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## ***Opilo hladilorum* n. sp., new species from Greece (Coleoptera, Cleridae)**

by J. R. Winkler

**Abstract:** *Opilohladilorum* n. sp. from Greece is described. Differential diagnosis with semi-schematical pictorial extract and description involving the detailed morphology of the male and female terminalia as well as documentary photographs of the most important type specimens are given. For the purpose of practical identification the new species is also keyed in the new and revised key to European species of the genus *Opilo* Latreille, 1802.

This paper is based upon the excellent material found in 1979 in Greece during the entomological expedition carried out by the Czechoslovakian entomologists Mr Jiří Hladil and his wife Mrs Marie Hladilová. The material was bred from tree branches in their house in Babice n/Svit., Czechoslovakia. (The locality labels entry, see below, in Czech, Hladilovi = Hladils).

The industrious field work of Mr and Mrs Hladil yielded besides other excellent entomological results a very fine series of remarkable representatives of the genus *Opilo* Latreille, 1802, kindly put at my disposal. The specimens were found to be a species new to science and the present paper deals with its description.

All accessible specimens (20 reared from tree branches) are designated as type specimens. The date on their locality labels corresponds to the day of emergence. One of them is preserved in Pampel's fluid for dissection purposes; all others are mounted. Abdomina of a certain number of dry-preserved type specimens were separated and placed beneath the object fixed on separate cards for the examination of abdominal surface characters. Two specimens selected as holotype and allotype were washed in an ultrasonic cleaner, their terminalia dissected, boiled in KOH, passed through acetic acid, examined microscopically in glycerine and pictured, rinsed in water and mounted on bluish X-rays foil microsheet in gelatine balsam of own formula (WINKLER, 1974). The same procedure was done with a couple of *Opilo domesticus* (Sturm) used for comparison and designated as secondary types. The plesiotype male from Czechoslovakia, Sv. Júr, SW Slovakia, is deposited in J. R. Winkler's collection; the plesiotype female from GDR, Spremberg,

Niederlausitz, in Hladils' collection. The photographs of the new species were taken by means of doubled extension tubes with objective in reverse position, and laterally drifted oblique light of an electronic flash. Guide number of flash 20 in 1 meter; distance from object  $\pm 150$  mm; film 21 DIN (= 100 ASA). The type specimens were adjusted, labelled; the mark / means the ending of a line on a label, the mark // means ending of the whole label, and deposited as given below.

***Opilo hladilorum* n. sp.**

Figs 1, 3–9.

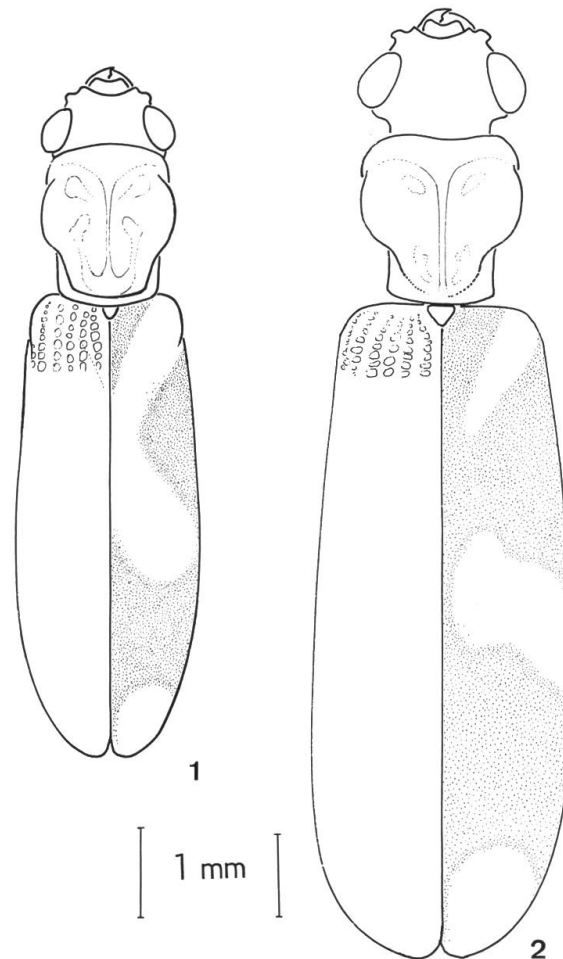
Head relatively large, broader than long, dark brown, either lustrous, with large, deeply punctured dots and with a sharp, very distinct longitudinal carina running from the base of epicranium to the epistomal suture (in holotype), or only dully glossy, with punctuation and longitudinal carina little distinct. Epistomal suture concave, clypeus sublunular, very pale, ivory to yellowish, with narrow transverse depression in the middle, distinctly separated from much darker, rusty, bifid, in the middle very narrow labrum.

Eyes much darker than head capsule, nearly black, extending from the outline of the head which is as broad as the pronotum on its broadest part or a bit broader, coarsely faceted, emarginate in front. Ocular notch small, rounded.

Antennae eleven-segmented, with slender, very loose, three-segmented club, of the common shape in the genus, without peculiar specific characters.

Pronotum longer than broad, with anterior margin of pronotal arch, convex or at least straight, paler than remaining surface of pronotal arch, which is indistinctly differentiated from the surface of pronotum that bears very peculiar plastic features. Near the paler and transversely wrinkled pronotal basis, the transverse U-shaped ledge is connected with one pair of tubercles located in the middle of the length of pronotum and directed obliquely inwards, and with another pair of larger and more apparent tubercles, located near the dividing line of pronotum and pronotal arch and directed obliquely outwards. In the middle this ledge is connected with a protruding, intensively glittering blunt spine, elongated in cranial direction and running as straight lustrous longitudinal line vanishing in proximity of indistinct subapical depression. All these raised formations are unpunctuated or very sparsely punctuated, therefore intensively lustrous, and all in all making a conspicuous particular plastic alto relieveo looking like shin, the twenty-first letter of the Hebrew alphabet (Figs 1, 3, 4). Punctuation of

pronotum otherwise composed of very coarse, deeply punctured dots. Pubescence of pronotum composed of long, sparse, standing apart and lightbrown setae.

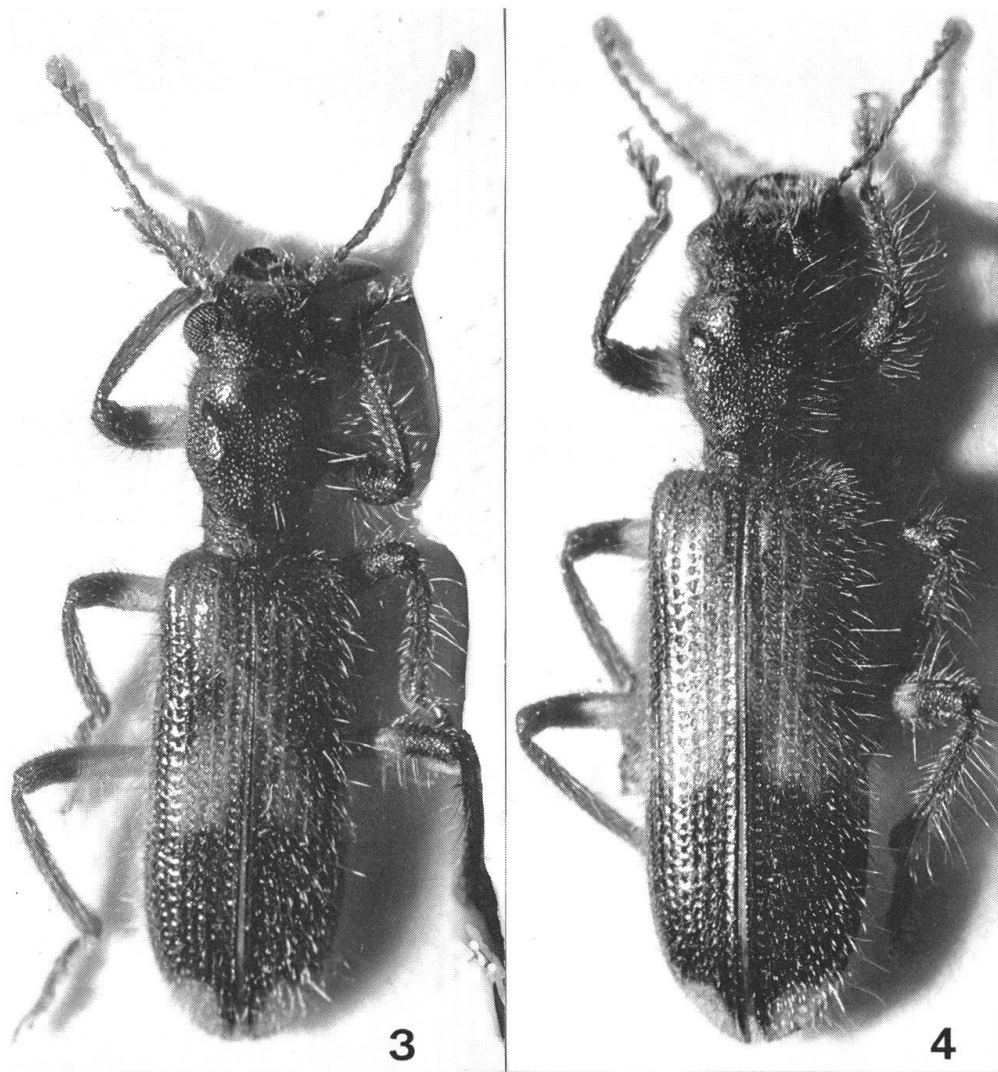


Figs 1–2: Semi-schematical extract from the differential diagnosis of: 1, *Opilo hladilorum* n.sp., holotype ♂. 2, *Opilo domesticus* (Sturm), plesiotype ♂ from Sv. Júr (SW Slovakia).

Scutellum very small, lanceolate, proximally lighter and smooth, distally darker and beset with tiny granulation.

Elytra moderately and evenly vaulted, without flattened glossy oblong area beneath the scutellum, elongated, cylindrical, subparallel, covering all abdominal segments, with rectangular apices mutually approximated and terminating in a rounded margin, two-coloured, with regular longitudinal striae composed of coarse, deeply, punctured dots very distinct in the whole course, also in pre-apical region. These striae are regular, the initial dots at the slope of the very basis of elytra sit exemplarily on the start of each longitudinal stria. Dots deep and coarse

in first four longitudinal striae, predominantly oval or oblong in other striae. Intervals between striae narrower than breadth of dots. Ground colour of elytra chestnut with a light yellowish brown pattern. Humeral part of elytra completely light, in first fourth of length the ground colouring developed on the sides of elytra extends dorsally and contracts the light colour pattern in this part, then the ground colouring descends again to the sides and the light colour pattern is, on the contrary, extended to the sides again.



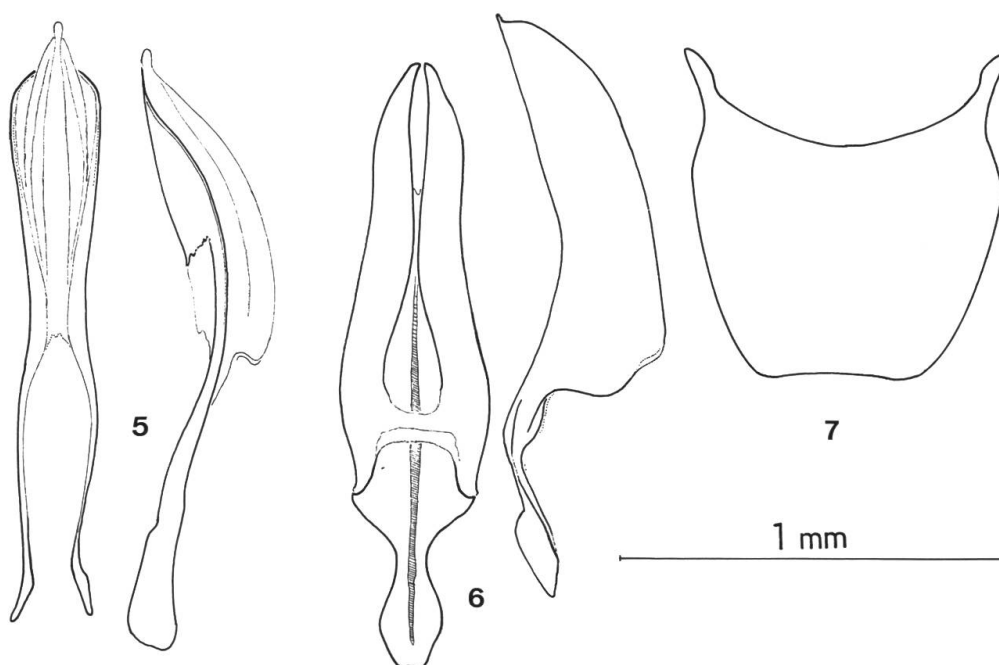
Figs 3–4: Habitus of *Opilo hladilorum* n.sp.: 3, holotype ♂. 4, allotype ♀ (photographs by J. R. Winkler).

Thus its general appearance is X-shaped. Interval between first and second longitudinal striae broader than other intervals; interval be-

tween sixth and seventh longitudinal striae keel-like raised, separating dorsal surface of elytra from epipleura. Ground colour of epipleura either divided into two separated dark macules or connected by darkened keel-like raised interval (holotype). Suture follows the colouring of elytra, i.e. it is light in the X-shaped colour pattern, dark in the ground colouring of posterior half of elytra to the very apex, and therefore distinctly separating the light pre-apical macules one from another. Pubescence composed of sparse, long, lightbrown vertical setae on dorsal portions, and with short reclinate setae of the same hue on the sides.

Wings fully developed.

Legs of normal length, two-coloured; proximal parts of femora in all pairs yellowish, distal parts dark brown. Tibiae and tarsi somewhat lighter; tarsal lobes yellow. Pubescence of legs copious, light brown; legs otherwise without taxonomically noteworthy importance.



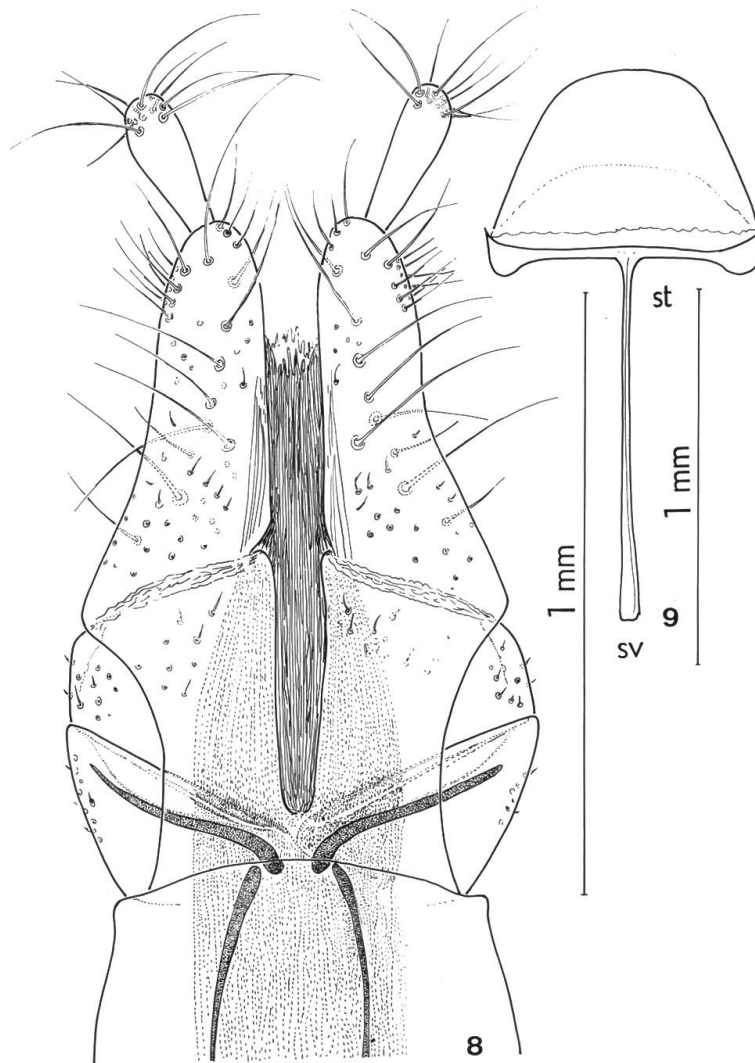
Figs 5–7: *Opilo hladilorum* n. sp., terminalia ♂: 5, phallus, dorsally and laterally. 6, tegmen, dorsally and laterally. 7, pygidium.

Thoracic sternites dark brown, generally coincident with the dark ground colour of dorsum. Abdominal sternites a bit lighter, without any sexual characters (the only uncertain and unwarranted sex assessment may be the size; the short and slender specimens being males, the more robust and stout ones being females).

Terminalia. Male (holotype): Phallus of peculiar shape, with rounded tip and with apical part inflated apically and then strangulated (for

additional details see figure 5). Tegmen also of very characteristic shape, with short and very simple apical parts (cf. also the lateral view of Fig. 6). Pygidium subtruncated, moderately concave in the middle (Fig. 7). Female (allotype): Ovipositor without ventral lamina, with oblique bacculi; the latter broadest in proximity of distal part of ventral bacculi, somewhat S-like bent, laterally narrowed and not reaching the sides of ovipositor. Coxital plates with chaetotaxy composed of long tactile setae and small spine-like microtrichies. Coxital styli relatively large, cudgel-shaped, with constant chaetotaxy; each coxital stylus bears on its apex 9 long tactile setae (for details see Fig. 8). For shape of female sternum VIII. with spiculum dorsale see figure 4, st.

Body length: 8.4–11.5 mm (Holotype 8.4 mm; Allotype 11 mm).



Figs 8–9: *Opilo hlادilorum* n. sp., terminalia ♀, allotype: 8, apex of ovipositor in supine position. 9, sternum VIII (st) with spiculum ventrale (sv).



Body breadth: 2.2–2.9 mm (Holotype 2.2 mm; Allotype 2.8 mm).

Type material: The holotype ♂, here pictured, on a white card // terminalia in gelatine balsam // Graecia-Pelopones / Gythion / 13.–16.10.1979 / Hladilovi lgt. (white, photoprinted, the digits corrected from original photoprinted numeral 7 by handwriting) // *Opilo hladilorum* / n. sp. / ♂ holotype / J. R. Winkler det., 1983 (red, printed, complemented with handwriting) // Deposited in Natural History Museum Basel, Switzerland. Allotype ♀ here pictured, on white card // terminalia mounted in the same way as in the holotype // (locality label as in the holotype) // *Opilo hladilorum* / n.sp. / ♀ allotype / J. R. Winkler det., 1983 (red, printed, complemented with handwriting) // Deposited in J. R. Winkler collection. 11 paratypes, 10 of them dry-preserved, mounted on white cards, each of them with abdomen separated and mounted on additional white card beneath the specimen, all from the same locality as the holotype and allotype, 13–16.5.1979, 13–16.10.1979, 13–16.8.1980, 26.8.1980, or without exact date (the original date printed on the locality label crossed out, and a mere handwritten figure 80 added), with appropriate describer's identification and type labels, 1 paratype preserved in Pampel's fluid. 5 paratypes deposited in collection of Mr and Mrs Hladil, 5 in the collection of J. R. Winkler, the fluid preserved paratype in collection of G. Ekis. 7 additional paratypes mounted dry, with abdomen not separated, with the same data as preceding ones, are deposited in the collections of the Hladils (6) and O. Brodský (1).

Derivatio nominis: This new species is named in honour of its discoverers, the ardent entomologists Mr and Mrs J. Hladil.

Differential diagnosis: Similar and related to *O. domesticus* (Sturm) having in common with it the similar punctuation of elytra composed of coarse, large and deeply punctured dots dispersed regularly on all the elytral surface, but differing from it by striking anchor-shaped, orto say more lively, resembling the shin, the twenty-first letter of the Hebrew alphabet, formation on pronotum running from base to protruding lustrous oblique tubercles near pronotal arch otherwise rather indistinctly differentiated from pronotal surface, elytra with regular start of dots in first and second longitudinal striae on the bend of the very humerus and more compact, unscattered colour pattern: in anterior half of elytra the crescent-, or semicircular dark macules situated laterad together with the dark transverse fascia in the posterior third demarcate the pale compact ornament in the shape of a letter X. Pre-apical pale macules similar as in *O. domesticus*, but usually a bit narrower and more triangular.



For additional details see figures 1–4, and the following section Key to the European species of the genus *Opilo* Latreille.

### Ecology

The larva of the new species *O. hladilorum* n. sp. lives in branches (Ø 20–30 mm) of pistachio (*Pistacia* sp.) in synecological relations with early stages of *Stenidea troberti* Muls., *Niphona picticornis* Muls., and *Penichroa fasciator* Steph. (Coleoptera, Cerambycidae).

### Key to the European species of the genus *Opilo* Latreille

1. Anterior part of elytra red. Elytra three-coloured (in some specimens the yellow transverse fascia may turn red, and therefore elytra seemingly two-coloured; character given first decisive, however)
  - O. taeniatus** (Klug, 1842)
  - Anterior part of elytra not red; chromatic elements of the place coincident with overall elytral colouring (i.e. hues from yellow to darkbrown) ..... 2
2. Ground colouring of elytra pale, faintly straw yellow to yellowish brown; colour pattern as if smoky puffed, only slightly darker light brown, very indistinct or not developed at all. Legs always one-coloured, pale.
  - O. pallidus** (Olivier, 1795)
  - Ground colouring of elytra dark brown, colour pattern distinct, yellow. Legs with alternation of pale and dark zones ..... 3
3. Punctuation of elytra irregular, shallow, here and there confluent; a long, strongly glittering, unpunctuated and longitudinal line is developed posteriorly on the side of each elytron. Dorsal surface of elytra intensively glossy.
  - O. mollis** (Linnaeus, 1758)
  - Punctuation of elytra regular, deeply punctured, individual dots distinctly separated one from another, also in lateral view; no long, glittering longitudinal line developed on the side of each elytron. Dorsal surface of elytra dull or only dully glossy ..... 4

4. Pronotum rounded and subaequal. Anterior margin of pronotal arch straight or concave. Tubercles between basis of pronotum and subapical depression small, discontinuous, not resembling an anchor or the Hebrew letter shin. Initial dots of longitudinal striae of elytra at the slope of the very basis confused, not marshalled accurately on the start of each longitudinal row of dots. Light colour pattern on anterior half of elytra frequently variable, scattered, or compact, but never forming the shape of a letter X.

**O. domesticus** (Sturm, 1837)

- Pronotum distinctly longer than broad. Anterior margin of pronotal arch convex. Tubercles between basis of pronotum and subapical depression large, continuous, anchor-shaped or resembling the Hebrew letter shin. Initial dots of longitudinal striae of elytra at the slope of the very basis regular, exemplarily sitting on the start of each longitudinal row of dots. Light colour pattern on anterior half of elytra nearly invariable, compact, forming the shape of a letter X.

**O. hlادilorum** n. sp.

### Discussion

The finding of the new species *Opilo hlادilorum* n. sp. in Greece is undoubtedly a remarkable discovery as far as Europe is concerned, as regards Cleridae, a family favoured and much sought for by many coleopterists in their field work, for continent not offering nowadays a great number of additional scientific novelties.

The species *Opilo hlادilorum* n. sp. is a very conspicuous species, even its surface characters quite unambiguously demonstrate the reliable valence of respective species; only differential diagnosis and identification key (to say nothing of a description) would have the power to assure its solid identification as well as identification of all other species of the genus *Opilo* Latreille, 1802, distributed on the European continent (see also KASZAB, 1955; LOHSE, 1979; MAZUR, 1975; REITTER, 1894, 1911; WINKLER, 1959, 1961).

The species is very stable as regards its colour pattern in contradistinction of related *O. domesticus*. For variability of the latter species see WINKLER (1959, 1961).

The terminalia studied within the present paper are from the historical point of view the first case of morphological examination of that kind in the genus *Opilo*.

The terminalia are a convincing evidence of the specific validity of the species *Opilo hladilorum* n. sp. when compared with the terminalia of its closest relative, *Opilo domesticus* (those of both species were simultaneously dissected, pictured and compared; the morphology of terminalia of *O. domesticus* will be given in another paper). The used techniques (see the preceding section for material and methods) enabled besides the possibility of much more precise examination of the male genitalia, first of all the new way of looking at taxonomic importance of female copulatory organs. Ovipositors of compared species (and that probably is of general weight) present in each of both studied species not only peculiar shape of apex, but also a quite constant and specifically different chaetotaxy. In taxonomic studies, precise morphological analysis, mainly chaetotactic, and taxonomic evaluation are possibly much more important criteria than the hitherto practised traditional surface examination of the dissected, uncleared, however, male copulatory organ.

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Sincere thanks are expressed also to Mr András Halász, the Librarian of the Hungarian Cultural Centre in Prague, Czechoslovakia, for translation of some literary data in Hungarian, requisite to preparation of the new identification key.

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