

yellowish-green, the head and pronotum with the median area reddish-brown outwardly bordered by a band of greenish-yellow.

Paratypes.—13 ♀, same data as the holotype. Range in measurements, in millimeters: Total length 38.5–40.0; pronotum 8.2–9.0; tegmen 5.5–6.5; hind femur 19.5–20.5; antenna about 15.0–16.0. Coloration same as allotype.

Habitus.—This beautiful species dwells amongst the dense vegetation at the foot of high mountains about four miles west of Karenko on the east coast of Formosa, and at only a few feet above sea-level. Specimens were found in the tangled mass of vegetation under banana plants and were caught with difficulty as they jumped into the entangled shrubbery to escape capture. The entire series was collected in about one hour's collecting and they were fairly common in one small restricted area only. It seems strange to find a *Miramella* at such a low elevation. The hot, humid nature of its microhabitat undoubtedly accounts for its unusually large size. The upper limits of its distribution are not known. *Miramella splendida* TINKHAM appears to belong to the Oriental faunal region and at present is known only from the above locality.

***Miramella shirakii* n. sp.**

In form and coloration most closely related to *M. splendida* TINKHAM from which it differs strikingly in its much smaller size and by the broader stripe on the dorsum of the pronotum.

Holotype.—♂, Below Sekigahara, at about 7000 feet elevation, Karenko Prefecture, Formosa, Sept. 3, 1935 (E. R. TINKHAM; in ferns and grass on steep east slope of mountain). Measurements, in millimeters: Total length 17.0; pronotum 4.2; tegmen 3.5; hind femur 10.5; antenna about 9.5.

Form typical, face moderately sloping. Width of vertex between the eyes narrower than the frontal costa between the antennae. Fastigium sloping, very slightly grooved. Frontal costa expanding slightly below the apex and with a distinct contraction immediately below the median ocellus; surface shallowly sulcate. Eye subglobose, subspherical, subocular depth of the gena less than the length of the eye. Antenna reaching to the apex of the tegmen.

Pronotum smoothly rugose-punctate, lateral keels absent and lateral margins rounded into the lateral lobes. Fore margin of pronotum truncate, very feebly biconvex; hind margin with a distinct emargination in the center. Pronotum, as seen in profile, flat, the median line notched by the three sulci which are moderately deep. Metazona about two-fifths the length of the pronotum. Prozona with the median carina obsolete; metazona with the median carina evident. Lateral lobes longer than deep, with the metazonal portion rugosely punctate. Tegmina linear-oblong, reaching to the base of the first abdominal segment. Prosternal spine strongly and bluntly conical, with subacute apex. Mesosternal lobes rounded, the interspace narrow and rectangular. Abdominal tergites faintly keeled and with the apex of the abdomen upturned. Supra-anal plate triangular with the apex blunt; the median furrow deep, moderately narrow and in the basal half bounded by high rounded keels. Beyond the middle the groove and keels merge onto the flattened area of the apical third of the plate. This flattened area is bound on either side by widely separated rounded ridges. Cerci short, conical, gently recurved with a rounded apex. Subgenital plate with the apex bluntly conical. Uncal plate with the inner teeth of the anterior lobe, small; posterior lobe with the processes appearing as rounded lobes and with the inner margins almost parallel. (see Plate IV, fig. 5 and 6.). Fore and middle legs moderately incrassate, the hind femur surpassing the apex of the abdomen by the length of the geniculum. Hind tibiae with 8 sharp external spines and without an apical spine, those proximally very short and gradually increasing in length apically. Internal tibial spines 10 including the apical one; long, slender and acutely pointed.

Coloration.—Antennae at base testaceous with the apical two-thirds dark reddish-brown. Dorsum of the head and pronotum dark olive brown, the pronotum with a narrow yellowish-green edge just inside the black post-ocular band which is bent in the middle of the lateral portions of the prozona thus giving the false impression that the pronotum is constricted in the center. Sulci of the pronotum black. Dorsal stripe of abdomen narrow and greenish-yellow. Post-ocular band broad, shining black and extending to the tip of the

subgenital plate, with a large forward downwardly projecting lobe from its lower edge on the lateral lobes of the prozona (see Plate III, fig. 2.). Lower portions of the face dark grass green, mottled with fuscous; lower portions of the lateral lobes greenish-yellow, the remainder of the ventral portions orange yellow. Fore and middle legs dark grass green. Hind femora with the external face dull reddish-brown with the lower keel and internal face bright red orange. Hind tibiae glaucous, the tibial spines shining black with only their bases pale.

Paratypes.—19 ♂, below Sekigahara, Karenko Prefecture, Formosa, Sept. 3, 1935 (E. R. TINKHAM; in ferns and grass along mountain path at elevations from 6000–7000 feet). Range in measurements, in millimeters: Total length 16.8–19.5; pronotum 4.0–4.7; tegmen 2.5–3.5; hind femur 9.5–11.0; antennae 9.0–10.5. Coloration same as in the holotype.

Allotype.—♀, same data as the holotype. Measurements: Total length 24.0; pronotum 5.2; tegmen 4.0; hind femur 13.0; antenna about 9.0.

Considerably larger than the type and more robustly built. Pronotum with the lateral borders distinctly diverging caudad. Front margin of pronotum truncate, the hind margin distinctly bi-convex. Supra-anal plate triangular, very convex, with weak irregular punctation. Basal two-fifths of plate crossed by a faint transverse line; a faint median impression in the basal two-fifths of the plate. Dorsal valvula with upper edge irregularly notched and with gently recurved tip; ventral valvula with gently decurved tip and with a tooth-like projection from the lower edge.

Coloration.—Dorsal stripe broad and dark olive brown, slightly paler on the abdomen where it is finely mottled with darker specks. Post-ocular band narrower than in the male and dark reddish-brown. Remainder of the body parts colored as in the male.

Paratypes.—15 females, below Sekigahara, same data as paratype males; 10 females above Seraoka, Karenko Prefecture, elevation about 5500 feet, Sept. 3, 1935 (E. R. TINKHAM; along mountain path).

Habitus.—This small but beautiful species is found only on the eastern slopes of the high mountains in central Formosa. It was first encountered just below Sekigahara at about 7000 feet elevation,

in the dew drenched grasses and ferns on a very steep east facing slope of a mountain. It was collected from this altitude downward to about 5500 feet elevation. Its optimum zone appears to be about 6000–6500 in the slender bamboo grass and ferns along the mountain path in openings in the dense rain forests. It belongs to the fauna developed on the eastern slopes of the central Formosan mountains but whether it is part of the East Himalayan subregion (Mell) or represents something else, I am at present not prepared to say.

The species is named in honor of Dr. T. SHIRAKI, well known Japanese Orthopterist, whose studies in Orthoptera form the basis of our knowledge of that group in Formosa and Japan at the present time.

Niitakacris rosceanum (SHIRAKI)

1910. *Podisma rosceanum* SHIRAKI, Acrididen Japans, p. 75 (Niitaka-Gebirge).

This species is distinguished from the genotype *Niitakacris goganzanensis* TINKHAM to which it is closely related, by the following features: Hind tibiae red and not orange yellow; sternites more whitish with dark edgings to the sternites and not yellowish; furculae longer, cerci shorter and the median furrow of the supra-anal about one-half the length of the plate, narrow and acuminately pointed and not broad and shallow and less than one-half the length of the plate with its end bluntly rounded. For a comparison of these characters see Plate III, fig. 5 and 6 and Plate IV, fig. 9 and 10.

These characters might not indicate specific rank were it not for the distinctive form of the sclerotized uncal armature of the male internal genitalia. In *N. rosceanum* the uncal plate (see Plate IV, fig. 1 and 2.) bears large, strongly curved, forward projecting teeth on the inner edge of the anterior lobe and the posterior lobe reveals two large projections with their apices strongly divergent. In *N. goganzanensis* these teeth on the anterior lobe are much smaller and the projections of the posterior lobe are smaller with their apices convergent. (See Plate IV, fig. 3 and 4. Also compare these four figures with the following four, Plate IV, fig. 5, 6, 7 and 8 for the striking differences between *Niitakacris* and *Miramella*.) It will be