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THE EYED SCHIZOMIDS, WITH A DESCRIPTION OF A NEW SPECIES FROM SUMATRA (SCHIZOMIDA: SCHIZOMIDAE)

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ABSTRACT

A review of the eyed schizomids is presented: *Trithyreus cambridgei* Thorell is considered a *species inquirenda*; *Schizomus bagnallii* (Jackson) is redescribed; and *Schizomus biocellatus*, new species, is described.

INTRODUCTION

At present the controversy concerning the two genera of the subfamily Schizominae, *Trithyreus* and *Schizomus*, cannot be resolved. In the past the presence or absence of a split metapeltidium was used to separate the two genera. Many observers (Hansen and Sørensen 1905, Lawrence 1969, Rowland 1973, Rowland and Reddell 1979) have expressed doubts about the value of this character at the generic level, citing variation (both interspecific and intraspecific) as reason for their doubts. Rowland and Reddell (1979) stated that the genus *Trithyreus* should be restricted to contain only the type species, *T. grassii* Thorell, and that all other members formerly included in that genus should be placed in the genus *Schizomus*. I will follow this suggestion in this paper.

Schizomids typically lack eyes, or have only weak eyespots on the anterolateral portion of the carapace, but there have been two previous descriptions of schizomids having "true" convex ocelli. Thorell (1889) described *Trithyreus cambridgei* Thorell from the only known specimen, an immature. This specimen, now mutilated to where comparisons are impossible (Hansen and Sørensen 1905), is presumably lost (J. Reddell, personal communication), so *T. cambridgei* must be considered a *species inquirenda* at this time. The second species, *Schizomus bagnallii* (Jackson), presents an interesting problem itself, because its true geographical distribution is unknown. It was collected in 1907 in the Kew Botanical Gardens of London, England, and is doubtlessly an import. However, it will be redescribed here, based on more useful characters than were used in the original descriptions (Jackson 1911a, 1911b). The major contribution of this paper will be to describe a third species of eyed schizomid collected near Bukittingi, Sumatra in 1925.

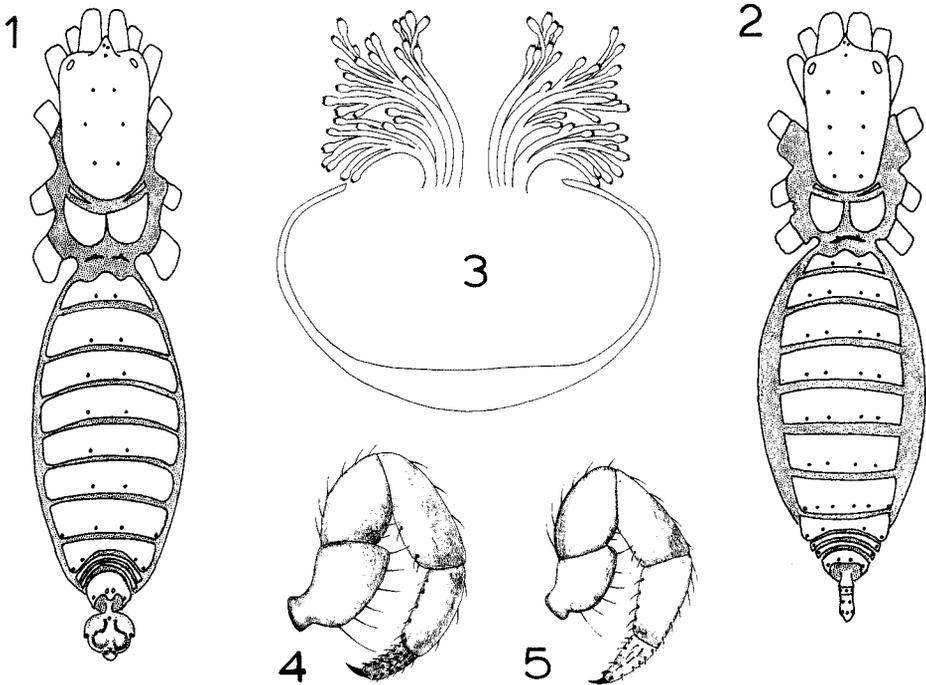
Schizomus biocellatus, new species

Figs. 1, 3, 4, 6-10

Type data.—All types were collected in 1925 in Fort de Kock (now Bukittingi), Sumatra, elev. 920 m., by E. Jacobson. They are deposited as follows: Holotype male, 162 paratype males, 498 paratype females and immatures, NHM, Wien; two paratype males, one paratype female, and one paratype immature, BM; two paratype males, one paratype female, and one paratype immature, AMNH.

Distribution.—Known only from the type locality.

Diagnosis.—Based on adults only. Total length of male (from tip of first cheliceral segment to tip of flagellum; five specimens, range with mean in parentheses) 3.55-3.80 (3.68) mm, of female 3.50-4.35 (3.96) mm; carapace with convex vitreous ocelli, three apical setae, three pair dorsal setae; metapeltidium divided; flagellum of male strongly convex with two dorsolateral elevations, flagellum of female three-segmented; pedipalps of male variable in length; female spermathecae consisting of four pairs of multibranching stalks terminating in sclerotized bulbs.



Figs. 1-5.—1, dorsal view of male paratype *Schizomus biocellatus*, new species, illustrating only coxae of pedipalps and legs and setal pits of carapace and abdominal terga; 2, dorsal view of female lectotype *Schizomus bagnallii* (Jackson), illustrating same structures as Fig. 1; 3, spermathecae of *S. biocellatus*; 4, right pedipalp of female paratype *S. biocellatus*; 5, right pedipalp of female lectotype *S. bagnallii*.

Table 1.—Measurements (mm) of leg segments of five adult males and five adult females of *Schizomus biocellatus*, new species. For convenience, the measurement of the pedipalp Tarsus-basitarsus is listed by Basitarsus.

		Pedipalp	Leg I	Leg II	Leg III	Leg IV
Trochanter	♂	0.50–0.85	0.30–0.40	0.20	0.15–0.20	0.25–0.30
	♀	0.35–0.40	0.25–0.30	0.15–0.20	0.15	0.25
Femur	♂	0.80–2.30	1.15–1.25	0.70–0.85	0.65–0.80	1.10–1.20
	♀	0.35–0.40	1.00–1.05	0.70–0.75	0.55–0.65	0.95–1.10
Patella	♂	0.85–2.25	1.30–1.50	0.35–0.45	0.25–0.30	0.40–0.45
	♀	0.45	1.15–1.25	0.35–0.40	0.25–0.30	0.35–0.45
Tibia	♂	0.45–0.70	0.80–1.05	0.40–0.50	0.30–0.35	0.70–0.80
	♀	0.35–0.40	0.70–0.85	0.40–0.45	0.30–0.35	0.65–0.70
Basitarsus	♂	0.20–0.25	0.30–0.40	0.45–0.55	0.45–0.55	0.65–0.70
	♀	0.20	0.30–0.35	0.40–0.45	0.40–0.50	0.60–0.65
Tarsus	♂		0.45	0.35–0.40	0.35–0.40	0.40–0.45
	♀		0.35–0.45	0.30–0.40	0.30–0.35	0.35–0.45

Description.—Male (Fig. 1). Cephalothorax: Carapace length 1.04-1.40 (1.06) mm, strongly convex, twice as long as wide, terminating anteromedially into sharp conical process; ocelli distinct, vitreous cornea more convex than adjacent carapace; three apical setae, three pair dorsal setae; mesopeltidia very narrow, pointing medially; metapeltidium divided medially into two plates, anterior margin of each parallel to mesopeltidia and posterior margins rounded; anterior sternum subtriangular, pointing caudally, with 11 setae; posterior sternum subtriangular, with eight setae. Abdomen: Abdominal tergum I very narrow, equidistant between metapeltidia and abdominal tergum II, with two setae; terga II-VII with two dorsal setae; tergum VIII with two dorsal and two lateral setae; tergum IX with two dorsolateral and two lateral setae; segment X with 10 setae; segment XI with seven setae; segment XII with 10 setae. Flagellum (Figs. 8-10): Length 0.30-0.40 mm, dorsal surface strongly convex, having two dorsolateral elevations, terminating in small cone, 16 major setae. Pedipalps (Figs. 6, 7): Length highly variable, with elongation of trochanter, femur, and patella; or like female; single subapical spur located ventrally on tarsus-basitarsus; claw not quite one-third as long as upper margin of tarsus-basitarsus; for measurements, see Table I. Legs: Leg I antenniform; coxa of leg II with anterolateral spur; femur of leg IV little more than half as long as wide; legs II-IV with three tarsal claws.

Females. Like males with the following exceptions. Abdomen: terga VI-VII with four setae. Flagellum: Length 0.25-0.30 mm, consisting of three segments, second segment much shorter than first, third longer than first and second combined; first segment, no setae; second, four; third, twelve. Pedipalps (Fig. 4): Little more than half as long as body; trochanter, femur, patella not elongate. Spermathecae (Fig. 3): Consisting of four pairs of multibranched stalks, each branch terminating in sclerotized bulbs.

Variation.—*Schizomus biocellatus* exhibits intrasexual variation in the length of the pedipalps of the males. There may be elongation of the trochanter, femur and patella, or the pedipalps may be short as in females. Approximately 75% of the males in the type series have elongated pedipalps, with the remainder having short or intermediate pedipalps. Females differ from males in the number of setae on abdominal terga VI and VII, as well as in pedipalp length.

Comparisons.—*Schizomus biocellatus* differs from all other schizomids, excluding *Trithyreus cambridgei* Thorell and *Schizomus bagnallii* (Jackson), in that it possesses

convex vitreous ocelli. It cannot be compared to *T. cambridgei*, *species inquirenda*, for reasons stated earlier, and inadequate descriptions of the type. *S. biocellatus* differs from *S. bagnallii* in the setational pattern of the carapace and abdominal terga.

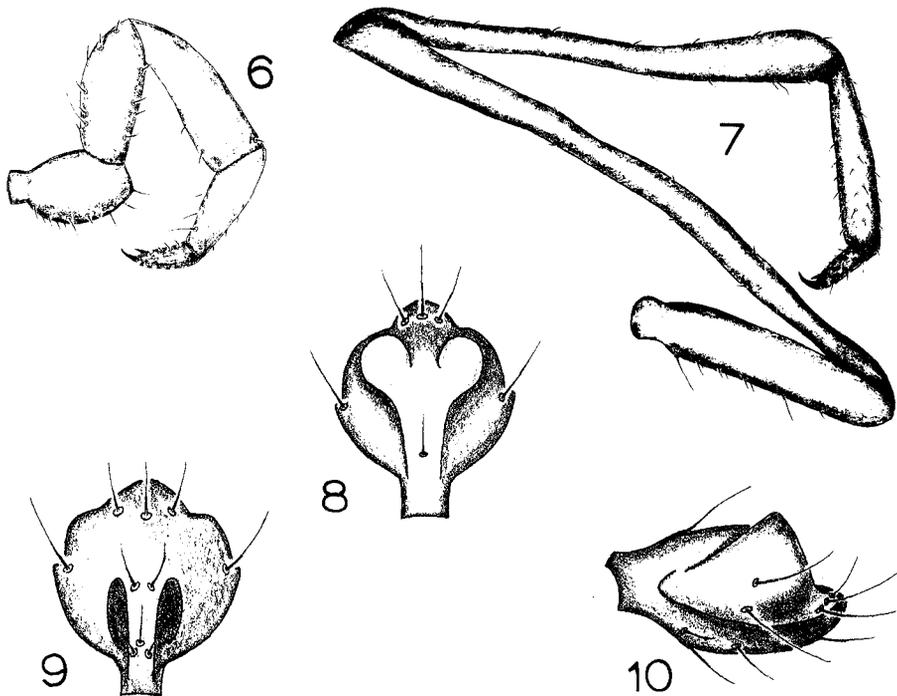
Schizomus bagnallii (Jackson), new combination
Figs. 2, 5

Trithyreus bagnallii Jackson 1911a: 75, 1911b: 438, figs. 1-5.

Type data.—From the original type series, I designate a lectotype female collected in the Kew Botanical Gardens in London, England by R. S. Bagnall during the 1907 Kew Gardens Survey, deposited BM; also, a paralectotype female and two paralectotype immatures from the same locality, same date, and same collector, BM.

Distribution.—Known only from four specimens collected at the Kew Botanical Gardens in London, England; doubtless imported.

Diagnosis.—Based only on adult females (males unknown). Total length (from tip of first cheliceral segment to tip of flagellum) 3.50-3.55 mm; convex vitreous ocelli present on carapace; three apical setae, four pair dorsal setae; metapeltidium divided; flagellum consisting of three segments.



Figs. 6-10.—External anatomy of *Schizomus biocellatus*, new species: 6 and 7, right pedipalps of males showing variation in length; 8, dorsal view of male flagellum; 9, ventral view of male flagellum; 10, lateral view of male flagellum.

Table 2.—Measurements (mm) of leg segments of lectotype female and paralectotype female of *Schizomus bagnallii* (Jackson). For convenience, the measurement of the pedipalp Tarsus-basitarsus is listed by Basitarsus.

	Pedipalp	Leg I	Leg II	Leg III	Leg IV
Trochanter	0.20–0.25	0.25–0.30	0.15	0.15	0.20
Femur	0.30–0.35	0.80	0.60–0.65	0.50	0.85–0.90
Patella	0.35	0.75–0.95	0.25–0.30	0.20–0.25	0.30–0.35
Tibia	0.30	0.60–0.65	0.30–0.35	0.25–0.30	0.55–0.60
Basitarsus	0.20	0.25–0.30	0.30–0.40	0.30–0.35	0.50
Tarsus		0.35	0.25–0.30	0.30	0.40

Description.—Based only on females (Fig. 2). Cephalothorax: Carapace length 0.85–0.95 mm, strongly convex, not quite twice as long as wide, terminating anteromedially into sharp conical process, ocelli distinct, vitreous cornea more convex than adjacent carapace, three apical setae and four pair dorsal setae; mesopeltidia very narrow, acutely triangular and pointing medially; metapeltidium divided medially into two plates, anterior margin of each parallel to mesopeltidia, posterior margins rounded; anterior sternum subtriangular, pointing caudally, possessing 11 setae; posterior sternum subtriangular, possessing eight setae. Abdomen: Abdominal tergum I very narrow, equidistant between metapeltidia and abdominal tergum II, possessing two setae; tergum II with two setae; terga III–VII with two dorsal and two lateral setae; tergum VIII with two dorsal, two dorsolateral, and two lateral setae; tergum IX with two dorsolateral, two lateral setae; tergum X with nine setae; segment XI with seven setae; segment XII with fourteen setae. Flagellum: Length 0.25 mm, consisting of three segments, second segment much shorter than first, third longer than first and second combined; first segment, no setae; second, four; third, 12. Pedipalps (Fig. 5): Trochanter produced distally; single subapical spur located ventrally on tarsus-basitarsus; claw not quite half as long as upper margin of tarsus-basitarsus; for measurements, see Table 2. Legs: Leg I antenniform; coxa of leg II with anterolateral spur; femur of leg IV more than twice as long as wide; legs II–IV with three tarsal claws. Spermathecae: Not dissected.

Variation.—No variation, other than size, was noted.

Comparisons.—See under *S. biocellatus*.

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