

Genus	Vol. 7(3): 451-458	Wrocław, 30 X 1996
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Notosacantha komiyai n. sp. from Thailand, with notes on another two species
(Coleoptera: Chrysomelidae: Cassidinae)

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ABSTRACT. *Notosacantha komiyai* n. sp. is described from Chiang Mai Prov. in North Thailand. *N. moderata* CHEN et ZIA and *N. shishona* CHEN et ZIA, new to Thailand, are redescribed.

Key words: Entomology, taxonomy, new species, redescrptions, *Coleoptera*, *Chrysomelidae*, *Cassidinae*, Oriental Region.

The genus *Notosacantha* CHEVROLAT, 1837 with 234 described species is one of the most speciose genera of cassidoid beetles. Its systematic position is unclear, it displays a mixture of characters of both the *Cassidinae* (general habitus) and *Hispinae* (leaf mining larvae), with no characters that could clearly indicate a relationship with any hispoid and cassidoid tribes. Most species occur in Madagascar, several dozen in tropical Africa, Oriental and Australian Regions. Most species have very small distribution areas, they are scarcely represented in collections, and c. 80% of all described species were never recorded again after the original description.

Oriental species were keyed by SPAETH (1933), and several new were described after his paper. Most of them are well-defined by unique structural characters, especially elytral sculpture (costae, tubercles, puncturation), but several species were described by Chinese authors with only short English diagnose and those need a detailed redescription.

In the material sent to us by colleagues Y. KOMIYA (Japan) and J. ZAKRZEWSKI (Poland) there are three interesting species collected in Thailand, one of them new to

the science, two known only from southern China. Their descriptions are given below.

We would like to express our sincere thanks to Dr. Y. KOMIYA and Mr. J. ZAKRZEWSKI for the specimens described in this paper.

Notosacantha komiyai n. sp.

ETYMOLOGY

Dedicated to Dr. Y. KOMIYA who sent us the specimen of this new species.

DIAGNOSIS

It belongs to a species group with stout body, costate elytra, principal tubercle with four carinae, basal tubercle without humeral branch, apical costa present, anterior and posterior branches of principal tubercle converging in one point, incomplete furca interna and costa ultima reduced to tubercle. The group comprises also *Notosacantha sumatrana* (Sp.) from Sumatra, *N. curta* (Sp.) from Borneo and *N. jacobsoni* (Sp.) from Java. *N. sumatrana* differs in its higher principal tubercle and black elytral disc, *N. curta* differs in a smaller size (length: c. 4 mm), almost rectangular body, explanate margin of elytra in posterior half partly black, *N. jacobsoni* differs in the impunctate elytral "window", very low tubercles, with principal tubercle only slightly larger than the apical one and in elytra with maximum width at base and then converging posterad.

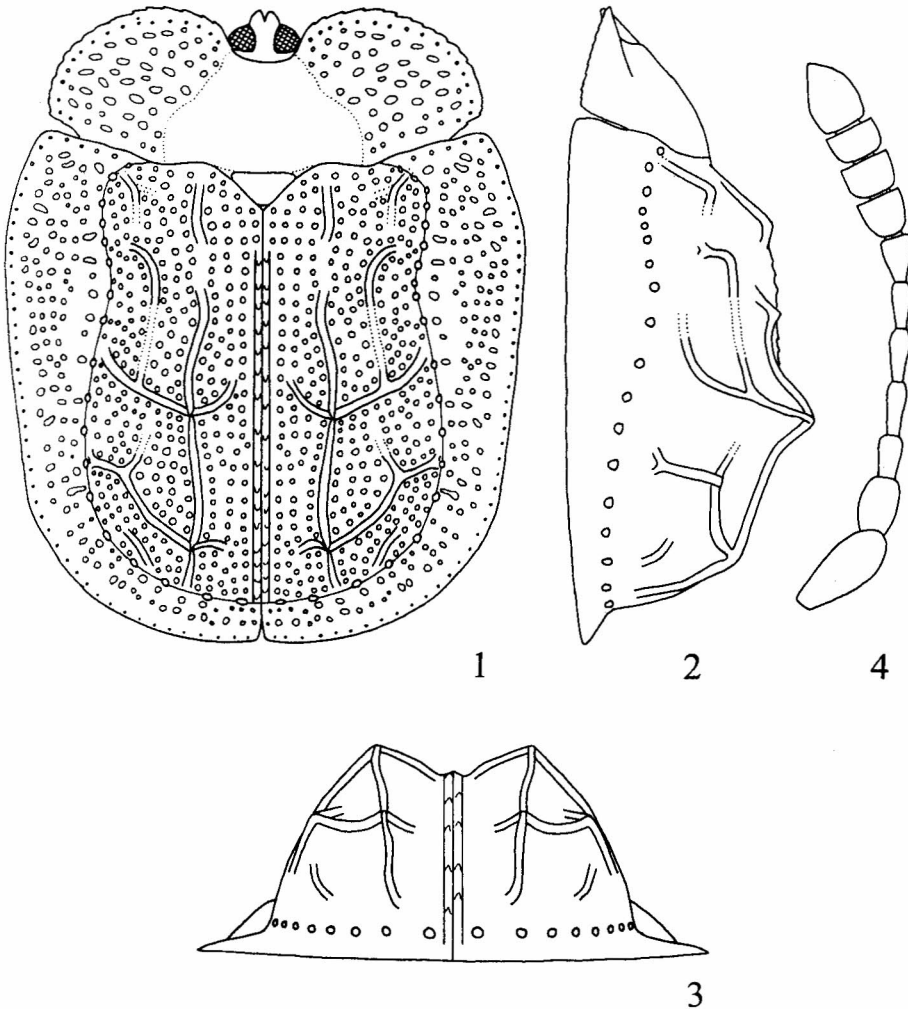
DESCRIPTION

Length: 5.6 mm, width: 4.6 mm.

Pronotum yellow-brown, margin and area close to eyes paler yellow; elytral disc mostly brown, tubercles, apical costa, costa terminalis, distal part of lateral branch of principal tubercle and costa ultima blackish-brown, dorsal costa between subbasal and principal, and principal and apical tubercles yellow-brown; explanate margin yellow with large humeral and posterolateral yellow-brown spots, internal part of "window" paler yellow than the external one. Ventriles, legs and antennae yellow.

Body subpentagonal (fig. 1). Frontal plate moderately large, its basal half parallelsided, anterior half regularly converging anterad, apical emargination narrow but deep. Antennae 11-segmented, with well defined 5-segmented club; length ratio of club to basal part 42:58 (fig. 4). Pronotum with maximum width slightly anterior to the base, disc mostly smooth, with few punctures only in basal impressions and anterolateral part. Punctuation of explanate margin regular, pores not coalescent, margin finely but distinctly serrate on whole length. Base of elytra as wide as base of pronotum, maximum width of elytra at 2/7 length, then sides distinctly narrowed posterad. Elytra with almost complete set of costae, dorsal costa narrowly interrupted between distinct basal and subbasal tubercle. Principal tubercle moderately high and sharp, with four carinae, anterior and posterior branches

converging in one point; sutural branch turning obliquely anterad, extending to sutural row of punctures, apical branch straight, lateral (= "pontall" in SPAETH's key) branch extending to submarginal row of punctures (fig. 2). Apical tubercle distinct, with four carinae, sutural carina very short, apical carina complete, costa ultima reduced to an isolated, elongate tubercle (fig. 3), costa terminalis complete, furca interna distinct only in basal 2/3 length, no furca externa. Postapical tubercle and



1-4. *Notosacantha komiyai*: 1 - body in dorsal view, 2 - lateral, 3 - back, 4 - antenna

postapical carina absent. Humeral carina interrupted between humeral and posthumeral tubercle. Explanate margin subhorizontal, with large pores, disposed almost regularly, also "window" with pores, but along the middle with broad impunctate area.

Ventrites without diagnostic characters.

MATERIAL EXAMINED

HOLOTYPE: "Phuping Palace, Chiangmai Prov., North Thailand, 29. V. 1983, M. SAWAI lgt." (in the collection of junior author).

Notosacantha moderata CHEN et ZIA, 1964

Notosacantha moderata CHEN et ZIA, 1964: 122, 132 (holotype in Academia Sinica, Beijing, examined!);

LIZHONG, 1982: 53; CHEN et al., 1986: 424, 620.

Hoplionota fumida: GRESSITT, 1938: 573, 1952: 447 (misidentification).

DIAGNOSIS

It belongs to a species group with stout body, costate elytra, principal tubercle with four carinae, basal tubercle without humeral branch, apical costa reduced, pronotum with maximum width at base, furca interna incomplete and bicoloured explanate margin of elytra. The group comprises also *N. birmanica* (SP.) from Burma, *N. fenestralis* (SP.) from Borneo, *N. maculipennis* (BOH.) from India, Nepal and Burma and *N. fumida* (SP.) from South China. *N. birmanica* and *N. fenestralis* differ in their mostly black body with a large "window", *N. maculipennis* differs in the long costa ultima and *N. fumida* differs in the anterior and posterior branch of principal tubercle converging in one point.

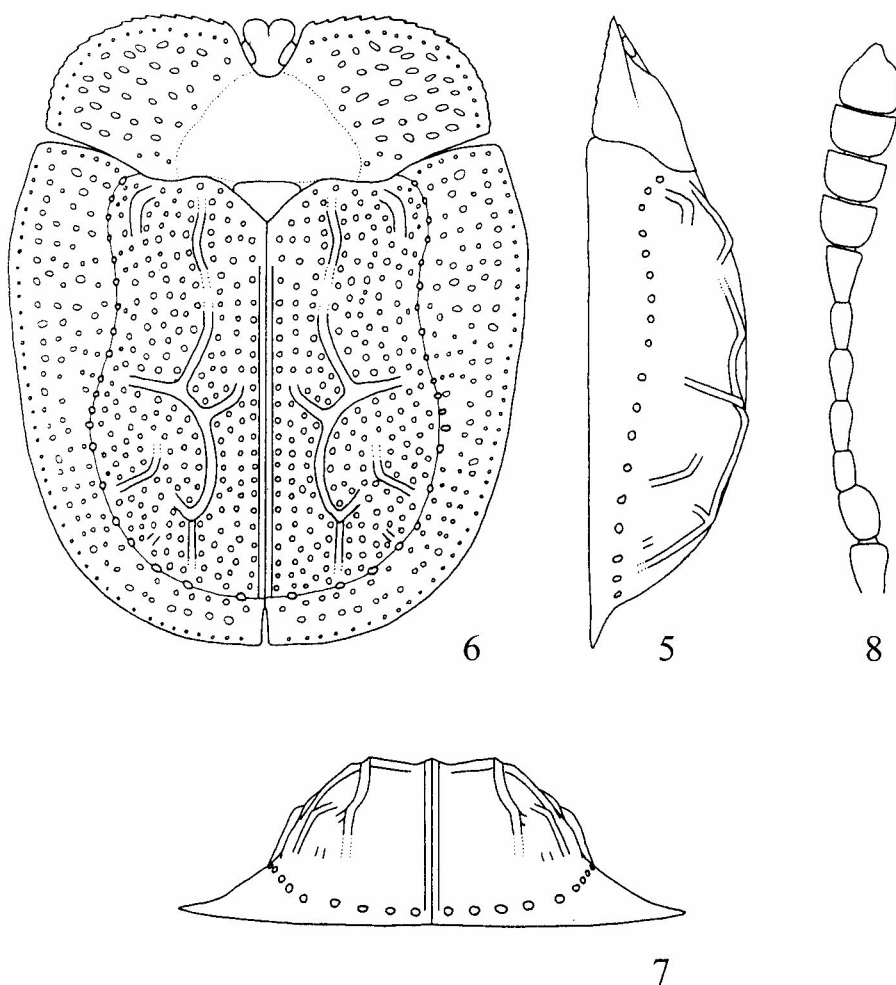
DESCRIPTION

Length: 5.1 mm, width: 4.1 mm (in original description length 5.8 mm, width, 4.8 mm).

Pronotum in anterior half yellow, in basal half yellow-brown, elytral disc almost whole yellow-brown, only basal, principal and apical tubercles dark brown; explanate margin mostly yellow-brown with large yellow "window" in the middle and yellow extreme margin. Ventrites, except black meso- and metathorax, legs and antennae yellow.

Body broadly oval (fig. 6). Frontal plate large, extended anterad, with rounded sides, apical emargination short and narrow. Antennae 11-segmented, with well defined 5-segmented club; length ratio of club to basal part 46:54 (fig. 8). Pronotum with maximum width at base, disc mostly smooth, with few punctures only in basal impressions and anterolateral part. Punctuation of explanate margin regular, pores not coalescent, margin finely but distinctly serrate on whole length. Base of elytra only slightly wider than base of pronotum, maximum width of elytra at 1/4 length, then sides moderately narrowed posterad. Elytral costae partly reduced, dorsal costa

distinctly interrupted between small basal and subbasal tubercle. Principal tubercle very low, with four carinae, anterior and posterior branches converging in different points; sutural branch extending to the second row of punctures, apical branch slightly curved ventrad, lateral (= "pontall" in SPAETH's key) branch ending anterior to submarginal row of punctures (fig. 5). Apical tubercle distinct, with three carinae, sutural carina absent, apical carina very short, costa ultima reduced to a small, isolated tubercle (fig. 7), costa terminalis also isolated, short, no furca interna and



5-7. *Notosacantha moderata*: 5 - body in lateral view, 6 - dorsal, 7 - back, 8 - antenna

externa. Postapical tubercle and postapical carina absent. Humeral carina reduced to small humeral tubercle. Explanate margin subhorizontal, with large pores, disposed almost regularly, also "window" with pores.

MATERIAL EXAMINED

THAILAND: Chiang Dao, 2.6 1994, native collector (coll. of junior author).

REMARKS

A short diagnose by CHEN et ZIA (1964) and GRESSITT's (1952) description are too laconic to allow a correct identification of this species. We have examined holotype of *N. moderata* and it is conspecific with the specimen collected in Thailand. The Chinese specimen only slightly differs in a larger body size, darker coloured pronotum and elytra but elytral sculpture is almost identical with that in the specimen from Thailand.

Notosacantha shishona CHEN et ZIA, 1964

Notosacantha shishona CHEN et ZIA, 1964: 122, 133 (holotype and two paratypes in Academia Sinica, Beijing, examined!); CHEN et al., 1986: 426, 621, pl. X.

Notosacantha xisana [sic] CHEN et ZIA, 1964: 122 (lapsus, explanation to figure of *shishona*).

DIAGNOSIS

It belongs to a species group with stout body, costate elytra, principal tubercle with four carinae, basal tubercle without humeral branch, apical costa present, anterior and posterior branches of principal tubercle converging in one point, incomplete furca interna and complete costa ultima. The group comprises also *Notosacantha brookei* (Sp.) from Borneo, *N. bioculata* (WAGEN.) from Sumatra and Nias Is., *N. quadra* (Sp.) from Borneo, *N. rufa* (WAGEN.) from Malay Pen. and Sunda Is. and *N. taeniata* (F.) from the Philippines. *N. brookei* differs in the uniformly yellow explanate margin of elytra and very short antennal club, *N. bioculata* differs in its almost uniformly black elytra with only pale "window", *N. rufa* and *N. taeniata* differ in a larger body (length above 4.5 mm), *N. rufa* differs also in higher elytral tubercles, *N. quadra* differs in its subpentagonal body, with elytra widened from base to 1/5 length, and then distinctly converging posterad.

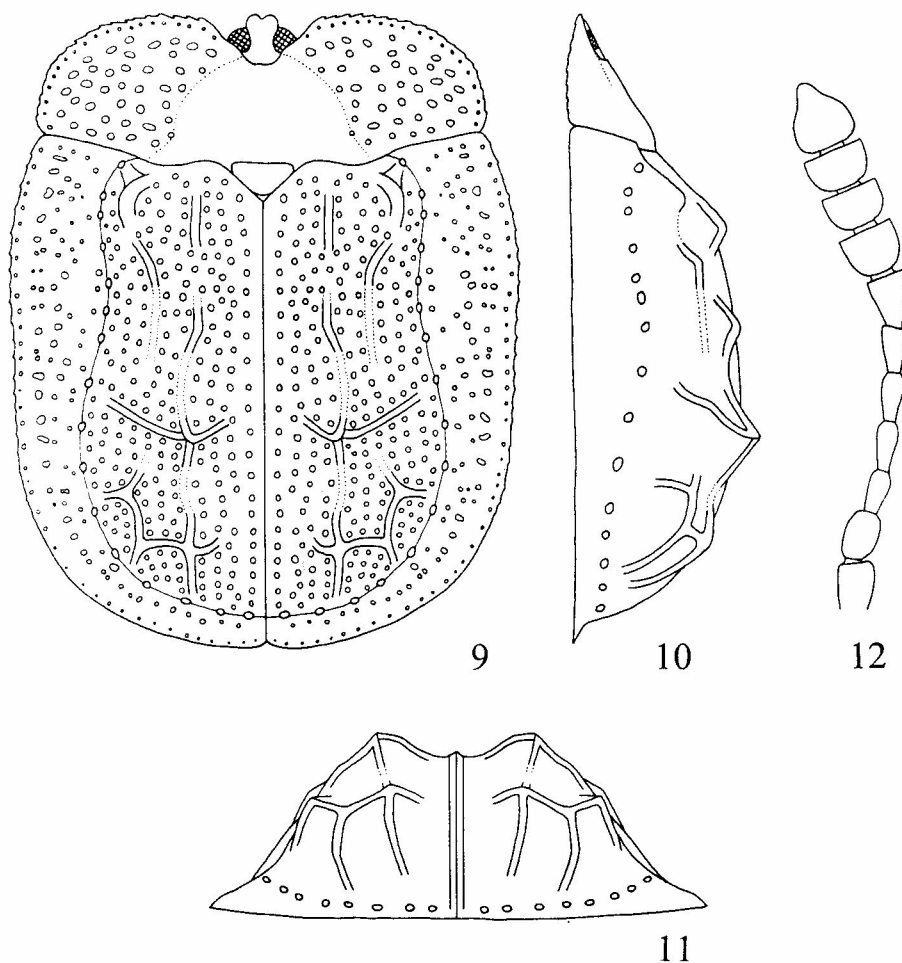
DESCRIPTION

Length: 4.4 mm, width: 3.5 mm (in original description length 4.2-4.8 mm, width, 3.8-4.2 mm).

Pronotum in anterior half yellow, basal and lateral part of explanate margin and disc yellow-brown, in the middle of explanate margin brown spot, basal part of disc with two transverse black spots; scutellum black, elytral disc mixed brown and black; black occupies all tubercles and costae, humeri, posthumeral part and poste-

rior half part of marginal intervals; explanate margin yellow with large reddish-brown humeral and posterolateral spots; large "window" paler yellow than apical part of explanate margin. Ventrites, legs and antennae yellow.

Body broadly oval (fig. 9). Frontal plate small, converging anterad, apical emargination short but broad. Antennae 11-segmented, with well-defined 5-segmented club; length ratio of club to basal part 47:53 (fig. 12). Pronotum with maximum width at base, disc mostly smooth, with few punctures only in basal



9-12. *Notosacantha shishona*: 9 - body in dorsal view, 10 - lateral, 11 - back, 12 - antenna

impressions and anterolateral part. Punctuation of explanate margin regular, pores not coalescent, margin finely but distinctly serrate on whole length. Base of elytra as wide as base of pronotum, maximum width of elytra in 1/5 length, then sides only slightly narrowed posterad. Elytral costae well developed, dorsal costa distinctly interrupted between basal and subbasal small but sharp tubercle, and very low between subbasal and principal, and principal and apical tubercles. Principal tubercle moderate, sharp, with four carinae, anterior and posterior branches converging in one point; sutural branch extending to the second row of punctures, apical branch almost straight, lateral (= "pontall" in SPAETH's key) branch extending to submarginal row of punctures (fig. 10). Apical tubercle distinct, with four carinae, sutural carina extending to the second row of punctures, apical carina distinct, costa ultima and costa terminalis distinct (fig. 11), marginal tubercle with three carinae, furca interna distinct only in basal half, not reaching the lateral branch of principal tubercle. Postapical tubercle and postapical carina absent. Humeral carina reduced to small humeral tubercle and short posthumeral carina. Explanate margin subhorizontal, with large pores, disposed almost regularly, "window" only in the middle without pores.

MATERIAL EXAMINED

THAILAND: Chiang Mai, 4.6.1994, native collector (coll. of junior author).

REMARKS

Type specimens only slightly differ from the specimen from Thailand in a stouter body and darker coloured spots of explanate margin of elytra.

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