

A NEW CAVE-INHABITING CRANE-FLY FROM MALAYA

(Diptera: Tipulidae)

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Dr. Laurence W. Quate has sent to me for determination a small series of crane-flies that were taken in various caverns of Batu Cave, seven miles from Kuala Lumpur, Malaya. The material was taken by Dr. H. Elliott McClure, of the U. S. Army Medical Research Unit, Institute for Medical Research, at Kuala Lumpur. The specimens represent a single evidently undescribed species of the genus *Helius* St. Fargeau, a group that occurs in all major biotic regions, including Madagascar and New Zealand.

From its habitat and certain structural features discussed later it seems certain that the fly is a true troglophile and not an accidental or temporary visitor to the caves, as is so often the case in this family of flies. The types are preserved in the collection of the Bishop Museum, Honolulu, with certain paratypes being retained in my personal collection.

In the Oriental fauna there have been two previous reports of occurrence of species of *Helius* in caves. *Helius (Helius) kambangani* (de Meijere)¹ was described from material taken at the entrance to the grotto Limus Buntu, on the island of Kambangan, off the southern coast of Java, and now is known to occur from Selangor to Java. The second record is by Brunetti² reporting the finding of a species of *Helius* (recorded as a *Rhamphidia*, similar in appearance to *Helius inconspicuus* Brunetti) in the Siju Cave, Garo Hills, Assam, taken in February 1922 by Stanley W. Kemp and B. Chopra. Since this latter fly was taken at some 610 m from the cave entrance it may be assumed to be a true troglophile.

Helius (Helius) cavernicolus Alexander, n. sp.

Size medium, wing (7.5 mm or more); general coloration of thorax ochreous yellow, abdomen uniformly patterned, ochreous to brown; antennae relatively short; head holoptic in male, eyes very large; legs elongate, light brown, tarsi paler; proximal end of posterior basitarsus with a linear blackened sensory area; wings whitish subhyaline, cells C, Sc and stigma light brown; branches of Rs unusually divergent, the anterior branch nearly straight; cell 1st M₂ small, irregularly pentagonal in outline, m-cu at near midlength of M₃₊₄; male hypopygium with basistyle unmodified, dististyles terminal, outer style with the small lateral spine subapical in position.

Male. Length, including rostrum, about 7.5-8.5 mm; wing 7.5-8; rostrum about 0.75-0.8.

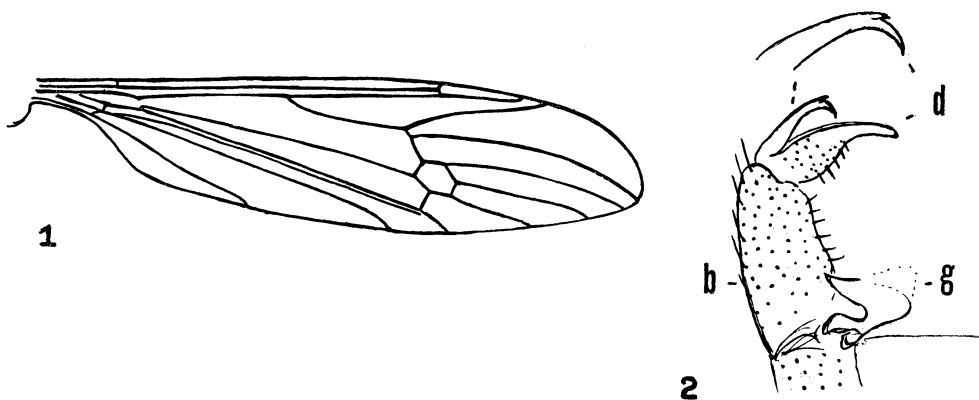
1. Meijere, J. C. H. de. 1913. Tijds. voor Ent. 56: 346-347, pl. 17, fig. 13 (venation) (as *Rhamphidia*)
2. Brunetti, E. 1924. Diptera of the Siju Cave, Garo Hills, Assam. Indian Mus., Rec. 26: 99.

Female. Length, including rostrum, about 8-9.5 mm; wing 7.5-9.

Described from alcohol specimens.

Rostrum slightly longer than remainder of head, dark brown; palpi shorter than the rostrum, terminal segment long and slender, longer than the second and third combined. Antennae short, a trifle longer than the combined head and rostrum; basal flagellar segments oval, the outer ones becoming elongate. Head black, holoptic in male, with very large eyes; in female, head dichoptic, anterior vertex narrow, eyes smaller.

General coloration of thorax ochreous yellow, scarcely patterned. Halteres pale, knobs large. Legs light brown, tarsi paler; legs very long, the femur alone nearly as long as the body; proximal end of posterior basitarsus with an elongate blackened sensory area, slightly larger and darker in the male. Wings (fig. 1) whitish subhyaline, cells *C* and *Sc*, together with the narrow stigma, light brown, the latter extending to the apex of cell *R*₂; veins brown. Macrotrichia on veins beyond cord, *R*_s and outer 2/3 of *M*; no trichia on 1st *A*, a few near apex of 2nd *A*. Venation: Branches of *R*_s unusually divergent, anterior branch nearly straight; cell *R*₃ at margin approximately seven or eight times as extensive as cell *R*₂; basal section of *R*₄₊₅ short to very short; cell 1st *M*₂ small essentially pentagonal in outline, the basal section of *M*₃ the shortest element; veins beyond the cell elongate; *m-cu* at near midlength of *M*₃₊₄.



Figs. 1-2. *Helius (Helius) cavernicolus* Alexander, n. sp. 1, Wing; 2, Male hypopygium: b, basistyle; d, dististyle; g, gonapophysis

Abdomen ochreous yellow to brown, unpatterned. Ovipositor with cerci and hypovalvae yellow, elongate, especially the slender cerci. Male hypopygium (fig. 2) with the basistyle, *b*, unmodified, with setae of moderate length. Dististyles, *d*, terminal; outer style much smaller, slender, at apex curved into a spine, with a much smaller subterminal spinule; inner style pale, basal half broader. Gonapophyses, *g*, pale, their distal ends paling into membrane, difficult to delimit.

Holotype, ♂ (BISHOP), Batu Cave, Malaya, in Cavern B, 13 Oct. 1959 (McClure). *Allotopotype*, ♀, with the type. *Paratopotypes*, 15 ♂ and ♀, Cavern B, 8, 15 Sept. 1959; Cavern C, Loc. 9, 23 June, 11 Aug., 5 Sept. 1959; Cavern D, Loc. 5, 3 Sept. 1959; Cavern

E, Loc. 14, 8 Sept. 1959 (McClure).

The most similar species include *Helius (Helius) kambangani* (de Meijere), *H. (H.) kambanganoides* Alexander, and *H. (H.) fasciventris* Edwards, all with venation of the medial field generally the same. The nearest ally seems to be *kambanganoides*, which differs in the details of coloration, venation, and structure of the hypopygium.

PACIFIC SCIENCE CONGRESS

Following is the revised tentative program, in brief, of the Zoology-Entomology Division, Tenth Pacific Science Congress, to be held at Honolulu, 21 Aug.—6 Sept. 1961.

Report of Chairman of Standing Committee on Pacific Zoology (A. W. B. Powell)

Report of Chairman of Standing Committee on Pacific Entomology (J. J. H. Szent-Ivany)

Crop pests and biological control (C. E. Pemberton)

Introductory (P. DeBach & C. E. Pemberton)

Coffee insects (G. O. Valenzuela, Henry Bess & R. T. Simon Thomas)

Cacao insects (J. J. H. Szent-Ivany, R. T. Simon Thomas, Oei Hong Peng, P. J. Dale & Walter Carter)

Coconut insects (F. Cohic, C. P. Hoyt, R. P. Owen, P. Surany, J. J. H. Szent-Ivany & R. T. Simon Thomas)

Sugar cane insects (C. E. Pemberton, J. J. H. Szent-Ivany & J. H. Ardley)

Macadamia insects (R. Namba)

Rice insects (H. Ishikura, S. Easter & Chakratong Tongyai)

Biological control of weeds (C. J. Davis, P. W. Oman, N. L. H. Krauss & J. K. Holloway)

Insect pathology (Y. Tanada, K. Aizawa, M. F. C. Day, P. Surany, D. F. Yen, H. Aruga, H. Lower, J. M. Hoy, A. S. Dissanaiké, S. M. Gershenson, M. Laird, J. Briggs, B. P. Gabriel, I. M. Hall, E. A. Steinhaus, M. Tamashiro & M. Tsujita)

Fruit flies (L. F. Steiner, D. E. Hardy, A. W. S. May, D. F. Waterhouse, H. A. Bess, F. H. Haramoto, M. Chong, J. W. Balock, W. C. Mitchell, A. H. Baumhover & L. D. Christenson)

Pacific Basin Biogeography (J. L. Gressitt) With Botany, Geography

Bering Arc Relationships (C. H. Lindroth, G. E. Ball, L. Benson, M. S. Ghilarov, G. P. Holland, E. Hultén, A. I. Kurentzov, E. G. Linsley, E. Mayr, R. Rausch, C. W. Sabrosky, A. Semenova-Tian-Shanskaya, G. G. Simpson, V. Sotchava, B. Stegman, B. A. Tikhomirov, A. I. Tomatshev, H. Townes, M. D. F. Udvardy & K. Yasumatsu)

Tropical Relationships (F. R. Fosberg, E. H. Bryan, Jr., H. W. Menard, E. L. Hamilton, C. G. G. J. van Steenis, E. J. H. Corner, R. L. Usinger, H. G. Deignan, J. L. Gressitt, R. Goode, R. F. Thorne & J. W. Durham)

Antarctic Relationships (C. A. Fleming, R. S. Allan, O. H. Selling, J. B. Hair, L. Brundin, J. Illies, G. Kuschel, G. Knox, D. I. Axelrod, W. J. Evans & P. Wygodzinsky)

General Summary (E. C. Zimmerman)