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New records and new species of Scolytidae from Borneo (Coleoptera: Scolytidae)

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Abstract

Twenty new species of Scolytidae from the Mount Kinabalu area in northern Borneo (Sabah) are described: *Acanthotomicus explanatus*, *Cyrtogenius abruptodeclivis*, *C. cavifrons*, *C. glabrata*, *C. kadazanus*, *C. lowi*, *C. mandibularis*, *C. mediosetosus*, *C. nodulosus*, *C. obesus*, *C. piceus*, *C. prinavorus*, *C. quercicolens*, *C. smetanai*, *C. tanae*, *C. tikaludus*, *Dryocoetes conspicuus*, *Scolytotplatypus carinatus*, *S. reticulatus* and *Sueus borneensis*. New locality records are given for: *Sueus niisimai*, *Scolytotplatypus glaber*, *S. javanus*, *Acanthotomicus caudatulus* and *A. dentatus*.

Key words: Scolytidae, *Acanthotomicus*, *Cyrtogenius*, *Dryocoetes*, *Scolytotplatypus*, *Sueus*, new species, Borneo, Sabah

Introduction

A monograph of the Malaysian Scolytidae is in preparation but will not be completed for a number of years. In order to provide names for some of the species encountered, twenty new species are described and named herein. In addition, several new distributional records are presented.

Most of the species included herein were collected in the vicinity of Mount Kinabalu, Sabah, Malaysia. Some were collected at Danum Valley Field Station, also in Sabah. I wish to thank the authorities of Mount Kinabalu National Park and those of Danum Valley Field Station for the assistance they so willingly provided during my visits.

All of the species described below were compared with named species in the Schedl collection in the Naturhistorisches Museum, Wien, The Natural History Museum, London or the United States National Museum of Natural History, Washington, D.C. A few specimens were obtained from other museums; these are listed in the text.

The holotypes, allotypes and most of the paratypes of the species described herein are retained temporarily in the authors collection. When possible, paratypes are deposited in the collection of the Forest Research Centre in Sandakan, Sabah, Malaysia, in the Canadian National Collection of Insects, Ottawa, Ontario, and in the Naturhistorisches Museum, Wien.

Acanthotomicus explanatus sp.n.

Type Material: Holotype (♂), allotype and 3 paratypes: "BORNEO: Sabah, km. 62, Lahad Datu to Danum Valley Field Station, VIII-29-1988"/ "Small cut sapling, D.E. Bright, collector".

Male: Length 2.7 mm (excluding explanate lobes of elytral apex), 3.2 times longer than wide. Frons broadly convex, narrowly impressed just above epistomal margin; surface smooth, dull, densely and minutely reticulate, with scattered, small, distinct punctures, area just above epistomal margin distinctly rugose; setae fine, sparse, longer and denser along epistomal margin. Antennal club nearly round, about as long as wide; suture 1 strongly procurved, segments 2 and

3 less strongly curved; segment 1 chitinated, glabrous, remaining segments fringed with small, flat scales (Fig. 5). Pronotum 1.25 times longer than wide; sides parallel on basal half, converging anteriorly, weakly constricted at anterior fourth; anterior margin broadly rounded, irregularly serrate; anterior slope densely, finely asperate; posterior half smooth, shining, with widely separated, fine punctures. Elytra (measured along suture) 1.6 times longer than wide; sides parallel on basal three-fourths; apex deeply emarginate at suture, with bilobed, explanate apical margin; discal striae slightly impressed, with rather large, impressed punctures in regular rows; discal interstriae convex, shining, about 2.0 times wider than striae, each with a median row of fine punctures. Declivity steep, biconcave; declivital face smooth, shining, with deep punctures; lateral margin armed as follows: a small spine at base of interstria 2; a very large, incurved, acute spine at base of interstria 3 and 4; four much smaller tubercles between large spine and explanate apex, the second of these offset from the lateral declivital margin; apex broadly explanate, lobes very large, apical margins broadly rounded (Figs. 1, 2).

Female: Very similar to male except declivital armature much shorter and surface of frons less strongly rugose, not impressed above epistoma.

Comments: Adults of this species closely resemble those of *A. emarginatus* BROWNE (holotype examined) but differs by the much larger second spine on the declivital margin and by the evenly rounded margin of the explanate lobes on the apex of the elytra.

Etymology: The specific name of this species refers to the explanate lobes at the elytral apex.

Cyrtogenius abruptodeclivis sp.n.

Type Material: The holotype (sex ?) and 5 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, IV.29.87" / "*Castanopsis* sp., D.E. Bright, collector".

Holotype: Length 2.1 mm, about 2.7 times longer than wide. Frons weakly convex, flattened slightly above epistomal margin; surface dull, minutely reticulate, with very fine, scattered punctures and long, erect, fine setae; epistoma weakly emarginate, shining. Antennal funicle 4-segmented. Antennal club oval, 1.6 times longer than wide, sutures absent, surface with long setae (Fig. 6). Pronotum 1.1 times longer than wide, widest at middle; sides weakly arcuate, evenly rounded; anterior margin broadly rounded, unarmed; median summit slightly elevated; anterior slope with distinct, scattered asperities; posterior portion of disc weakly granulate, with large, shallow punctures. Elytra 1.5 times longer than wide; sides straight, parallel; apex broadly rounded; discal striae punctured in regular rows, punctures moderate in size, shallowly impressed, each puncture with a fine, very short seta; discal interstriae about as wide as striae, surface uneven, with a median row of small punctures, each puncture with a long, fine, erect seta. Declivity abrupt, very steep (about a 45 degree angle), with a crenulate, circumdeclivital margin; surface shining, generally flat but slightly inflated in median area; striae deeply impressed, narrower than on disc; interstriae convex, 1 and 2 with a median row of three or four small, acute spines, 3 with about three smaller, acute tubercles and low, rounded elevations (Figs. 3, 4).

Comments: The paratypes range in length from 2.1 to 2.3 mm; obvious sexual differences or other variations are not evident in the specimens at hand. I assume all of the specimens are females.

I have placed this species in *Cyrtogenius* STROHMEYER, at least for the present, but I have doubts that it will remain there. This species differs to a major degree from the other species of that genus that I have observed. The antennal funicle is distinctly 4-segmented, the antennal club is unsegmented, the pronotum bears a distinct, slightly elevated summit, and the declivity is completely different. The declivity of all species of *Cyrtogenius* that I have seen is more or less convex and variously modified. The declivity of the present species is nearly flat, very steep,

with small, acute spines on the first and second interstriae. Further studies of the Southeast Asian fauna is needed and a review of the genus would be helpful.

Etymology: The specific name of this species refers to the flat, very steep elytral declivity.

Cyrtogenius cavifrons sp.n.

Type Material: The holotype (♀), allotype and 4 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, IX/2-4/88"/ "Small broken branch, D.E. Bright, collector". One paratype bears the same locality data except the date is IV-25-87 and the host is "Large fallen branch". Five additional paratypes are labelled: Borneo: Sabah, Mt. Kinabalu N.P., Liwagu Trail, 1558-1890 m, IV-2-87"/ "Large fallen branch, D.E. Bright, collector".

Female: Length 1.8 mm, 2.7 times longer than wide. Frons moderately concave from above epistoma to well above upper level of eyes, laterally occupying about 85% of distance between eyes; surface weakly shining, densely and minutely punctured, with a sparse brush of moderately long, fine, yellowish setae, those on periphery longer, incurved; epistoma weakly emarginate, brightly shining. Antennal funicle 4-segmented (Fig. 7). Antennal club 1.3 times longer than wide; basal segment occupies about half of total club length; distal margin of basal segment strongly procurved (Fig. 7). Pronotum about 1.1 times longer than wide, widest at middle; sides moderately, evenly arcuate; anterior margin narrowly rounded, unarmed; summit not elevated, located behind middle; anterior slope densely and finely asperate, asperities small, weakly elevated, shining; posterior portion with large, moderately deep punctures, these with lateral or posterior margins weakly elevated, shining, giving a weakly asperate appearance to entire discal surface, spaces between punctures smooth, minutely reticulate or with minute points. Elytra 1.5 times longer than wide; sides evenly, weakly arcuate; apex broadly rounded; discal striae not impressed, punctured in regular rows, punctures large, close, moderately impressed, each puncture with a short seta, this seta longer than diameter of puncture; discal interstriae about 2.0 times wider than striae, flat, with a median row of large, moderately deep punctures, these slightly smaller than those in striae, punctures in interstriae 1, 3, 5 each with a long, erect seta, punctures in even numbered interstriae each with a short seta similar to those in striae punctures; often all elytral interstriae have a median row of punctures from base to apex, each of these punctures with a long seta. Declivity evenly convex; striae weakly impressed; all interstriae with a median row of long, erect setae.

Male: Frons very weakly flattened above epistoma, weakly convex above; surface of frons dull, minutely reticulate, with abundant, small, shining granules; setae on frons sparse, fine, inconspicuous. Pronotum, elytra and declivity as on female.

Comments: Adults of this species resemble those of *C. obesus* sp.n. except they are smaller, the frons of the female is less densely pubescent, the frons of the male is less densely granulate and the striae and interstitial setae are longer. Females range in length from 1.8 - 2.0 mm, males are slightly smaller.

Etymology: The specific name of this species refers to the concave frons of the female.

Cyrtogenius glabrata sp.n.

Type Material: The holotype (♀), allotype and 5 paratypes are labelled: BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, VIII-9-1988"/ "Large cut tree, *Quercus* sp., D.E. Bright, collector". One paratype bears the same labels except the date is IX/2-4/88. Seven additional paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, V.19-23.1987"/ "Small broken branch, D.E. Bright, collector".

Female: Length 1.9 mm, 3.0 times longer than wide. Frons flattened from epistoma to well above eyes; surface shining, very densely and minutely punctured, with a dense brush of long, curved, yellowish setae, those on periphery much longer; epistoma transverse, shining. Antennal

funicle 4-segmented (Fig. 8). Antennal club about 1.2 times longer than wide; basal segment occupying about 70% of club length; distal margin of basal segment strongly arcuate (Fig. 8). Pronotum about 1.2 times longer than wide, widest behind middle; sides weakly arcuate; anterior margin narrowly rounded, unarmed; discal surface dull, very minutely and finely reticulate between weakly to moderately elevated, shining, transverse asperities, asperities larger on anterior slope, becoming smaller and lower toward base, median portion of basal one-fourth of disc with fine, scattered punctures. Elytra 1.8 times longer than wide; sides parallel on basal three-fourths; apex narrowly rounded; discal striae punctured in regular rows, punctures moderately large, deeply impressed; discal interstriae about 2.0 times wider than striae, brightly shining, smooth, mostly impunctate but one or two punctures may be present in interstriae 1, 3, 5, and 7, these marked by an erect, fine seta, setae more obvious toward declivity. Declivity evenly convex; surface brightly shining as on disc; striae punctures much smaller than on disc; interstriae 1, 3, 5, and 7 each with a median row of about 4 flattened, erect setae, these setae less than 1.5 times longer than interstitial width, granules or other modifications absent.

Male: Frons very slightly convex, flattened just above epistomal margin, with widely scattered, large, shallow punctures and a few fine setae; setae on declivity very narrowly spatulate. Pronotum, elytra and declivity as in female.

Comments: Adults of this species may be recognized by the small size, by the dull, reticulate pronotum with shining asperities, by the glabrous elytral disc with impunctate elytral interstriae and by the presence of about four narrowly flattened or narrowly spatulate setae in the alternate interstriae on the declivity. Paratypes range in length from 1.6 - 1.9 mm.

Etymology: The specific name of this species refers to the glabrous elytral disc.

Cyrtogenius kadazanus sp.n.

Type Material: The holotype (♀), allotype and 6 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, VIII.9.1988"/ "Under bark, D.E. Bright, collector".

Female: Length 2.8 mm, 2.8 times longer than wide. Frons flattened from epistoma to well above eyes; surface completely concealed by a dense brush of long, incurved, yellowish setae which arise on periphery and curve over frons; epistoma very weakly elevated, shining. Antennal funicle 4-segmented (Fig. 9). Antennal club about 1.1 times longer than wide; basal segment occupies about half of total club length; distal margin of basal segment strongly procurved (Fig. 9). Pronotum about as long as wide, widest at base; sides broadly arcuate, strongly converging anteriorly; anterior margin narrowly rounded, unarmed; entire surface convex, densely and finely asperate, asperities shining, with short, recumbent, yellowish setae. Elytra 1.7 times longer than wide; sides parallel on basal three-fourths; apex narrowly rounded; discal striae weakly impressed, punctures large, close, deeply impressed; discal interstriae about 2.0 times wider than striae, flat, with 2 irregular rows of punctures, these punctures slightly smaller than those in striae, each puncture with a short, recumbent, yellowish seta, also each interstriae with a median row of a few, erect, longer yellowish setae, these more obvious laterally and toward declivity. Declivity evenly convex; surface essentially as on disc except striae more shallowly impressed, recumbent interstitial setae slightly longer, and erect interstitial setae more distinct, present as a median row in each interstria.

Male: Frons weakly transversely impressed above epistoma, convex above impression; surface shining along epistomal margin, otherwise dull, minutely reticulate, with numerous, small, shining granules, each of these with a long, very fine seta. Pronotum, elytra and declivity as in female.

Comments: Adults of this species are easily recognized by the very dense brush of long, incurved setae on the female frons, by the dull, granulate surface of the male frons, by the densely

punctured elytral interstriae and by the evenly convex, unmodified elytral declivity. Adults somewhat resemble those of *C. lowi* sp.n. but differ by their larger size and by the much more densely pubescent female frons.

Etymology: This species is named for the Kadazans, native people of Borneo who inhabit the hill country in the Mt. Kinabalu area.

Cyrtogenius lowi sp.n.

Type Material: The holotype (♀) and one paratype are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Layang-Layang, 2621 m, V.1.87"/ "Large fallen branch, D.E. Bright, collector". The allotype is labelled "Borneo, SABAH, Mt. Kinabalu N.P. blw Laying Laying, 2600 m, 2-8.V.87, Int. trap, A. Smetana". One additional paratype bears the same labels except the date is 9-20.V.87.

Female: Length 2.5 mm, 2.8 times longer than wide. Frons broadly, deeply concave from epistoma to well above eyes; surface densely covered with short, recumbent, narrowly scale-like, yellowish setae, periphery of concavity with abundant, long, incurved, fine, yellowish setae; epistomal area broad, margin shining. Antennal funicle 4-segmented (Fig. 10). Antennal club 1.5 times longer than wide; basal segment occupies less than half of total club length; distal margin of basal segment moderately procurved (Fig. 10). Pronotum as long as wide, widest at base; sides moderately arcuate, converging anteriorly; anterior margin narrowly rounded, unarmed; entire discal surface evenly convex, finely and densely asperate, asperities very small, scattered in no order, with a few, long, fine setae present laterally. Elytra 1.7 times longer than wide; sides parallel on basal three-fourths; apex narrowly rounded; discal striae weakly impressed, punctures large, close, moderately impressed; discal interstriae about 2.0 times wider than striae, flat, with a median row of large punctures, these almost as large as those in striae; surface with numerous, scattered, short, recumbent to semi-recumbent setae and a median row of longer, erect setae in each interstria, these more distinct on posterior portion of disc and on declivity. Declivity evenly convex; striae not or only very weakly impressed; setae longer, more conspicuous than those on disc, interstitial setae more obvious.

Male: Frons moderately strongly, transversely impressed above epistoma, weakly convex above; surface of frons moderately shining, minutely reticulate, with scattered, fine, shining granules; Setae on frons sparse, fine, inconspicuous.

Comments: Adults of this species are readily recognized by the deeply concave female frons which is densely covered by small, recumbent, narrow, scale-like setae and bordered on the periphery by much longer, incurved fine setae and by the abundant setae on the striae and interstriae. The females resemble those of *C. kadazanus* sp.n. but the setae on the margin of the frons of the female of *C. lowi* sp.n. are much less abundant and therefore the entire frons can be seen. In females of *C. kadazanus* sp.n., the surface of the frons is concealed by the very dense marginal setae.

Etymology: This species is named in honour of Hugh Low, who, on March 11, 1851 first reached the magnificent heights of Mt. Kinabalu and thus opened the mountain to scientists and travellers.

Cyrtogenius mandibularis sp.n.

Type Material: The holotype (♀) and 5 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, IV-29-87"/ "*Castanopsis* sp., D.E. Bright, collector". Two additional paratypes are labelled: "MALAYSIA: SABAH: 25 km N. Tambunan, el. 1500 m, 2 Sept. 1983, G. F. Hevel and W. E. Steiner"; these two paratypes are in the United States National Museum of Natural History, Washington, D. C.

Female: Length 2.3 mm, 2.9 times longer than wide. Frons very broadly, moderately concave from epistoma to far above eyes, laterally concave from eye to eye; surface brightly shining,

smooth, with a few obscure, shallow punctures along lateral margin, upper margin with several, very long, fine, yellowish setae which extend downwards beyond base of mandibles; epistoma very deeply emarginate. Mandibles large, filling epistomal emargination; inner cutting edge strongly elevated medianly, with a pair of small, acute, spines at inner basal angle above mandibular elevation. Antennal funicle 4-segmented (Fig. 11). Antennal club 1.2 times longer than wide; anterior face appearing solid, no sutures evident, apical and lateral margin with very long, fine setae (Fig. 11). Pronotum about 1.2 times longer than wide, widest at middle; sides very weakly arcuate on basal half; anterior margin broadly rounded, with a row of about 8 serrations; weakly elevated, located at middle, surface weakly transversely impressed behind summit; anterior slope densely asperate, asperities moderate sized, acute, slightly erect, scattered in no order; posterior half shining, with numerous, scattered punctures, the basal or lateral margin of each puncture with a small, distinct granule, space between punctures smooth, shining. Elytra 1.65 times longer than wide; sides parallel on basal three-fourths; apex broadly rounded; discal striae punctured in regular rows, punctures small, each puncture with a minute seta; discal interstriae about 2.0 times wider than striae, each with a median row of large punctures and long, fine, erect setae. Declivity evenly convex; striae weakly impressed; interstria 1 slightly elevated, with a median row of small granules and long, fine setae; remaining interstriae weakly convex, each with a median row of small granules and long, fine setae; apex (interstriae 7) distinctly tuberculate from suture laterally to declivital base, these tubercles larger than interstitial granules.

Male: Not represented in the material at hand.

Comments: Females of this species are easily recognized by the distinct elevation on the inner cutting edge of the mandible, by the pair of small, acute spines on the inner basal margin of the mandibles, by the solid antennal club, by the convex elytral declivity on which all interstriae bear a median row of small granules and long setae and by the tuberculate/crenulate apical margin of the elytra.

Etymology: The specific name of this species is proposed in order to draw attention to the unique characters on the mandibles.

Cyrtogenius mediosetosus sp.n.

Type Material: The holotype (♀) and 2 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Poring Hot Springs, 486-915 m, V-10-87"/ "Small broken branch, D.E. Bright, collector". One additional paratype is labelled: "BORNEO-Sabah, Sepilok, IV.V.82, leg Burckhardt"; this specimen is in the Natural History Museum, Geneva, Switzerland.

Female: Length 1.8 mm, 3.0 times longer than wide. Frons very broad, flattened from epistoma to well above eyes, laterally flattened from eye to eye, weakly concave in median portion, concavity extending from epistoma to just above upper eye level; surface densely, finely punctate-granulate, with a moderately dense brush of long, erect, yellowish setae, those setae on periphery longer, incurved; epistoma weakly emarginate, shining just above margin. Antennal funicle 5-segmented (Fig. 12). Antennal club 1.1 times longer than wide; basal segment occupies one-half of total club length; distal margin of basal segment strongly procurved (Fig. 12). Pronotum 1.2 times longer than wide, widest at middle; sides parallel on basal two-thirds; anterior margin broadly rounded, unarmed; summit weakly elevated; anterior slope densely asperate, asperities erect, small, acute, close, surface between asperities shining; posterior half finely, densely punctured, punctures weakly impressed, lateral or basal margins of each puncture weakly elevated into a fine granule or elongate elevation, surface between punctures smooth, brightly shining. Elytra 1.9 times longer than wide; sides parallel on basal three-fourths; apex broadly rounded; discal striae not impressed, punctured in very even, regular rows, punctures moderately large, moderately deep, each puncture with a distinct, recumbent seta, this seta usually longer than diameter of puncture; discal interstriae flat, moderately shining, about 2.0 times wider than striae, each interstriae with a very regular, even, median row of fine punctures

extending from base to apex, each puncture with a long, erect, fine seta. Declivity evenly convex, essentially as on disc except each interstriae very weakly convex, with a median row of very fine granules and long, erect, fine setae and striae very weakly impressed.

Male: Not represented in material at hand.

Comments: Females of this species may be readily recognized by the very broad frons of the female which is weakly concave in the middle and bears numerous, long, erect setae, by the regular rows of interstitial setae on all interstriae which extend from the base of the elytra to the apex, by the 5-segmented antennal funicle and by the large basal segment of the antennal club. The paratype from Sepilok bears very narrow, flattened, scale-like setae in the elytral interstriae whereas the holotype and paratypes from Poring Hot Springs bear hair-like setae in the interstriae. Perhaps when more specimens are available for study, these two forms will be found to represent two closely allied species.

Etymology: The specific name of this species refers to the median row of distinct setae in each elytral interstriae.

Cyrtogenius nodulosus sp.n.

Type Material: The holotype, (♀), allotype and 12 paratypes are labelled: BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, VIII-4-1988"/ "Large fallen tree, D.E. Bright, collector".

Female: Length 2.1 mm, 3.0 times longer than wide. Frons flattened from epistoma to well above eyes, laterally flattened from eye to eye; surface very densely, minutely punctate-granulate, with a moderately dense brush of long, fine, erect, yellowish setae, those setae on periphery longer, incurved; epistomal margin straight. Antennal funicle 3-segmented (Fig. 13). Antennal club 1.15 times longer than wide; basal segment occupies 70% of total club length; distal margin of basal segment strongly procurved (Fig. 13). Pronotum 1.25 times longer than wide, widest at middle; sides weakly arcuate; anterior margin broadly rounded, unarmed; summit not elevated, located at middle of disc; anterior slope moderately, densely asperate, asperities acute, moderately elevated, scattered, surface between asperities minutely reticulate; posterior half closely, deeply punctured, lateral or basal margin of punctures weakly elevated, shining. Elytra 1.9 times longer than wide; sides parallel on basal three-fourths; apex distinctly acuminate; discal striae not impressed, punctured in regular rows, punctures moderately large, weakly impressed, each puncture with a small seta; discal interstriae about 2.0 times wider than striae, flat, with a median row of weakly impressed, somewhat obscure punctures, each puncture with a long, fine, erect seta, sometimes interstriae 2, 3 and/or 4 without setae on disc. Declivity convex, weakly bisulcate; interstria 1 distinctly elevated, with a median row of about 5 large, acute granules; interstria 2 as wide as on disc, flat, unarmed except for 2 or 3 small granules at declivital base; interstria 3 not elevated, with a median row of granules similar to those in 1; remaining interstriae each with a row of similar granules; all interstriae also with a median row of long setae; stria punctures smaller than those on disc.

Male: Frons weakly convex, very slightly flattened just above epistoma; surface of frons shining, deeply and densely punctured, punctures moderately large, close; setae on frons sparse, long, erect. Pronotum as in female. Elytra with posterior half of interstria 1 very distinctly nodulate, each nodule occupying entire interstitial width; interstria 2 more strongly nodulate; remaining interstriae strongly nodulate. Declivity with interstriae more strongly elevated than in female, with granules as in female; interstriae 2 and 3 essentially as in female except strongly nodulate at declivital base; remaining interstriae strongly nodulate; ventral margin of apex very strongly nodulate.

Comments: Adults of this species are easily recognized by the acuminate elytral apex, by the acute granules in declivital interstriae 1 and 3, by the distinctly nodulate elytral interstriae near

the declivity, by the 3-segmented antennal funicle, by the flattened female frons which bears abundant setae and by the densely punctured frons of the male.

This species is in a species group composed of *C. elongatissimus* WOOD, *C. frigidus* (SCHEDL) and *C. variipennis* (SCHEDL). The holotypes of all three of these species have been examined. Adults of *C. nodulosus* sp.n. differ from those of the above species by the nodule-like armature at the base of the declivity as described above.

Etymology: The specific name of this species refers to the distinct nodules or tubercles on the posterior portion of the elytral interstriae of the male.

Cyrtogenius obesus sp.n.

Type Material: The holotype (♀), allotype and 43 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Liwagu Trail, 1558-1890 m, IV.27.87"/ "Large fallen branch, D.E. Bright, collector".

Female: Length 2.2 mm, about 2.4 times longer than wide. Frons flat for a short distance above epistoma, then abruptly and deeply concave to well above eyes, laterally concave from eye to eye; surface dull, densely and minutely punctured, with a dense brush of long, curved, yellowish setae; those setae on periphery distinctly longer, incurved; epistoma transverse, shining just above margin. Antennal funicle 4-segmented (Fig. 14). Antennal club 1.25 times longer than wide; basal segment occupies about 37% of total club length; distal margin of basal segment moderately procurved (Fig. 14). Pronotum as long as wide, widest behind middle; sides broadly arcuate; anterior margin broadly rounded, unarmed; summit not elevated, located behind middle of disc; anterior slope densely, finely asperate, asperities small, weakly elevated, very close; posterior portion asperate to base, asperities smaller, less elevated than those on anterior slope, shining, a few shallow punctures in median basal area; surface with scattered, long fine, erect setae. Elytra 1.5 times longer than wide; sides parallel on basal two-thirds; apex broadly rounded; discal striae punctured in obscure rows, punctures close, small, each puncture with a minute seta; discal interstriae about 2.5 times wider than striae, each with a median row of large, close punctures, each puncture with a short seta except long, erect setae may be present in interstriae 1 and/or 3 and long setae are present near declivity. Declivity very evenly convex; striae and interstriae as on disc except all interstriae bear a median row of long, erect setae in addition to sparse, short, fine, semirecumbent setae.

Male: Frons flat to about upper level of eyes, strongly convex above; surface of frons dull, densely reticulate, with abundant, fine, shining granules; anterior margin of pronotum with several broad serrations; sides of pronotum more strongly arcuate, distinctly constricted before anterior margin. Pronotum, elytra and declivity as in female.

Comments: Adults of this species may be readily recognized by the deeply concave female frons which bears a dense brush of yellowish setae, by the presence of short setae in the striae and interstriae of the elytral disc and by the presence of long setae in all elytral interstriae.

Etymology: The specific name of this species refers to the stout body form.

Cyrtogenius piceus sp.n.

Type Material: The holotype (♀) and allotype are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Summit Trail, 9000 ft., VIII-7-88"/ "Branches of large fallen tree, D.E. Bright, collector".

Female: Body black. Length 2.0 mm, 2.7 times longer than wide. Frons deeply concave from epistoma to well above eyes, laterally concave nearly from eye to eye; surface dull, densely, minutely reticulate, with moderately dense, short, recumbent setae in concavity and a row of much longer, incurved setae on periphery; epistoma straight, with a relatively broad, smooth, shining area above margin, upper margin of this shining area procurved medianly. Antennal

funicle 4-segmented (Fig. 15). Antennal club 1.2 times longer than wide; basal segment occupies slightly less than basal one-third of total club length; distal margin of basal segment moderately procurved (Fig. 15). Pronotum as long as wide, widest at base; sides moderately arcuate; anterior margin narrowly rounded, unarmed; summit not elevated, located behind middle of disc; anterior slope with numerous, small, erect asperities, surface between asperities moderately shining, finely reticulate; posterior portion with scattered, moderately large, deep punctures, lateral or basal margins of these distinctly elevated, surface between punctures shining, with a few fine lines or points. Elytra about 1.5 times longer than wide; sides parallel on basal two-thirds; apex broadly rounded; discal striae weakly impressed, punctured in regular rows, punctures small, close, moderately deep, without setae; discal interstriae 3.0 - 4.0 times wider than striae, weakly convex, generally impunctate but a few, scattered punctures and setae present in interstriae 5 laterally and in 1 and 3 near declivital base. Declivity evenly convex, surface essentially as on disc except all interstriae bear a median row of erect setae, each of these with an extremely small granule at base.

Male: Frons weakly flattened above epistoma, weakly convex above; surface of frons dull, densely reticulate, with a few, widely separated, shining granules and a few inconspicuous, fine, erect setae; declivital setae broader, more scale-like. Pronotum, elytra and declivity as in female.

Comments: The black body color, the deeply concave female frons with short setae in the concavity and very long setae on the periphery, the weakly impressed elytral striae and the dull, sparsely granulate male frons should characterize the adults of the species.

Etymology: The specific name of this species refers to the black body color.

Cyrtogenius prinavorus sp.n.

Type Material: The holotype (♀) and 4 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, IX/2-4/88"/ "Large cut tree, *Quercus* sp., D.E. Bright, collector".

Female: Length 2.0 mm, 3.1 times longer than wide. Frons flattened from epistoma to slightly above eyes, laterally flattened from eye to eye, moderately concave in center; surface dull, densely, minutely punctate, with a dense, circular brush of moderately long, erect, yellowish setae, those setae on periphery much longer, incurved, setae in middle of brush shorter, apparently sparser than remainder of brush; epistoma straight. Antennal funicle 4-segmented (Fig. 16). Antennal club 1.4 times longer than wide; basal segment occupying about 37% of club length; distal margin of basal segment strongly procurved (Fig. 16). Pronotum 1.2 times longer than wide; widest at base; sides very weakly arcuate; summit not elevated; anterior margin broadly rounded, unarmed; anterior half finely, densely asperate, asperities shining, spaces between asperities dull, minutely reticulate; posterior half with large, close, deep punctures, lateral edges of which are weakly elevated giving entire dorsal pronotal surface a finely asperate appearance, spaces between punctures minutely reticulate to smooth with minute points. Elytra 1.9 times longer than wide; sides parallel on basal three-fourths; apex broadly rounded; discal striae not impressed, with relatively large, moderately deep, glabrous punctures; discal interstriae flat, about 2.0 times wider than striae, with a median row of distinct, glabrous punctures, these slightly smaller than those in striae; entire disc glabrous but one or two long, erect setae may be present on posterior portion of interstriae 1, 3 and/or 5. Declivity evenly convex; each interstriae with a median row of about 5 to 7 long, erect, fine, yellowish setae, each of these with a very small granule at its base; striae punctures distinct, otherwise as on disc.

Male: Not present in the material at hand.

Comments: Females of this species are very similar to those of *C. quercicolens* sp.n. but differ by the much larger, circular brush of setae on the frons and by the absence of granules at the base of the setae on the elytral declivity. With *C. quercicolens* sp.n., they share the characters of the

glabrous elytral disc and the evenly convex elytral declivity which bears a median row of about 5 to 7 long, erect setae.

Etymology: The specific name of this species is derived from *prinus* (Latin), "a kind of oak" and *voro* (Latin), "to eat".

Cyrtogenius quercicolens sp.n.

Type Material: The holotype (♀), allotype and 38 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, V.16-18.87"/ "Large cut tree, *Quercus* sp., D.E. Bright, collector". Additional paratypes: 21, same locality and collector, VIII.4.1988 from a large fallen tree; 27, same locality and collector, VIII.9.1988 from a large cut tree, *Quercus* sp; and 29, same locality and collector, IX.2-4.1988 also from a large cut tree, *Quercus* sp.

Female: Length 1.8 mm, 3.2 times longer than wide. Frons very weakly convex from epistoma to vertex, laterally convex from eye to eye; surface weakly shining, densely, minutely reticulate-granulate with a dense brush of moderately long, erect, yellowish setae in median third, setae about equal in length with only a few, scattered, longer peripheral setae, setae in middle of brush shorter, apparently sparser than remainder of brush; epistoma weakly emarginate. Antennal funicle 4-segmented (Fig. 17). Antennal club 1.4 times longer than wide; basal segment occupying about half of club length; distal margin of basal segment strongly procurved (Fig. 17). Pronotum 1.2 times longer than wide, widest at middle; sides very weakly arcuate; anterior margin broadly rounded, unarmed; anterior half finely, densely asperate, asperities shining, surface between asperities dull, minutely reticulate; posterior half with large, close, deep punctures, lateral edges of punctures weakly elevated giving entire dorsal pronotal surface a finely asperate appearance, surface between punctures minutely reticulate to smooth with minute points. Elytra about 1.9 - 2.0 times longer than wide; sides parallel on basal three-fourths, then broadly rounded behind; discal striae not impressed, with small, moderately deep, glabrous punctures; discal interstriae flat, about 2.0 times wider than striae, with scattered, irregular punctures; entire disc glabrous but usually one or two long, erect setae may be present on posterior portion of interstriae 3 and/or 5. Declivity evenly convex; each interstriae with a median row of about 5 to 7 long, erect, fine, yellowish setae, each of these with a very small granule at its base; striae punctures obsolete, otherwise as on disc.

Male: Frons transversely flattened above epistoma, convex above; surface of frons shining, punctate-rugose in flattened area and on lateral areas, convex portion finely punctured, minutely reticulate; setae on frons scattered, inconspicuous. Pronotum, elytra and declivity as in female.

Comments: Adults of this species may be recognized by the small brush of setae on the female frons, by the glabrous elytral disc, and by the evenly convex elytral declivity which bears a median row of about 5 to 7 long, erect setae, each of these setae with a small granule at its base.

Etymology: The specific name of this species is derived from *Quercus*, the genus of oaks and *-colus* (New Latin) "dwelling in".

Cyrtogenius smetanai sp.n.

Type Material: The holotype (♀) and allotype are labelled: "BORNEO SABAH Mt. Kinabalu N.P., blw Layang-Layang, 2600 m, 9-20.V.87, Int. Trap, A. Smetana".

Female: Length 3.0 mm, 2.7 times longer than wide. Frons broadly flattened, shallowly concave in center; surface dull, densely minutely reticulate, with numerous, fine, close punctures, each puncture with a short, erect, yellowish seta, setae on periphery of flattened area very long, incurved; epistoma weakly emarginate, shining, impunctate. Antennal funicle 5-segmented (Fig. 18). Antennal club 1.4 times longer than wide; basal segment occupies one-half of total club

length; distal margin of basal segment strongly procurved (Fig. 18). Pronotum as long as wide, widest behind middle; sides evenly, moderately arcuate; summit not elevated, located well behind middle; not elevated; entire surface finely asperate, asperities on anterior three-fourths small, acute, weakly elevated, those on posterior one-fourth low, rounded, shining, surface between asperities dull, reticulate, median basal portion with a few, moderate sized punctures. Elytra 1.75 times longer than wide; sides parallel on basal two-thirds; apex broadly rounded; discal striae distinct, not impressed, punctures large, deeply impressed, each puncture with a minute seta; discal interstriae flat, about 1.5 times wider than striae, with a median row of moderate sized, deep punctures, these slightly smaller than those in striae, each puncture with a long, fine, erect seta. Declivity evenly convex; each interstriae with a median row of long, erect, slightly flattened setae; striae punctures smaller and less deeply impressed than on disc, otherwise essentially as on disc.

Male: Frons broadly, weakly convex, very weakly impressed above epistoma; surface of frons dull, densely minutely reticulate, with a few, scattered, minute, shining granules; setae on frons sparse, scattered, long, erect. Pronotum, elytra and declivity as in female.

Comments: Adults of this species are recognized by their larger size, by the shallowly concave female frons which bears very long setae on the periphery, by the even, median row of punctures and erect setae in each elytral interstriae and by the 5-segmented antennal funicle. The two specimens in the type series were collected in a flight intercept trap at the 2600 m level on Mt. Kinabalu.

Etymology: The species is named for Dr. A. Smetana, the collector and my colleague on two trips to Borneo.

Cyrtogenius tanae sp.n.

Type Material: The holotype, allotype and 14 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., New Hut, 3343 m, V.4.87"/ "*Rhododendron* sp., D.E. Bright, collector". Thirty-four paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Summit Trail, 9000 ft., V.2.87"/ "Large fallen branch, D.E. Bright, collector"; 1 paratype is labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Panar Laban, 3344 m, V.7.1987"/ "*Podocarpus* sp., D.E. Bright, collector"; 4 paratypes are labelled "BORNEO: Sabah, Mt. Kinabalu N.P., Summit Trail, 9000 ft., VIII-7-88"/ "Branches of large fallen tree, D.E. Bright, collector"; and 1 paratype is labelled: "BORNEO SABAH, Mt. Kinabalu N.P., Laban Rata, 3200 m, 9-20.V.87. Int. trap, A. Smetana".

Female: Body black, antennae and legs reddish-brown. Length 2.7 mm, about 2.6 times longer than wide. Frons deeply concave in center; surface dull, densely and minutely reticulate, covered with obscure, very short, recumbent, narrow scales, with a fringe of dense, very long, incurved, yellowish setae around periphery of concavity. Antennal funicle 3-segmented (Fig. 19). Antennal club oval, about 1.5 times longer than wide; basal segment extends to about midpoint of club; distal margin of basal segment acute (Fig. 19). Pronotum 1.1 times longer than wide, widest at middle; sides moderately arcuate; anterior margin broadly rounded, unarmed; summit not elevated, located on posterior third of disc; anterior slope moderately declivous, densely and finely asperate, asperities weakly but distinctly elevated, shining, surface between asperities dull, reticulate; posterior third asperate to base, asperities low, shining, surface between asperities dull, minutely reticulate, punctures absent. Elytra 1.7 times longer than wide; sides parallel on basal two-thirds; apex evenly, narrowly rounded; discal striae 1 and 2 weakly impressed, remainder not impressed, punctures moderately impressed, each puncture with a very short seta; discal interstriae 2.0 - 3.0 times wider than striae, with a distinct median row of punctures, these punctures about equal in size to those in striae, each puncture with a very long, erect seta. Declivity strongly convex; surface as on disc except striae setae longer.

Male: Frons flattened, weakly impressed above epistomal margin; surface of frons dull, densely and minutely reticulate, with widely scattered, shining granules; setae on frons sparse, long,

erect. Pronotum, elytra and declivity as in female.

Comments: Adults of this species are easily recognized by the black body colour, by the concave, densely pubescent female frons, by the weakly flattened, sparsely granulate male frons, by the 3-segmented antennal funicle and by the long, interstrial setae.

Etymology: This species is named for Tan Fui Lian, a park naturalist at the Mount Kinabalu National Park, for her assistance and interest during our research in the park during 1987 and 1988.

Cyrtogenius tikaludus sp.n.

Type Material: The holotype and 5 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, V.16-18.87"/ "Large cut tree, *Quercus* sp., D.E. Bright, collector".

Holotype (sex ?): Length 2.3 mm, about 2.7 times longer than wide. Frons weakly convex, almost flat above epistomal margin; surface shining, minutely reticulate, with very fine, scattered granules and very shallow, small punctures; setae sparse, long, fine. Antennal funicle 5-segmented (Fig. 20). Antennal club broadly oval, very slightly longer than wide; basal segment occupies one-half of total club length; distal margin of basal segment strongly procurved (Fig. 20). Pronotum 1.2 times longer than wide, widest behind middle; sides weakly arcuate; anterior margin narrowly rounded, unarmed; summit not elevated; anterior slope steeply declivitous, with numerous, close, small asperities; posterior area densely punctured, surface between punctures smooth, shining. Elytra 1.8 times longer than wide; sides parallel on basal four-fifths; apex almost truncate; discal striae not impressed, with large, distinct, rather roughly impressed punctures; discal interstriae wide, smooth, brightly shining, with a median row of fine punctures. Declivity commencing on basal four-fifths of elytra, very steep, almost vertical, flat, with an elevated, subcrenulate margin; declivital face weakly biconcave, shining, striae punctures obscure; sutural interstriae moderately elevated, with 3 or 4 very small granules, second interstriae flat, with 2 widely separated, very small granules.

Comments: Adults of this species are easily recognized by the nearly flat, vertical elytral declivity on which the sutural and second interstriae bear a few, very small granules. The declivity resembles, in general shape only, that of *C. abruptodeclivis* sp.n. but is much smoother and much less strongly sculptured in the present species. I am unable to detect sexual differences among the specimens examined. The paratypes range in size from 2.1 - 2.3 mm.

Etymology: The species name is derived from "tikalud", the Dusun name for oak.

Dryocoetes conspicuus sp.n.

Type Material: The holotype (♂), allotype, and 9 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, VIII.9.1988"/ "Small broken branch, D.E. Bright, collector".

Male: Length (head excluded) 3.0 - 3.7 mm, about 2.5 times longer than wide. Frons (Figs. 22, 23) very broadly and deeply concave, upper margin of concavity profoundly produced into a broad, curved, plate-like expansion, this perimeter of this expansion emarginate at apex, laterally dentate behind apex and with scattered, rounded granules on remainder of lateral margin; surface of concavity smooth, shining, with scattered, fine punctures, each puncture with a long, fine seta; surface behind expansion (vertex) broadly, shallowly, transversely impressed, shining. Epistomal area very broad, bordered by long, yellowish setae which extend to mandibles. Mandibles very stout, narrow and sickle-shaped; apex expanded, with 3 rounded cusps. Eye small, narrow, about 3.0 times longer than wide, weakly emarginate opposite antennal insertion. Antennal funicle 5-segmented (Fig. 21). Antennal club obliquely truncate, oval, 1.4 times longer than wide; basal segment occupying basal 58% of length, corneous; oblique portion densely pubescent, with 2

arcuate sutures (Fig. 21). Pronotum as long as wide, widest at middle; sides parallel on basal two-thirds; anterior margin very broadly rounded, unarmed; anterior slope densely asperate; posterior portion closely, deeply punctured, strongly rugose, edges of punctures elevated into large, distinct granules or transverse rugae; summit not elevated. Elytra stout, 1.4 times longer than wide; sides parallel on basal three-fourths; apex very broadly rounded; stria punctures extremely large, very deeply impressed, placed in regular rows; discal interstriae much narrower than striae, shining, with a median row of very long, fine, yellowish setae extending from base to apex. Declivity broadly convex; stria punctures as on disc; first (sutural) and third interstriae slightly elevated, bearing a row of moderately large granules; second interstriae with a similar row of granules on base, these absent on median portion, with a few large granules at extreme apex; remaining interstriae each with a median row of large granules.

Female: Frons evenly convex, surface densely and minutely reticulate, dull, with widely separated, very fine granules, each granule with a moderately long, fine seta; mandibles unmodified; antennal club distinctly larger; eye much larger. Otherwise essentially as in male.

Comments: Adults of this species are easily recognized by the very large stria punctures, by the densely granulate and asperate pronotal surface, by the remarkable development on the male frons, by the evenly convex, densely and minutely reticulate female frons and by the long interstria setae. It is quite unlike any species I have seen from Southeast Asia.

I have placed this species in *Dryocoetes* EICHHOFF for the present, but realize that it could just as easily be placed in a new monotypic genus. *Dryocoetes*, as presently understood, contains about 40 species, all distributed in the north temperate region of North America, Europe, North Africa, and Asia. The species are all characterized by a 5-segmented antennal funicle, an obliquely truncate antennal club, contiguous anterior coxae, pronotum evenly arched with an indefinite summit and the anterior slope asperate and the elytral declivity convex to flattened and conservatively sculptured. All these characters are displayed by the present species, however, the remarkable development on the male frons is unlike any species of *Dryocoetes* known to me and the distribution is unique for a species of *Dryocoetes*. This species will not even remotely fit into any other related genus of the Dryocoetini. Until a more detailed assessment of the genera in the Dryocoetini is available, I will place this species in *Dryocoetes* realizing this placement may be altered in the future.

Etymology: The specific name of this species is from *-conspicius* (Latin) meaning prominent, conspicuous or obvious, referring to the prominent development on the male frons.

Scolytoplatypus carinatus sp.n.

Type Material: The holotype (♂), allotype and 11 paratypes are labelled: "BORNEO: Sabah, Mt Kinabalu N.P., Headquarters, 1558 m, IV.29.87/" *Ficus* sp. D.E. Bright, collector". Fifty-five paratypes, all from Mt. Kinabalu N.P., and all collected by myself, are as follows: "...Liwagu Trail, 1558-1890 m, IV.27.87/" "Very small broken twig, ..." (6); "...Headquarters, 1558 m, IV.26.87/" "Small broken branch, ..." (1); same as above, V.19.1987/" "Small cut sapling, ..." (2); same as above, IV.27.87/" "Large cut tree, *Quercus* sp., ..." (3); same as above, V.16-18.87/" *Cinnomomum* sp., ..." (4); same as above, IX.2-4.88/" "Small cut sapling, ..." (10); same as above, VIII.9.1988/" "Small cut sapling, ..." (10); same as above, VIII.4.1988/" "Large fallen tree, *Lithocarpus* sp., ..." (2); "... Silau-Silau Trail, 1558 m, VIII.10.1988/" "Small cut sapling, ..." (15); "... Mempening Trail, 1558 m, VII.11.1988/" "Large cut tree, *Quercus* sp., ..." (1) and "... Poring Hot Springs, 486-700 m, VII.16.88/" "Leaf petioles of *Artocarpus* sp., ..." (1).

Male: Length 2.6 mm, about 1.85 times longer than wide. Frons deeply, broadly, evenly concave from epistoma to well above eyes, laterally flattened from eye to eye; surface dull, very densely and minutely reticulate except for two very small, shining spots located medianly at about upper level of eyes, entire surface covered with numerous, short, fine, yellowish setae all of equal length, longer setae on periphery absent. Antennal club yellowish-brown, 2.3 times longer than wide, widest at base, narrowly rounded at apex, surface covered with dense, short setae.

Pronotum 1.25 times wider than long; sides weakly arcuate, weakly constricted basally; anterior margin shallowly emarginate; discal surface dull, very densely, very finely reticulate. Elytra about 1.1 times longer than wide; sides parallel on basal three-fourths, then strongly converging to broadly rounded apex; basal half of disc shining, densely and randomly punctured, striae completely obscure, sometimes very vague indications of stria rows can be detected. Declivity steep, convex, commencing at apical half of elytra; striae very weakly impressed, rather broad, dull, minutely reticulate; interstriae very narrow, each with a sharply elevated keel extending from base to apex, this keel sometimes broken toward apex on some interstriae, apex of second interstria ending in an acute point. Anterior femur without a spine on outer margin.

Female: Slightly larger than male. Frons evenly convex, with a small, weakly impressed, smooth, triangular impression a short distance above epistomal margin. Antennal club as in male. Pronotum about 1.1 - 1.2 times wider than long; sides weakly arcuate, constricted basally; anterior margin very weakly emarginate; discal surface dull, reticulate, with fine, scattered punctures; median pit moderately large, elliptical with an elevated, acute border. Elytra about 1.1 times longer than wide; sides parallel on basal three-fourths; apex broadly rounded. Elytral surface and declivity as in male except punctures and sculpturing finer. Anterior femur as in male.

Comments: Adults of this species can be recognized by the distinct, finely elevated keel on all the declivital interstriae, by the very broadly concave frons of the male which is covered by very short, erect setae.

Etymology: The specific name of this species refers to the carinate elytral interstriae.

Scolytoplatypus reticulatus sp.n.

Type Material: The holotype (♂), allotype and 13 paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Mempening Trail, 1558 m, VII.11.1988"/ "Large cut tree, *Quercus* sp. D.E. Bright, collector". Seven additional paratypes are labelled: "BORNEO: Sabah, Mt. Kinabalu N.P., Headquarters, 1558 m, V.16-18.1987"/ "*Cinnomomum* sp., D.E. Bright, collector". Two additional paratypes bear the same data as the holotype except the date is VII.11. 1988.

Male: Length 1.8 mm, about 1.7 times longer than wide. Frons deeply, broadly, evenly concave from epistoma to well above eyes, laterally flattened from eye to eye; surface dull, very densely, minutely reticulate, covered with numerous, short, fine, yellowish setae, and with a median patch of darker yellow, short scales located about one-third of distance between epistomal margin and vertex, periphery of concavity bordered by very long, incurved, brownish setae. Antennal club very dark brown to black, 2.6 times longer than wide, widest at base, narrowly rounded at apex, surface densely covered with short setae. Pronotum 1.3 times wider than long; sides weakly arcuate, weakly constricted basally; anterior margin shallowly emarginate; discal surface dull, very densely and very finely reticulate. Elytra about 1.1 times longer than wide; sides parallel on basal two-thirds; apex narrowly rounded; striae distinct, very weakly impressed basally, gradually deepening toward base of declivity, stria surface dull, reticulate, punctures not evident; interstriae smooth, more shining than striae, slightly wider than striae, each interstria ending in an acute point at commencement of declivity. Declivity commencing at apical third of elytra, steep, weakly convex; surface dull, densely reticulate; interstria 1 weakly elevated, broadened toward apex, ending before apical margin, surface shining on apical half; remaining interstriae very weakly convex, interstria 8 more distinctly convex; all interstriae with very fine, scattered granules; stria 1 deeply impressed, broadened slightly apically, curving around apex of interstria 1 toward suture; remaining striae very weakly impressed, punctures not visible. Anterior femur without a spine on outer margin.

Female: Slightly larger than male. Frons evenly convex, very slightly triangularly impressed just above epistoma, surface dull, densely, finely reticulate, with extremely obscure, scattered

punctures, sometime surface divided by a very fine, impressed, median line extending from epistoma or near epistoma to vertex. Antennal club as in male. Pronotum about 1.1 - 1.2 times wider than long; sides weakly arcuate, constricted basally; anterior margin evenly, broadly rounded; discal surface dull, reticulate, with fine, scattered punctures; median pit completely absent but often with a small, round, smooth area where the pit would evidently be located. Elytra about 1.1 times longer than wide; sides parallel on basal two-thirds; apex broadly rounded; entire surface dull, minutely reticulate; striae weakly impressed; interstriae flat, about 1.5 times wider than striae. Declivity evenly convex, essentially unmodified. Anterior femur as in male.

Comments: The paratypes vary in length from 1.7 - 2.0 mm, otherwise notable variation is not evident. Adults of this species resemble, in general facies, those of *S. pusillus* EGGERS from the Philippines. Those of the present species differ by the slightly larger size, by the complete lack of a pronotal pore in the female and by the presence of a small patch of dark brown scales on the lower third of the male frons. In some female specimens, a small, round, smooth spot can be seen in the position where the pronotal pore is in other species of this genus. This is the only species of *Scolytoplatypus* BLANDFORD that I am aware of the does not have the pronotal pore (mycangia) in the female. Adult of this species also resemble those of *S. minimus* HAGEDORN (India) and *S. mikado* BLANDFORD (widespread in Asia), but in those species only the alternate elytral interstriae end in acute points at the base of the declivity.

Etymology: The specific name of this species refers to the reticulate surface of the frons, pronotum and, especially, the elytra.

Sueus borneensis sp.n.

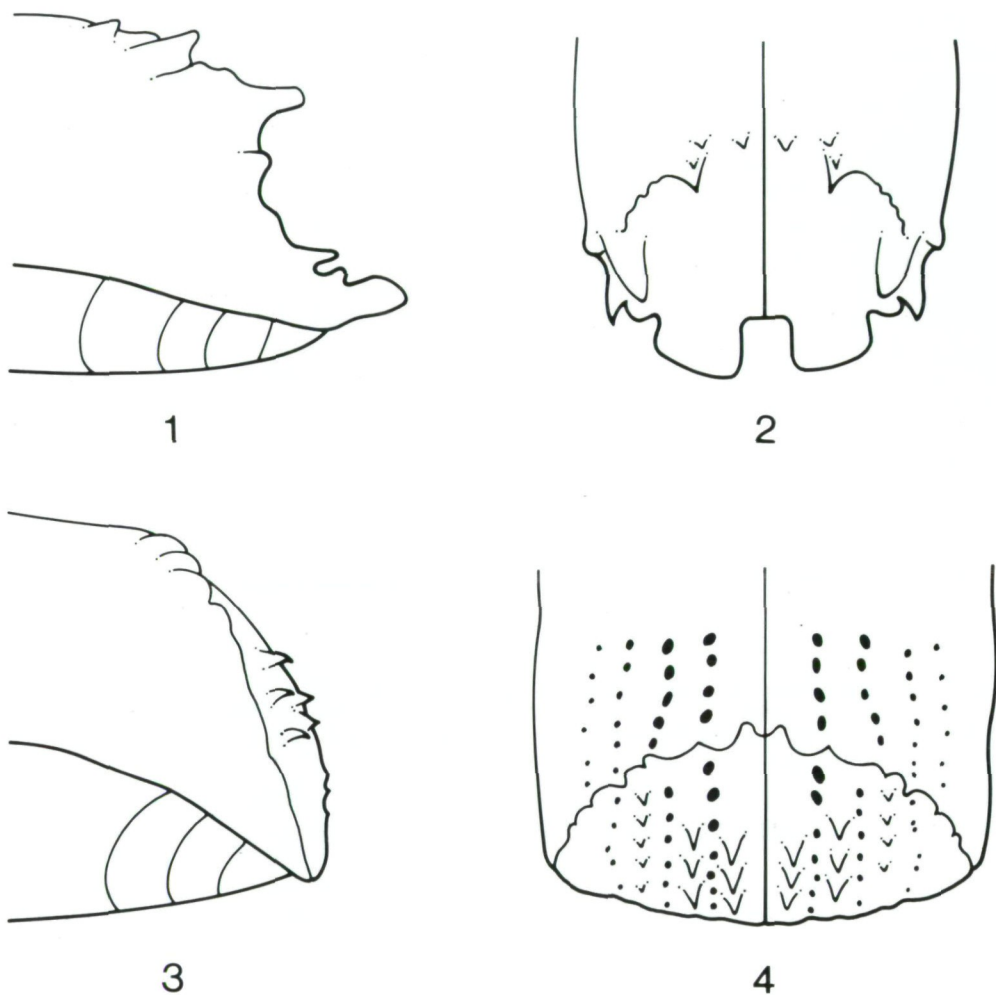
Type Material: The holotype (♀) is labelled "BORNEO: Sabah, Mt. Kinabalu Natl. Park, Poring Hot Spgs., 850 m, V.11.1987"/ "Small cut sapling, D.E. Bright, collector". Five paratypes bear the same data except the date is V.10.1987; one paratype is labelled "BORNEO: Sabah, Danum Valley F(ield) S(tation), 85 km W Lahad Datu, 100 m, VIII.23.1988"/ "Large fallen branch, D.E. Bright, collector".

Female: Length 2.5 mm, about 2.0 times longer than wide. Frons weakly convex, with a distinct, sharply elevated, longitudinal carina extending from epistomal margin to upper level of eyes; surface dull, densely and finely punctate-granulate, with fine, golden-brown setae. Antennal funicle 5-segmented; club 1.4 times longer than wide, flattened, with two transverse sutures. Pronotum 1.4 times wider than long, widest slightly behind middle; lateral margin evenly arcuate, more strongly converging on anterior half; surface densely, finely granulate and weakly punctate, with scattered, long, golden-brown setae. Elytra 1.2 times longer than wide; sides weakly arcuate, apex narrowly rounded; discal striae very narrow, shining, moderately deeply impressed, more strongly impressed toward declivity, striae punctures fine, shallow; discal interstriae much wider than striae, dull, densely rugose, with long, fine, semi-erect, golden-brown setae. Declivity convex; surface as on disc except striae distinctly more deeply impressed, interstriae slightly narrower and setae longer, more erect. Third tarsal segment entire.

Comments: This is the first species in this genus to be described from Borneo. The two other species in the genus are *S. striatulus* (SCHEDL) from Java and *S. niisimai* (EGGERS), widespread from Japan to New Guinea, west to India.

Adults of the present species differ from those of *S. niisimai* by their larger size, by the densely granulate pronotal surface and by the much more deeply impressed elytral striae. From *S. striatulus* they differ also by their larger size and by the more strongly granulate elytral interstriae. The paratypes range in length from 2.5 - 2.8 mm and all are females.

Etymology: The specific name of this species refers to the type locality.

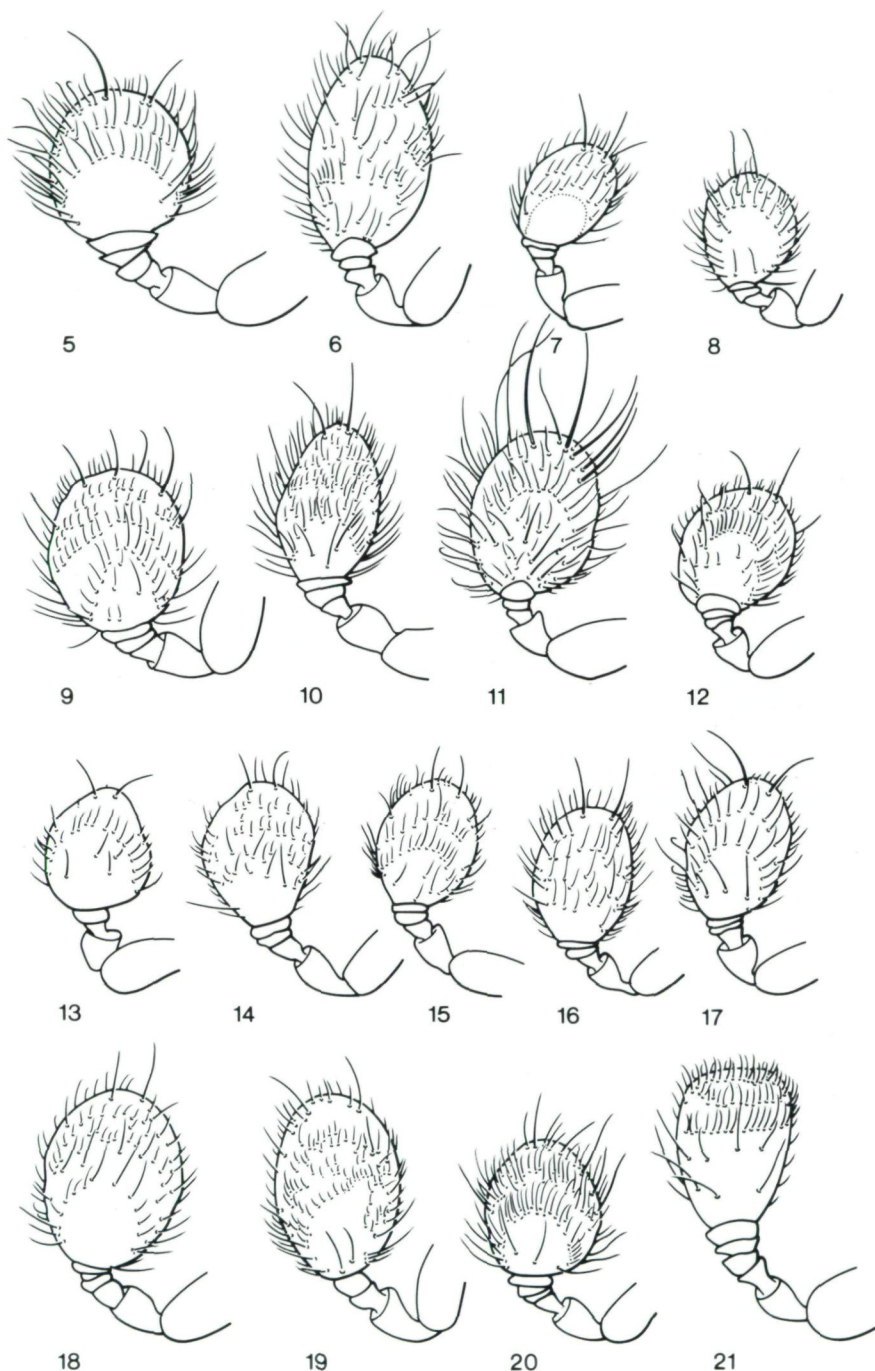


Figs. 1 - 2: Elytral declivity of *Acanthotomicus explanatus*, 1) lateral aspect; 2) dorsal aspect.
 Figs. 3 - 4: Elytral declivity of *Cyrtogenius abruptodeclivis*, 3) lateral aspect; 4) dorsal aspect.

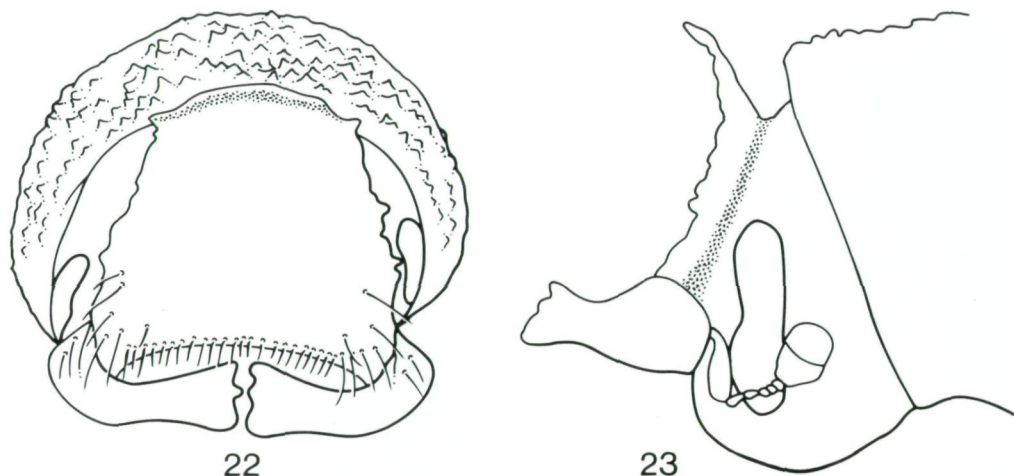
New locality records

Sueus niisimai (EGGERS). As noted above, this species is known from Japan to New Guinea, west to India. It has not been reported from Borneo. Adults were collected from: Borneo: Danum Valley Field Station, 85 km west of Lahad Datu, 100 - 200 m, VIII.25.1988, ex small broken branch, D.E. Bright, collector.

Scolytoplatypus glaber EGGERS. This species is only known from peninsular Malaya. Adults were collected from: Borneo: Mt. Kinabalu National Park, Headquarters and Mempening Trail, 1558 m, various dates in 1987 and 1988; ex *Cinnomomum* sp., ex large cut tree (*Quercus* sp.), ex Large fallen tree (*Lithocarpus* sp.), small broken branch, small cut sapling, and under bark, D.E. Bright, collector.



Figs. 5 - 21: Antennal funicles and clubs. 5, *Acanthotomicus explanatus*; 6, *Cyrtogenius abruptodeclivis*; 7) *C. cavifrons*; 8) *C. glabrata*; 9) *C. kadazanus*; 10) *C. lowi*; 11) *C. mandibularis*; 12) *C. mediosetosus*; 13) *C. nodulosus*; 14) *C. obesus*; 15) *C. piceus*; 16) *C. prinavorus*; 17) *C. quercicolens*; 18) *C. smetani*; 19) *C. tanae*; 20) *C. tikaludus*; 21) *Dryocoetes conspicuus*.



Figures 22 - 23. Head of *Dryocoetes conspicuus*, 22) frontal aspect; 23) lateral aspect.

Scolytoplatypus javanus EGGERS. This species is known from peninsular Malaya, Java, Sumatra, and Luzon in the Philippine Islands. Adults were collected from: Borneo: Mt. Kinabalu National Park, Headquarters and Poring Hot Springs, 486 - 915 m, various dates in 1987 and 1988; ex large fallen branch, ex small broken branch, and small cut sapling, D.E. Bright, collector.

Acanthotomicus caudatulus (SCHEDL). This species is known only from Vietnam. Adults were collected from: Borneo: km. 62, Lahad Datu to Danum Valley Field Station, VIII.29.1988, small cut sapling, D.E. Bright, collector.

Acanthotomicus dentatus SCHEDL. This species is known only from Java. Adults were seen from: Malaysia, Pahang, Taman Negara, 1-13.iii.1984, at light L. Jessop, collector (BMNH).

Zusammenfassung

Zwanzig neue Arten von Scolytiden von Sabah (Borneo) werden beschrieben: *Acanthotomicus explanatus*, *Cyrtogenius abruptodeclivis*, *C. cavifrons*, *C. glabrata*, *C. kadazanus*, *C. lowi*, *C. mandibularis*, *C. mediosetosus*, *C. nodulosus*, *C. obesus*, *C. piceus*, *C. prinavorus*, *C. quercicolens*, *C. smetanai*, *C. tanae*, *C. tikaludus*, *Dryocoetes conspicuus*, *Scolytoplatypus carinatus*, *S. reticulatus* und *Sueus borneensis*. Fünf Arten werden neu für Borneo gemeldet: *Sueus niisimai*, *Scolytoplatypus glaber*, *S. javanus*, *Acanthotomicus caudatulus* und *A. dentatus*.

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