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Ergebnisse der Bhutan-Expedition 1972 des Naturhistorischen Museums in Basel Coleoptera: Fam. Rhysodidae

By Ross T. Bell

Abstract: Yamatoa n. gen. is separated from Omoglymmius Ganglbauer. The type is Y. niponensis (Lewis). Y. boysii (Arrow), Y. arrowi (Grouvelle), and Y. peninsularis (Arrow) are assigned to Yamatoa, as are two new species from Bhutan, Y. draco n.sp. and Y. reitteri n. sp. Rhysodes kaschmirensis Reitter is synonymized with Y. boysii. Omoglymmius laticeps n. sp. is described, while Omoglymmius crenatus (Grouvelle) n. comb. is redescribed. The four species from Bhutan are figured.

Bell and Bell (1962) have presented evidence that this group should be regarded as a tribe or subfamily of Carabidae. Some recent publications accept this idea, while others follow the older tradition of regarding them as an independent family. Rhysodidae, or Rhysodini, may be recognized among terrestrial Adephaga by the presence of entognathous mouthparts, moniliform antennae, small and widely separated hind coxae, and the absence of a transverse suture on the metasternum. These beetles are found in all sorts of dead and partly decayed wood, including logs, stumps, roots, and even in dead limbs on live trees. Bell (1970) discusses the morphology of the group, and the terminology used below is drawn from that paper. I am currently preparing a revised classification for the Rhysodini of the world. In this classification, the species from Bhutan will fall into two distinct genera. Since one of these is undescribed, it is named and described below.

Key to the Rhysodidae (Rhysodini) of Bhutan

- 1a. Pronotum with basal impression of each side, preceded by linear groove (discal striole) which ends well posterior to apical margin of pronotum (Figs. 1, 3); middle and hind tibiae each with two spurs (Yamatoa, n. gen.
- 1b. Pronotum on each side with deep, complete paramedian groove, extending from base to apex of pronotum; disc of pronotum divided into 4 narrow longitudinal carinae (Figs. 5, 7); middle and hind tibiae each with a single spur.

(Omoglymmius Ganglbauer)

2

3

2a. Marginal groove of pronotum distinct only in basal fourth; eye large, with more than 150 ommatidia (Figs. 1, 2).

Yamatoa reitteri n. sp.

- 2b. Marginal groove of pronotum nearly complete, almost attaining anterior margin; eye slightly reduced, with about 100 ommatidia (Figs. 3, 4). Yamatao draco n. sp.
- 3a. Temporal lobe pointed posteriorly; head with disinct post-ocular lobe (Figs. 5, 6). Omoglymmius crenatus (Grouvelle)
- 3b. Temporal lobe broadly rounded posteriorly; postocular lobe absent (Figs. 7, 8, 9). *Omoglymmius laticeps* n. sp.

Genus YAMATOA n. gen.

Type species: Rhysodes niponensis Lewis 1888, of Japan.

Description: Median lobe of head short, not extending to neck; frontal grooves complete; eye lateral, not protruding, fully developed or more or less reduced; pronotum with a basal impression on each side, preceded by a discal striole; elytral striation complete, with Stria VII marginal, apical striole distinct; metasternum not sulcate medially; middle and hind tibiae each with two spurs.

This genus formed part of Subgenus *Omoglymmius* in the classification of GROUVELLE (1903). The name is based on an ancient name for Japan, and is feminine. The described species are Y. *niponensis* (Lewis 1888) (n. comb.); Y. *boysii* (Arrow 1901) (n. comb.), of the western Himalayas (= *Rhysodes kaschmirensis* Reitter 1922, n. syn.); Y. *arrowi* (Grouvelle 1908) (n. comb.), of Sikkim; and Y. *peninsularis* (Arrow 1942), of Malaya.

Yamatoa reitteri n. sp.

Rhysodes boysii auct., nec Arrow.

Type specimen: British Museum of Natural History, London; male: INDIA: upper Gumti Valley, West Almora District, April, 1919, collected by H. Gower Champion.

Paratypes: British Museum of Natural History: 1 female, same data as type; 3 males, 2 females, INDIA: West Almora, Kumaon, United Provinces, various dates 1917, 1919, coll. H. G. Champion; one male, INDIA: Swal River basin, Almora, U.P., February, 1919, coll. H. G. Champion. Muséum National d'Histoire Naturelle, Paris: 1 male,

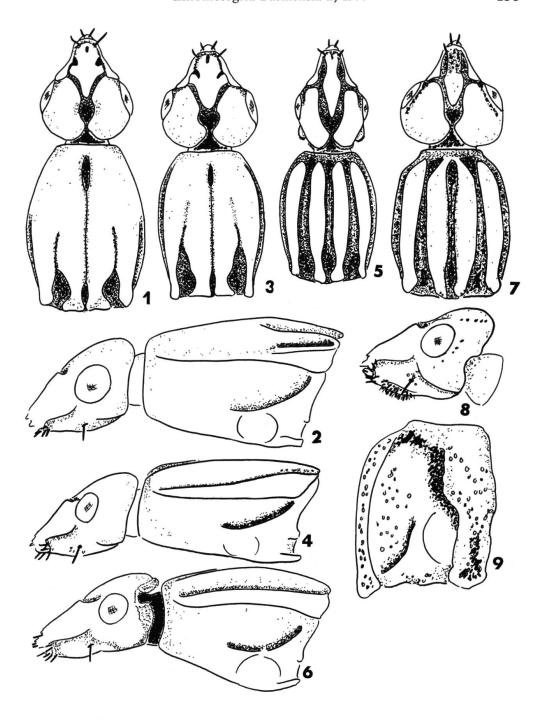


Fig. 1. Yamatoa reitteri n. sp., dorsal view of head and pronotum. Fig. 2. Same species, lateral view of head and pronotum. Fig. 3. Yamatoa draco n. sp., dorsal view of head and pronotum. Fig. 4. Same species, lateral view of head and pronotum. Fig. 5. Omoglymmius crenatus (Grouvelle), dorsal view of head and pronotum. Fig. 6. Same species, lateral view of head and pronotum. Fig. 7. Omoglymmius laticeps n. sp., dorsal view of head and pronotum. Fig. 8. Same species, lateral view of head. Fig. 9. Same species, ventrolateral view of prothorax.

2 females, INDIA: Dharmoti, Kumaon District, 11, 12-6-1912, coll. A.D. Imms; 1 male, SIKKIM: 1886, coll. Harmand. Museum of Natural History, Basel: 1 male, 2 females, BHUTAN: Nobding, 41 kilometers east of Wangdi Phodrang, elevation 2800 meters, Bhutan Expedition, June 18, 1972.

Description: (Figs. 1, 2), Length 6.2–7.3 mm; eye large, normal in shape, with about 150 ommatidia; frontal grooves narrow, sharply defined; mentum with scattered prelabial setae along anterior margin and 1 pair of postlabial setae, but without central "beard"; pronotum with basilateral lobe oblique posteriorly; basal impression 1/3 length of pronotum, containing distinct tubercle; striole extending to middle of pronotum; marginal groove of pronotum distinct in basal fourth, otherwise effaced; humeral tubercle of elytron forming laterally directed tooth; elytral striation with relatively coarse punctures, intervals moderately convex; 1 seta present in preapical part of Stria VII and 5-6 in its apical part; no setae in other striae; hind wings fully developed; Sternite IV of abdomen with well developed lateral pits in both sexes, deeper in female; Sternite V with much smaller and shallower lateral pits; anterior femur not toothed ventrally in either sex; spurs of middle and hind tibiae conspicuously unequal, inner one much smaller than outer one; hind calcar forms small acute angle just above level of spurs.

This species has long been confused with Y. boysii (Arrow 1901). REITTER (1922) distinguished them, but he interpreted the present species as Y. boysii, and consequently redescribed the true Y. boysii under the name Rhysodes kaschmirensis. Although Arrow confused the two species, his type specimen, in the British Museum of Natural History, is clearly the same as R. kaschmirensis Reitter, 1922. The true Y. boysii has complete marginal grooves on the pronotum, and has the eyes and hind wings strongly reduced.

Y. reitteri differs from all other members of the genus in having the marginal grooves of the pronotum strongly abbreviated. Among Himalayan species, the fully developed eyes will distinguish it from Y. draco and Y. boysii.

Yamatoa arrowi (Grouvelle, 1908) was described from Sikkim, and may be expected in Bhutan. It resembles Y. reitteri in having large, normal eyes, but differs in having fully developed marginal grooves on the pronotum, in having a central "beard" on the mentum, in having

dilated, ill-defined frontal grooves, and in being much larger (length 9.5 mm).

Yamatoa draco n. sp.

Type specimen: (Holotype). Museum of Natural History, Basel, Switzerland; male: BHUTAN: Tango, 12 kilometers north of Thimphu, June 30, 1972; coll. Basel Natural History Museum Expedition.

Description: (Figs. 3, 4), Length 6.7 mm; eye reduced, deeper than long, entirely anterior to middle of temporal lobe, with about 100 ommatidia; widest point of head opposite middle of temporal lobe, slightly posterior to eyes; cornea of eye distinctly facetted; frontal grooves narrow, sharply defined; mentum with about 5 prelabial setae and 1 pair of postlabials, without central "beard"; pronotum with basilateral lobe narrowly oblique posteriorly; basal impression about 1/3 length of pronotum, merging gradually with discal striole, which is well defined in posterior half of pronotum, and is continued anteriorly by vague impression to anterior fourth of pronotum; basal impression broader than in related species, its tubercle broad, flat, impunctate; marginal groove of pronotum nearly complete, effaced only very near to anterior margin; precoxal carina absent; elytra relatively short and broad for genus; humeral tubercle small, normal, not directed laterally; elytral striae coarsely punctate; Stria II with 1 seta near apex; Stria IV with 1 apical seta; Stria VII with 1 preapical and 3 apical setae; Sternite IV with deep lateral pits; Sternite V with shallow ones; anterior femur of male with ventral tooth (female unknown); spurs of middle tibiae unequal, those of hind tibiae equal; hind calcar small, forming obtuse angle just above level of spurs. I did not risk damaging the specimen by checking the status of the hind wings. In Y. boysii, and in all other Rhysodini with reduced eyes, the hind wings are vestigial, so they probably are reduced in Y. draco.

The specific name is derived from the dragon which appears on the flag of Bhutan. This species is closely related to Y. boysii, which is known from the western Himalayas only, from Almora District to Kashmir. Y. boysii has a more strongly reduced eye, with only 50 ommatidia. The eye is perfectly flat and the cornea is unfacetted. The widest part of the head is distinctly posterior to the middle of the temporal lobes, and far behind the eye, giving the head a distinctive,

almost wedgeshaped appearance. The anterior tibia has a ventral tooth in the male, but not in the female.

Genus OMOGLYMMIUS Ganglbauer 1892

Type species: *Rhysodes germari* Ganglbauer 1892. *Omoglymmius* was described as a subgenus. Bell (1975) raised it to generic rank.

Description: Median lobe of head short, not extending to neck; frontal grooves complete; eye lateral, not protruding, fully developed to more or less reduced; pronotum with complete, deep paramedian groove on each side; these and median groove divide pronotal disc into 4 narrow carinae; elytral striation complete, Stria VII marginal; apical striole distinct; metasternum not sulcate medially; middle and hind tibiae each with 1 spur.

Omoglymmius crenatus (Grouvelle 1903) n. comb.

Type specimen: Not located, not in the Muséum National d'Histoire Naturelle in Paris. The type locality is given as Bhutan, and the collector as Maria Borsti. Grouvelle's description is sufficient to identify the species.

Description: (Figs. 5, 6), Length 5.5 mm; temporal lobes longer than wide, pointed posteriorly, with occipital angle nearly rectangular; margin between medial and occipital angles oblique, nearly straight; temporal setae absent; head with large postocular lobe; in profile view, hind margin of head deeply concave between temporal lobe and postocular lobe; this concavity and postocular lobe densely pilose; pronotum slightly wider than long, widest near middle; base moderately narrowed, apex more strongly so; hind angles obtuse, not rounded; pronotal setae absent; median groove of pronotum open both anteriorly and posteriorly; prosternum with a few punctures anterior to each coxa, otherwise impunctate, strongly microsculptured; no precoxal carina; elytral striae very coarsely punctate, relatively deep; intervals narrow, convex, outer ones more so; odd-numbered intervals very slightly more convex than even-numbered ones (Grouvelle exaggerated the distinctness of this character in several species); Stria I with 5 setae in apical third; Stria II with 5 setae in apical third; Stria IV with 5-6 setae evenly distributed, most posterior one opposite tip of Stria III; Stria IV with 3 setae near base; Stria VII with about 5 setae in its middle portion, and 5 close together near apex; apical striole with

2–3 setae in or near it; metasternum punctate along margins but not in middle; punctures of Sternites III–V each arranged in a single transverse row; female with deep lateral pit in Sternite V, none in Sternite IV; Sternite VI in both sexes with 1 pair of setae; male with ventral tooth on front femur; absent in female; spur of middle tibia straight; calcar of hind tibia bisinuate, very small.

This species is close to *Omoglymmius alticola* (Grouvelle 1913), described from the Abor Hills of Assam. I have studied the holotype of the latter species in Paris. It appears to differ from *O. crenatus* primarily in having the median groove of the pronotum closed both anteriorly and posteriorly. This is a difficult group of species, and more material is needed to make sure that the species are really distinct. *O. crenatus* is easily distinguished from other Rhysodini of Bhutan by the shape of the temporal lobes.

Distribution: BHUTAN: female, Balu-Jhura, 200 meters elevation, April 28, 1972, coll. Basel Natural History Museum Expedition; INDIA: male, Haldwani District, Kumaon, Uttar Pradesh, no date, coll. H. Gower Champion (British Museum of Natural History).

Omoglymmius laticeps n. sp.

Type specimen: Museum of Natural History, Basel, Switzerland; female: BHUTAN: Nobding, 41 kilometers east of Wangdi Phodrang, elevation 2800 meters; Basel Natural History Museum Expedition, 1972.

Paratypes: Museum of Natural History, Basel; 2 females, BHUTAN: Dorju La, Wangdi Phodrang, elev. 1300 meters; 1 female, Tango, 22 kilometers north of Thimphu.

Description: (Figs. 7, 8), Length 6.1–7.1 mm; temporal lobes broader than long, broadly rounded posteriorly, occipital angle scarcely evident; temporal setae absent; head without distinct postocular lobe; in profile view, margin of head scarcely concave posteriorly, and not pilose; pronotum slightly longer than wide, widest near middle; its base more distinctly narrowed than in *O. crenatus*; its apex strongly narrowed; hind angles obtusely rounded; pronotal setae absent; median groove open both anteriorly and posteriorly; prosternum with distinct precoxal carina; prosternum and propleura coarsely punctate, not microsculptured; elytral striae very coarsely punctate, very shallow; punctures large and deep; intervals only slightly convex; elytra with

setae much fewer than in O. crenatus (Stria II with 1 near tip; Stria VII with about 4 near apex; apical striole with 1 seta); metasternum densely coarsely punctate in midline and along margins, sparsely so on remainder of disc; punctures of each abdominal sternite arranged in broad, irregular band; female with deep lateral pits on Sternite IV, none on Sternite V; no setae on Sternite VI; female with small ventral tooth on anterior femur (male unknown).

This species is probably closest to *Omoglymmius malabaricus* (Grouvelle) n. comb.), of southern India. Both species have a large, round head, and lack temporal setae. In *O. malabaricus* there is a deep depression anterior to the eye, forming an incomplete postantennal groove, and extending almost to the frontal groove, leaving a narrow, oblique ridge connecting the temporal lobe to the antennal rim. In *O. laticeps*, there is no postantennal groove, and the temporal lobe broadly approaches the antennal rim, from which it is separated only by the linear antennal groove.

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