his Australian guests.

When the senior author had the pleasure of meeting Dr. William L. Peters during the XIV International Congress of Entomology **in** Canberra, he mentioned to him Mr. Taylor's noteworthy observations. He also told Dr. Peters that in Hungary there is a well-known folksong in which the swarming of another mayfly is poetically described and the insect is symbolically mentioned in connection with short-lived loves. Later Dr. Peters asked **Szent-Ivany** to write a short article on these two subjects for *Eatonia* and this request was gladly fulfilled. Whilst discussing the folksong with Mrs. Elisabeth I. V. Ujhgyz, one of the best "connoisseurs" of folksongs in the Hungarian **community** of South Australia, she told Szent-Ivany that her uncle, Dr. Dezső Mihalik, a well-known songwriter and composer in Northern Hungary (later Czechoslovakia) wrote the text of a very melodious folksong in which the short life of the adult of the large European mayfly, *Palingenia lon icauda* (Olivier), is mentioned as a symbol of man's love. The late Dr. D. **Mihalik** who died a few years ago at the age of 90) composed a beautiful gypsy type melody to the sentimental poem. Because of Elisabeth Ujhizy's vast knowledge of Hungarian folksongs and because of her meticulous job of translating the text of her uncle's song, Szent-Ivany asked her to be co-author of this paper.

New Guinea

To obtain some more information on Mr. Taylor's observations and on the exact location where the observations were made, Szent-Ivany wrote a letter to **Mr. Taylor** who in his reply of the 17th **March** 1973 gave a fine description of his **experience** on the mayfly meal and on the swarming of the insect in dense populations. We cite the relevant part of his letter in the **following** paragraphs:

EATON IA

A NEWSLETTER FOR EPHEMEROPTERISTS

Prepared by the S. H. Coleman Library, Florida A & M University

in cooperation with

School of Agriculture and Home Economics, Florida A & M University

Department of Biology, University of Utah

Janice G. Peters - - - - - Editor

William L. Peters and George F. Edmunds, Jr. - Editorial Committee

This public document was promulgated at an annual cost of \$620.00 or \$0.33 per copy for the purposes of (1) acquainting all workers with the current research of others, (2) promoting increased knowledge of the literature, especially among workers recently entering the field, and (3) promoting more precise methods and techniques of studying Ephemeroptera. It appears twice each year.

"I remember the appearance of the May-flies en masse... Observing from a hillock at Ambunti about 100 ft above sea level, I could see the river flowing for about 2000 metres towards the village of Malu. Several hectares of the river were covered by countless numbers of May-fly.

"They were pale gold in colour, reddening a little where the concentration of the swarm was greatest. They were mostly above the water but apparently some on the water. On land they would have resembled a field of ripening corn.

"They could be collected and were so in containers, dishes, wooden or metal, buckets or canisters by drawing the vessel (container) along the surface of the water or through denser parts of the swarms.

"At the time of which I am speaking, about September or October 1931, I had an auditor from headquarters of Rabaul as my guest.

"I knew that the river folk consumed the May-fly as food and I treated it as if it were white bait-fish fry — and cooked them in batter and served the dish in place of a fish course.

"The auditor expressed his pleasure at the dish but did not forget it. I met him in Canberra 14 years later and he repeated his encomium but he may have had other thoughts concealed.

"To me they (the May-fly cakes) were delicious. I was younger then." (Taylor 1973, pers. commun.)

Mr. Taylor was unable to give me the specific name of the mayfly but Dr. Peters has kindly suggested that it could **have** been a species "of the genus **Plethogenesia** in the family **Palingeniidae**" [suborder Plecoptera, superfamily Ephemeroidea in Tshernova's system (1970) (cf. **Eatonia** 13-14, January 1972)].

Hungary

Animals of various phyla appear **in** folksongs of European nations. As in other countries, also in Hungary, mainly vertebrates (especially birds) are subjects of the text of popular tunes, in both original Hungarian folksongs and "gypsy songs." Such are the nightingale (Luscinia m. megarhynchos Brehm), the blackbird (Turdus m. merula L.), the golden oriole [Oriolus o. oriolus (L.)], the reed warbler (Acrocephalus me. aerundinaceus L.), the swallow (Hirundo r. rustica L.), the skylark (Alauda a. arvensis L.), the great titmouse (Parus m. major L.), the turtle-dove (Streptopelia t. turtur (L.)), the stock-dove (Columba oe. oenas L.), the wood-pigeon (Columba p. palumbus), the heron (Ardea c. cinerea L.), the crane [Grus g. grus (L.)], and the white stork [Ciconia c. ciconia (L.)] (for the nomenclature of these birds **see** Reve, 1960). Amongst the mammals mainly domestic animals are mentioned, but the fox and the house mouse also occur in some, the latter in a well-known, fast "csfirdgs"-song (csgrdgs **is** one of the national folkdances **in** Hungary). Amongst other vertebrates we know only of two: the frog Rana esculenta L. and the viper Vipera berus L. which occur in at least one song each. The text of both of these is rather humoristic and the one on the viper **is** a fiery csgrdgs which used to be played in our county by the gypsy-band as the first csgrdgs at the dance around the open fire upon conclusion of the vintage. More than half of the songs on birds which we know have sentimental, sad melodies and texts. Only a few invertebrates are mentioned in Hungarian folksongs. Such are the ladybird beetle, Coccinella septempunctata L., the common cockchafer, Melolontha melolontha L., and the large mayfly Palingenia longicauda. Of the two songs in which Palingenia is mentioned, the first one (cited below) is well-known throughout Hungary and the world where Hungarians live scattered in smaller or larger communities. It is often sung during celebrations, parties, etc. by both country and city people. We were unable to trace its composer and songwriter. It is probably a rather old folksong of the gypsy type melody. In its text a poetical description is given of the hundreds of thousands of Palingenia swarming above the River Tisza, the second largest river of Hungary, and turning its surface to a "cemetery" when they drop **onto** the river after a very short life, as short as the love of the songwriter with his sweetheart.

It is the large size and the appearance in very dense populations during the swarming of the adults which must have drawn the attention of non-entomologists and simple country people to Palingenia longicauda. The adult insect is 25-38 mm long and its cerci measure 7-8 centimeters which gives a full length of close to 12 cm to some **individuals** (Dudich & Loksa 1969, p. 395). The species was described by Olivier in 1791 and it has been placed into the genus Palingenia by Burmeister in 1839. It occurs in various parts of Hungary but it appears to be most abundant in the River Tisza. Besides Hungary it occurs in some other European countries, such as Germany and France (Walker 1853) and Czechoslovakia (Obenberger 1959).* The saprophytic larvae live in holes in the mudbank of rivers. The swarming of Palingenia longicauda above

* There is an excellent photograph of this phenomenon **in** the River Danube, Bulgaria, by **Russev** (1973) [84], Ed.

the River Tisza usually occurs in late spring — early summer, mostly between the 10th and 20th of June (Ujhelyi in **Móczár** 1969). The exitus of the adults as in **some** other species is sudden and spectacular. Hundreds of thousands of adults cover the surface of the Tisza in thick layers. The river folks call them the "Flowers of the Tisza." The Hungarian vernacular is "tiszavirgg" which means in verbal translation to English: "**Tisza-flower.**" However, the collective vernacular "**kérész**" of the whole order of Ephemeroptera is also referred sometimes to *P. longicauda* as we see in the first song. We cite here both songs, first with their original Hungarian text and then we give a free English translation (that of the first by **Szent-Ivány** and of the second by Ujhgzy).

First Song — original Hungarian text (songwriter
and composer **unknown**)

Amikor tavasszal a Tisza **virágzik**,
Futó habja felett ezer keresz jgtszik.
Egy **sem él** odgig Míg olvasok szfizig:
Temető a Tisza mikor **kivirágzik**.

A **mi szerelmünk** is ilyen **kérész-élet**,
Alighogy kivirult **mindjárt semmivé** lett.
De az **én** ket szemem **hulló könnytől ázik**:
Úgy vgyom a Tiszgt mikor **kivirágzik!**

Free English translation:

When in the spring the Tisza blossoms,
Thousands of mayflies play above its running ripples.
None of them lives until I count hundred:
The Tisza turns to a grave-yard when it blossoms.

Our **love** was **like** the life of a mayfly.
It ended before it really began to blossom.
But with tears in my eyes I am longing
For the Tisza when it blossoms!

Second Song — original Hungarian text by Dr. D. Mihalik

Sötét körisfa alatt neztem a szemembe;
Véletlenül ott mařadt kezem a kezebe.
Mindig mondta hogY szeret, hogy **sřrig hűn** szeret
Tavaszi szel hozta el hozzgm a levelet.

Lekaszalva mAr a **rat, tarlón jr a posta**.
Az utolsó leveletlaz **őszi** szgl hozta;
Meg azt írja, hogy szeret, de **érzem** mřir vege:
Tiszavirgg, delibfib a ferfi **hűsége**.

English **translation** by Elisabeth Ujhgzy:

Our eyes met under a shady ash-tree;
My hands slipped in his accidentally.
He swore his love and faithfullness —
The breeze of spring brought his letters.

The meadows are mowed, the land is bare.
His last letters came by the autumn air;
He still writes of love, but I know its over:
Man's love is like mirage and Tisza-flower.

Although the text of the second song was written by a man (the late Dr. D. Mihalik), the contents indicate that the composer and songwriter interpreted the words of a girl who feels that her sweetheart does not love her anymore. Although he still writes, apparently from the wording of his letters she knows that soon it will be all over and in her despair she generalizes, saying that all men are the same: their love lasts only for a short time, as short as the life of the mayfly or the presence of the **fata** morgana above the horizon which is so often seen during the summer on the great Hungarian Plain.

Hungarians are very musical people. They have innumerable songs with original old Hungarian melodies (collected in country areas by such famous composers as Bela Bartók and Zoltán Kodály) and with the typical gypsy melodies, both types being equally favoured by the authors of this paper. Both of us are interested in the collecting of folksongs and one of us (Szent-Ivány) besides his professional interests (various aspects of entomology and zoogeography) has two more hobbies: the collecting of animal stamps and that of folksongs in which animals are mentioned. It would not be surprising if in the future we would come across some more songs about mayflies.

We are grateful to Mr. Jim Taylor for the lively description of his observations and experiences in New Guinea and to Mr. H. T. Condon, Curator of Birds at the South Australian Museum (Adelaide), for the checking of the English vernaculars of birds mentioned in this paper.

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