謹んで本学会常任幹事故後藤光男氏の
ご霊前に本号を捧げます

This issue is dedicated to the memory of
the late Mr. Mitsuo Goto,
who was a managing director of our society.

日 本 甲 蟲 學 會

The Japan Coleopterological Society

昆 蟲 学 評 論
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後藤光男さんの思い出

穂 積 俊 文

昭和26年春，名大理学部に在職中だった中根猛彦さんが西京大学に転任し，後藤光男さんが東亜紡織大垣工場に来られた．その頃は甲虫屋の少ない時代だったので早速私は氏に連絡して，4月22日大垣市の社宅を訪問した．当時は織物産業が隆盛の波に乗り出した頃で，経理担当の後藤さんは張切っておられ，忙しくて暇も少ない様子だった．その日私はBALYのハムシや，WATERHOUSEの糞虫の原記載を借りて全部写した．

昭和27年5月25日，養老に出掛けたのが採集行の最初で，キオビクビボソハムシをお互に採集して，「珍品ですな」と養老駅前でビールを飲んだことを覚えている．昭和27年11月2日は故伊賀正汎さんの結婚式で，その話をしながら大倉さんと後藤さんと私の3人が，岐阜県谷汲村にオサ掘りに出掛け，私は初めてのオサ掘りなので色々と要点を教えて貰った．以後10年余りオサ掘りが続いたが，腰を痛めて中止した．もちろん，後藤さんと一緒の時もあり単独行もあった．

後藤さんは以後四日市泊工場，大阪本社にと転任されたが，ずっとおつき合いは続いた．私の家にも来られたし，私が泊工場社宅や高師浜のお宅を訪ねたりし，標本箱を見，虫を語り，盃を酌みかわし楽しい思い出が多かった．何といっても泊工場勤務中の昭和30年代前半で，鈴鹿の山々，三重大学平倉演習林，長野県の牧場などの採集行であり，「珍品ですね，祝杯をやりましょう」「いいですね！」の会話で始まる宴だった．写真は昭和30年7月31日長野県美ケ原の塩クレバであり，この時はスズキコエンマコガネを採集して祝盃をあげた．

やがて三重昆虫談話会が創設され，鈴鹿の山々や平倉の昆虫相の解明に後藤さんは大活躍で，立派な調査報告書作成に一役を担われた．

大阪へ帰られてからも私は時々お会いしている．それは日本甲虫学会の大会，あるいは採集行の途中に大阪に寄った時など色々あった．ある年，九州採集行の帰路大阪に寄り，後藤さんを会社に訪問した．土日毎に近くの河川で採集し，ドロムシ類を野村鎮氏に見て貰っている，特に奈良春日山の川は隈なく水網を入れたと語られ，そのエネルギッシュと熱心とに

左，筆者；右，後藤光男氏．

驚いた．ゴトウミゾドロムシやホソヒメツヤドロムシはこの時の産物であろう．私は阿蘇山で採ったツヤマグソコガネを差しあげた．

このように後藤さんは採集の達人で，能率よくエネルギッシュに採集された．また，手先の器用な方であり，ラベルも美しく私の手元にたくさん残っているし，手造りの小型標本箱も遺品としてある．

後年は系列会社に転じられ東奔西走して忙しく，採集も思うにまかせられなかったようだし，健康を害され酒量もめっきり減った．最後にお会いしたのは本年2月16日に，津市で行われた三重昆虫談話会創立30周年記念大会だった．この日は雪まじりの寒風が強い日であったが，大変お元気な様子であった．その席で私は「甲虫屋 OB 会を企画します」と誘ったら，暇だったら行きますとの返事で，健康も恢復されたのかと喜んでいた．しかしその２カ月半後に突然の訃報で信ぜられなかった．ご冥福を祈るのみ．

後藤光男さんを偲んで

大川親雄

後藤光男さんは近畿甲虫同好会の設立に貢献され，会が日本甲虫学会と発展してからも長く幹事として尽力された．毎年12月の日本甲虫学会大会には元気で出席され，会の進行にその手腕を発揮された．約30年ほど前に会社（東亜紡織）の都合で楠工場に来られ，４年余り

の間四日市市に住み三重県の昆虫界のため活躍された．その間の昭和31年10月に津市の三重大学農学部を会場として日本昆虫学会第16回大会が開催された．その頃昆虫学会大会があると附帯行事として昆虫展を開くのが通例となっていた．そこで，それまでばらばらであった三重県の昆虫同好者が標本を持ち寄り津公園にある三重県立博物館で昆虫展が開催された．そのまま別れてしまうのは惜しいというので同好会設立の機運が盛り上り，昭和31年11月17日に湯の山温泉へ10名が集り打合せ会を行った．その会のお膳立ては後藤さんがなされたもので，会則の審議も後藤さんの用意された試案をたたき台として行われた．また，出版物刊行についても相談した．経験のない者からは僅か10名余りの会費で雑誌を出せるかと危惧する意見が出されたが，後藤さんが初代編集幹事となられ翌年１月に“ひらくら”１巻１号を発行された．それ以来30年三重昆虫談話会から“ひらくら”が続刊されていることを思う時，後藤さんの功績を讃えずにはおかれない．１巻７号を出されたところで大阪本社へ栄転となり，“ひらくら”の編集は石田昇三氏に引き継がれた．本年2月16日，三重昆虫談話会30周年記念総会へ出席された時，“ひらくら”発刊の頃の思い出話となり，「少い会員で“ひらくら”を月刊で出せる見通しはあったのですか」とお伺いしたところ，「あかんかったら，あとは大阪で出すつもりやったんや」と話しておられた．

後藤さんは非常に几帳面な方で，葉書は鉛筆で線を引いてから書いて来られた．三重大学の平倉演習林宿舎は現在は鉄筋コンクリートの新館に建てかえられ宿泊の申込みも面倒になったが，その頃は木造で突然行っても気軽に泊めてくれたので，よく採集に出かけた．後藤さんと一緒になったこともあった．採集技術も優秀な上にものすごいファイトでよく採集された．食事をすますとはやる心を押えられず網を持ってとび出して行く者が多かったが，後藤さんは食器を洗い棚の上にきちっと並べて，それから採集を開始されるのには感心した．

携帯用の標本箱を自分で作っておられた．紙製だったが，面はきれいな平面で反っている所がなく，角は直角でふたもきちっとしまった見事な出来栄えであった．「厚い紙１枚ではきれいに仕上らない．薄い紙を何枚もはり合わせる」と云っておられた．私は何年か前の日本甲虫学会の懇親会の際，１個頂戴したことがある．本年２月津へ来られた折，「箱を今作っているからそのうちにお送りします」というお申入れがあった．４月22日宅急便が届きあけてみると，丹精こめて作られた大小様々の標本箱36箱が収められてあった．早速礼状を差上げ有意義に分配したいと考えていたところ，４月30日付のお葉書が届けられた．

「御手紙拝見しました　あまり上出来でない小箱お受取り下さって感謝しています　県下の方々には少しく足りないと思いますがあと若干残っていますので不足数お申越下さい　六月の平倉是非お伴したいと思っていますが会議の予定があり今のところ見当がつきません　本年暮の湯の山会談を楽しみにしています」

この葉書には鉛筆の線はなかった．その翌日の５月１日救急車で運ばれ３日に亡くなられたことを聞いて全く驚いた．２月にお会いした時はあれほど元気だったのに３カ月後に幽明境を異にするとは思いもよらなかった．標本箱は５月の談話会に出席した会員と相談し36人に分配した．

後藤さんのご冥福を心からお祈り申しあげます．

後藤光男君のこと

大倉正文

思い返せば永い付き合いであった．私が後藤光男君と知りあったのは，昭和15年の初め，大阪市城北公園における“植物と昆虫の会”の例会ではなかったかと思う．今から45～６年前の出合いであり，はっきりした覚えはないが．この会は，岐阜県の米穀検査所を定年退職され大阪へ戻って来ておられた中林憑次氏が中心となり，当時大阪市の職員で城北公園に勤務しておられた堀江聰男氏とのお２人で，昆虫と植物をそれぞれ受け持たれて，昭和12年11月に創立されたものである．

後藤君は昭和16年４月に学業を終え，直ちに東亜紡織株式会社に入社，主として経理畑を歩まれた．城北公園での例会の前後に，よく一緒に淀川原で採集をしたように記憶している．昭和18年の暮れの例会席上であったと思うが，「とうとう赤紙（召集令状）が来たので，会社を辞めて入隊する」といわれるので，私は「一流会社であるし，国民の義務として入隊するのだから辞める必要はない．その間，給料も出ることだし，そのまま入隊すべきである」と極力慰留したのを覚えている．私の意見を聞き入れてくれたのか，在籍のまま昭和19年１月20日入隊され，確か朝鮮へ出征されたと聞き及んでいる．

昭和20年８月に終戦となり，同年10月に無事復員されたとの便りを受けたので，当時私は郷里の三重県一志郡久居町（現久居市）に疎開していたが，早速同年11月２～４日に宝塚市の同君宅を訪問し，種々苦労談も伺った．その際，１人用の蛸壺防空壕に落ち込んでいたのを採集したといって，*Damaster* (*Coptolabrus*) *smaragdinus branickii* TACZANOWSKI を２頭頂戴したが，これは今も私の標本箱に収まっている．この時，同君と２人で吹田市の林匡夫君を訪ずれ，“近畿甲虫同好会”の創設についても３人で話合った．

同君は復員後，もとの東亜紡織に復職され，同社の泉大津工場勤務になられたが，「大倉さんがいわれたように，入隊する時会社を辞めなくてよかった」といって喜こんでくれた．その後，大阪本社，大垣工場，四日市工場を経て，再度本社勤務として大阪へ戻られたが，この間（昭和26～28年頃）同好会が一時経理上ピンチに落入り，当時の幹事が一部をそれぞれ立替えたが，一年の会費が300円であった当時，同君は約２万円弱の立替えをしてくれて，会のピンチを救ってくれた．このことは，会の経理を預っていた私としては，今でも本当にありがたかったと思っている．この立替金は，同好会が保育社から原色日本昆虫図鑑(上)甲虫編を出版するに及び，その印税の一部を同好会に保留することを執筆者が諒承して下さったので，昭和31年にそれぞれ返却することができた．

その後，大阪本社から子会社の東亜ユニホーム（後に東亜レディースと改称）に出向されたが，よく私の勤務先の機械工業会にも尋ねて来てくれたし，また私が同君の勤務先を訪ずれることもしばしばであった．「一寸体がだるいので，これから病院へ行くのだ」といいながら，尋ねて来てくれたこともあった．見ると顔色が少し黄色い．「うん，大事にせなあか

んぞ．それに酒はほどほどにな」といって別れたこともある．かなり以前に胃潰瘍の手術を受けた際の輸血が原因で，血清肝炎にかかり，それがもとで慢性肝炎になり時々それに悩まされていた．

昭和54年10月に東亜紡織を停年退職され，引続き子会社に嘱託として勤務しておられたが，昭和55年６月事情あって同社を退職，同年10月からは団地サービスに入社して日本住宅公団狭山団地勤務となり，本年（昭和61年）４月30日まで何ら変りなく平常通り出勤しておられた由である．

私は昭和30年に，会報は発行せず，毎月１回採集会を行う“神戸昆虫同好会”を結成したが，近畿地区北部（兵庫県・大阪府北部・京都府等）における採集コース以外の同地区南部（大阪府南部・和歌山県方面）のコース，特に南海電鉄沿線のコースにつては，よく同君のお知恵を拝借したものである．同好会の会員は20名前後で，例会の参加者は毎回４～７名程度であるが，後藤君もたびたび参加してくれた．そうして，初めてのコースも一緒に歩いたものである．誠に頑張り屋で，ビーティングにオサ掘りにと，常に私よりも好成績をあげていた同君が，私より先に亡くなろうとは，当時の姿を瞼に浮べれば，今でも信じられない思いがする．

後藤君は採集が上手であっただけでなく，いろいろの特技をもっていた．その１つはデータラベルの印刷である．当会の“ねじればね”紙上にも同君がたびたび書いているが，4.5ポイント活字で美しく印刷されたラベルが，各標本に付けられているのは見事なものである．私も同君に依頼して１セット取り揃えているが，印面に濃淡ができて綺麗には刷りあがらず，自然と使用する機会が少なくなってしまっている．２番目は紙製標本箱或いは携帯箱の製作である．同君と親しい人々は携帯箱の１つ２つは戴いていると思うが，この標本箱を作っている時は目の色が違い，神経がピリピリしていて近寄りがたく，そっとしておかねばならなかった由，後日改めてお悔みに伺った際，ご遺族が述懐しておられた．それをお聞きすると粗末には扱えず，同君の形見として大切に使用せねばと思っている．第３は製本技術である．これもその仕方を“ねじればね”に紹介しているが，なかなか誰にでもできる技術ではない．

私の標本ダンスは志賀のインロー小の標本箱が25段６列で150箱入る大きなものであるが，これは同君が東亜紡織四日市工場に勤務中，同工場の大工さんに依頼して作ってもらったものである．いくら支払ったか覚えはないが，実費であったことは確かである．更に最近は志賀インロー大も使用しているので，この標本箱の整理方法を相談したところ，早速標本ダンスの設計図を書いてくれたが，一部組込みの部分があって，私にはとても作れそうにない．時々「標本ダンスはどうなった．出張（私の家へ）して作ったろか」といって笑っておられたが，やっと最近，横面に天地をボンドで張りつけ，裏板を付け桟を入れる簡単なものを作るべく，同君に聞いた寸法通りにベニヤ板を切断させた．この追悼号が出るころには，第１号が出来あがっていることであろう．

後藤君の相談に私も何かと乗ったが，また私も同君から種々お世話になった．後藤君は私の親しい虫友の１人，いやその中でも最も親しい友人であった．何でもお互に話し合える友

人であった．最も親しい友人を静脈瘤破裂で失おうとは．５月１日の朝はいつものように出勤すべく背広に着替えておきながら，体がだるいといって会社を休む旨，自身で電話をされたあと，口から霧のような血を２～３度吐いて救急病院へ運ばれ，３日の午前10時すぎにあたら62才の若さで永眠された．慢性肝炎になると，永年の間に静脈瘤ができるということを，最近穂積君からお聞きした．もう少し早く判り，静脈瘤が大きくならない中に処置できなかったものかと，素人考えながら思われてならない．

後藤君の美しい立派な標本が，どこかの博物館に無事収まることを念じつつ，同君のご冥福を祈り筆を擱く．

New Coprophagous Lamellicornia from Japan and Formosa, III (Col., Scarabaeidae)

By Kimio Masumoto

In the present paper, the author is going to describe a new species *Cassolus gotoi* from Formosa, to record *Psammodius* (s. str.) *thailandicus* (Balthasar) for the first time from the Ryukyu Is., and to regard *Trox* (s. str.) *aino* Nakane et Tsukamoto, originally described from Hokkaido, North Japan, as a synonym of *T. setifer* Waterhouse.

The author wishes to express his sincere appreciation to Dr. Y. Cabmefort, Muséum National d'Histoire Naturelle, Paris, for permitting loan of the type-specimen, and Dr. R. Pittino, Milan, for offering much invaluable information to this study. Special thanks are due to Mr. K. Sawada, Tokyo, for contribution of the specimen materials, and also to Mr. K. Tsukamoto, Heian High School in Kyoto, for offering his literatures concerning the coprophagid beetles in Japan.

Cassolus gotoi sp. nov. (Figs. 1, 2)

Piceous, with apical portion of head, mouth parts and legs reddish brown, antennae yellowish brown; dorsal surface rather strongly shining, ventral surface moderately so. Short-oval; strongly convex above.

Head transverse elliptic, nearly flat, fairly closely punctate, the punctures becoming smaller towards apex; clypeus rather wide, antero-medial portion impunctate, armed with two slightly reflexed teeth in front; genae with outer margin obtusely angulate; eyes small and crescent-shaped.

Pronotum transverse, about 1.7 times as wide as long, widest at basal 1/5; apical margin gently emarginate and bisinuous; base moderately arcuate; sides gradually, roundly narrowed towards apex from the widest point; front angles obtusely angulate; hind angles rounded though lower-inner portion bluntly pointed; disc strongly convex, rather strongly and fairly closely punctate.

Elytra slightly wider than long, widest at basal 1/3; dorsum thickest slightly before middle; disc shallowly punctate-striate, the punctures in striae moderately notching intervals with distance 1–2.5 times diameter apart; intervals nearly flat in basal portion and gently convex in apical,

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sparsely scattered with microscopic punctures.

Pygidium fairly strongly and closely punctate. Metasternum micro-shagreened in antero-medial and lateral portions, shallowly punctate in postero-medial and lateral portions. Protibia with 3 outer teeth.

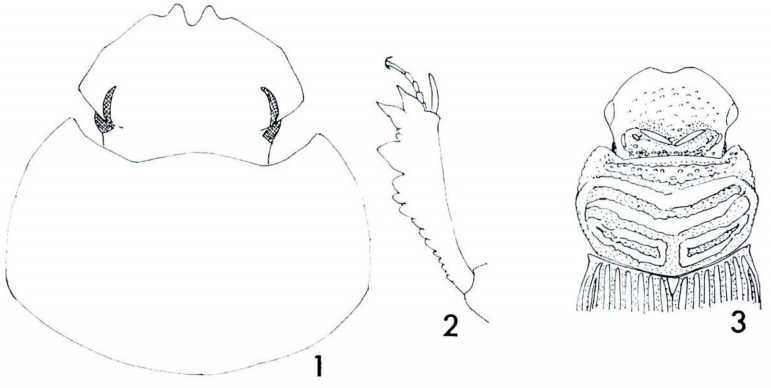
Holotype: ♀, Hewangshan, Nantou Hsien, Formosa, 20. VI. 1985, Luo Chinchih leg. (preserved in National Science Museum (Nat. Hist.), Tokyo.)

This new species resembles *Cassolus nudus* Sharp, originally described from Cambodia, and also *C. fukiensis* Balthasar from the southeast China, but can be distinguished from these two species in the following characteristics.

Compared with *C. nudus*: 1) the body is larger and a little longer; 2) the dorsal surface is not metallically shining; 3) the clypeal teeth are clearly thicker; 4) the pronotum is more strongly and closely punctate; 5) the elytral intervals are more convex and clearly punctate though the punctures are small; 6) the protibia armed with 3 outer teeth.

Compared with *C. fukiensis*: 1) the body is larger; 2) the clypeus is armed with two front teeth; 3) the pronotum is rather closely punctate; 4) the punctures in elytral striae are shallower.

This is the first record of the species of the genus *Cassolus* Sharp from Formosa. The new species is named after the late Mr. Mitsuo Goto, who was very fond of the coprophagid beetles.



Figs. 1–3. 1. *Cassolus gotoi* sp. nov., fore body (dorsal view).
2. ditto, protibia and protarsi.
3. *Psammodius thailandicus* (Balthasar), fore body (dorsal view).

Psammodius (s. str.) *thailandicus* (Balthasar, 1965) (Fig. 3)

Psammobius thailandicus Balthasar, 1965, Acta ent. bohemoslov., 62, p. 445.
Distribution: Thailand; Okinawa-honto and Senaga-jima, Ryukyu (new record).
Specimens examined: 44 exs., Niibaru, Tamagusuku-son, Okinawa-honto, Ryukyu,

18. II. 1986, K. SAWADA leg.; 10 exs., Senaga-jima (near Okinawa-honto), Ryukyu, 22. II. 1986, same collector.

This species can be distinguished from the related ones, *P.* (s. str.) *asper* (FABRICIUS), *P.* (s. str.) *convexus* WATERHOUSE, and *P.* (s. str.) *tesari* RAKOVIČ, by characteristic of the pronotal ridges, shape of the genae, and punctures behind the oblique ridges on the head.

Trox (s. str.) *setifer* WATERHOUSE, 1875

Trox setifer WATERHOUSE, 1875, Trans. ent. Soc. Lond., 1875, p. 98.

Trox aino NAKANE et TSUKAMOTO, 1955, Akitsu, Kyoto, 4, p. 88. **Syn. nov.**

After careful examination, Dr. R. PITTINO kindly informed me that *T. aino* is synonymous with *T. setifer*, since the specimens which have been thought *T. setifer* are actually *T. mitis* BALTHASAR, 1933, originally described from Ussuri.

On the Species of *Nazeris* from Japan, I. (Coleoptera, Staphylinidae)

By Tateo Ito

Up to the present time five Japanese *Nazeris*-species have been described, to which I would like to add the several new species in this paper.

I wish to express my cordial thanks to Mr. T. Shibata for his continuous kind help in literature, materials and other various ways, and to Dr. K. Sawada for his constant guidance and encouragement. I am also greatly indebted to all the members of the Osaka Coleopterological Society for their deep kindness in literature and materials.

Nazeris gotoi sp. nov. (Fig. 1)

Body shining, reddish brown, 7th abdominal segment brownish black, antennae (except darkened basal segments), mouth parts and legs sordid yellow; pubescence of body brownish to blackish, but those of antennae, mouth parts, tibiae and tarsi yellowish. Length: 4.3 mm.

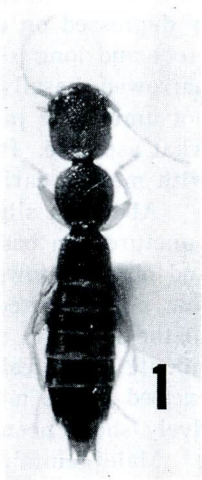
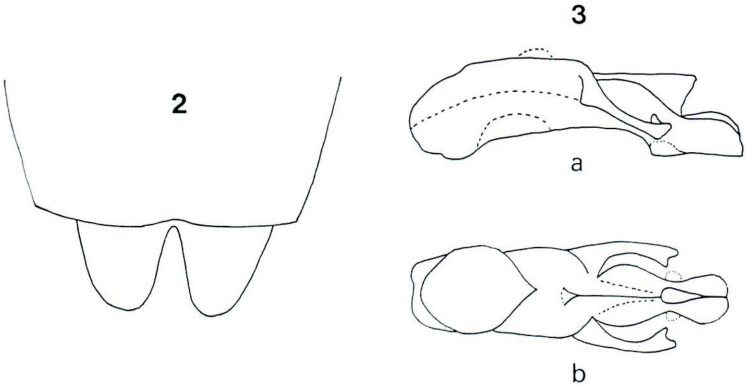


Fig. 1. *Nazeris gotoi* sp. nov.

Head very coarsely and closely punctured, transversely, slightly depressed between eyes, punctures on the depression evidently umbilicate and reticulate; postgenae subparallel-sided and more than twice as long as eyes in both sexes (11 : 5); labrum obtusely toothed, all the teeth subequal in size to each other; antennae short, scarcely reached to the middle of pronotum, 1st segment robust, as long as the following two segments together, 2nd clavate, 3rd less than twice as long as 2nd, 3rd to 10th shortened distally, 10th about twice as long as broad, 11th larger than 10th. Under side of head weakly and sparsely punctured, with a scratch-like microsculpture; mentum transverse, fairly chitinized and bisetose on each side; maxillary and labial palpi without any specified characters.

Pronotum a little longer than broad (11 : 10), as long as and a little narrower than head (10 : 11), widest at apical two-fifths; disk similarly

[Ent. Rev. Japan, Vol. XLI, No. 2, pp. 89–91, Dec., 1986]



Figs. 2, 3. 2. The outlines of 7th and 8th sternites in ♂ of *Nazeris gotoi* sp. nov. 3. Male genitalia of *Nazeris gotoi* sp. nov. a: in lateral view, b: in ventral view.

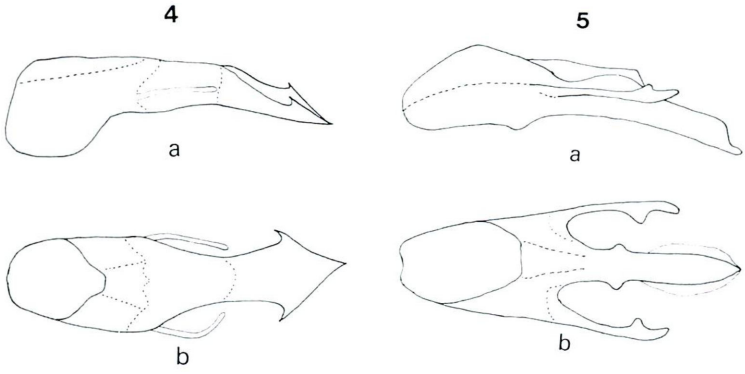
punctured like on the head, obscurely elevated along middle and slightly depressed on each side of the elevation; anterior angles with three erect and long setae. Scutellum sparsely and deeply punctured. Elytra narrowed basally and shorter than pronotum, with coarse, close and not umbilicate punctures, which finer than those of pronotum and somewhat asperate. Prosternum transversely, rugosely and weakly punctured, with median carina distinct to apical extremity.

Abdomen slightly expanded laterally, coarsely, closely and weakly punctured on basal segments, the punctures gradually becoming sparse and obsolete towards apical segments; tergites on each side bearing a few characterized black setae which erect and longer than usual ones. In the male 7th sternite slightly depressed in the middle and weakly sinuate at apical margin, 8th sternite very narrowly and very deeply excised at the middle of apical margin (Fig. 2). Legs robust and relatively short, posterior trochanters simple in both sexes.

Male genitalia symmetrical; median lobe, in ventral view, definitely constricted laterally at apical fifth, where provided with a well-chitinized protuberance at ventral side; parameres rather slender, bifurcate at apices and not beyond apex of median lobe (Fig. 3).

Holotype: ♂, Hatsuno, Amami-Ohshima Is., Kagoshima Pref., 1. IV. 1966, T. Ito leg. (T. Shibata coll.); paratypes: 2♀♀, ditto, 4. IV. 1966 and 2. IV. 1967, T. Ito and H. Nomura leg.

The present species is allied to *N. optatus* Sharp from Japan, but it may be easily distinguished from the latter by the male seventh abdominal sternite which being in the middle not deeply excised, and without any distinct tufts beside the excision, the male genitalia quite different in shape as figured (Fig. 4), the eyes



Figs. 4, 5. 4. Male genitalia of *Nazeris optatus* SHARP from Mt. Kohjin, Nara Pref. a: in lateral view, b: in ventral view. 5. Male genitalia of *Nazeris okinawanus* sp. nov. a: in lateral view, b: in ventral view.

smaller in size, the punctures of head and of pronotum distinctly umbiliform and reticulate, and the under side of head with a more or less scratched microsculpture. Its specific name is dedicated to the memory of the late Mr. MITSUO GOTO, who was a manager of the Japan Coleopterological Society.

Nazeris okinawanus sp. nov.

The present species is similar in sculpture to the preceding species, but it may be separable from the latter by the following points: The postgenae less than twice as long as eyes (8 : 5). The male genitalia larger, in ventral view median lobe with a protuberance on each lateral side at apical third, its apical part halberd-like in shape, parameres thinner and longer (Fig. 5). The punctures of under side of head coarser and deeper. The antennae longer, with third segment twice as long as the second. The apical three or four abdominal segments darkened. In the male the excision of the eighth sternite shallower, and the posterior femur bearing three or four erect setae near base of each inner side, while in *N. gotoi* the posterior femur without any erect setae.

Female unknown.

Holotype: ♂, Izumi, Okinawa-honto Is., Okinawa Pref., 6. IV. 1963, H. NOMURA leg. (T. SHIBATA coll.); paratype: 1 ♂, same data as holotype.

Chrysomelidae Collected by the Japan-India Cooperative Survey in India, 1978. Part III[1)]

By Haruo Takizawa

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This is the 3rd report on the chrysomelid-beetles of India, which were collected during the trips for forest and agricultural insects in India, 1978. This together with the 4th report deals with the subfamily Galerucinae and enumerates 51 species, of which 11 species, *Galerotella indicola, Anastena variomaculata, Taphinellina sensarmai, Monolepta anaimalaiensis, M. binotata, M. dehradunensis, M. indicola, M. kandasamyi, M. raychaudhurii, M. gotoi* and *M. rufominuta* are described as new to science.

Half the material examined will be deposited in the collection of the Entomological Institute, Hokkaido University (EHU), Sapporo, and the other half in the collections of the Zoological Survey of India (ZSI) and of the Department of Zoology, University of Calcutta, both in Calcutta.

Galerotella indicola n. sp. (Pl. 5, fig. 1, Text fig. 1b)

Male. Body broad, widest at apical ⅓, thence roundly and weakly narrowed to both ends; entirely dirty yellowish brown, except for eyes and apices of mandibles blackish; sometimes humerus with a small obscure piceous spot: elytron with an obscure narrow piceous stripe starting below humerus and extending to middle of elytron; surface densely covered with short whitish hairs, and distinct punctures on dorsum.

Head densely punctate on vertex, which is broad and with a median longitudinal depression; frontal tubercles somewhat rhombic, well demarcated, with the surface weakly punctate; antennae widely separated

1) Part I, Ent. Rev. Japan 39, 9–25, 1984; Part II, ditto, 40, 1–8, 1985.
Research Trips for Forest and Agricultural Insects in the Subcontinent of India (Hokkaido University, University of Calcutta, and Zoological Survey of India Joint Project [Grants-in-Aids for Overseas Scientific Survey, Ministry of Education, Japanese Government, 1978, No. 304108 ; 1979, No. 404307], Scientific Report No. 23.

[Ent. Rev. Japan, Vol. XLI, No. 2, pp. 93–105, pls. 5–6, Dec., 1986]

from each other, with the distance between them twice as wide as the diameter of antennal insertions; clypeus ½ as long as wide, and straight at apex; disc smooth and broadly raised; antenna rather short and robust, slightly longer than half the body length; 1st segment club-shaped; 2nd shortest, half as long as 1st; 4th longest, 1⅓ as long as 3rd; the penultimate distinctly shorter than twice its width; relative lengths of antennal segments as: 4th>11th>1st≒5th≒6th>3rd≒7th≒8th>9th≒10th>2nd. Pronotum transverse, twice as wide as long, deeply and rather straightly emarginate at anterior margin, widest at basal ⅕, thence roundly and strongly narrowed to anterior angles, and weakly narrowed to posterior angle on lateral margins, almost straight but roundly cut away near the angles on posterior margin; disc weakly uneven, with a shallow depression on each side of median line and another distinct, shallow but broad depression near posterior angle, rather flat medially and sloped down antero-laterally; punctuation dense and heavy with its interspaces distinctly narrower than diameter of punctures. Scutellum roundly triangular, almost as wide as long; surface covered with weak punctures and short hairs. Elytron 2⅔ as long as wide; disc gently depressed from side to side, shallowly and broadly depressed and narrowly explanate along lateral margin; densely covered with distinct punctures, of which diameter is larger than their interspaces; epipleuron smooth, and broad on basal ½, thence becoming narrower and declivitous. Last visible abdominal sternite deeply notched at apex; legs stout. Aedeagus as in Text fig. 1b.

Female with the last visible abdominal sternite weakly notched at apex.

Size. Male: 5.2–6.5 mm in length, 2.5–3.5 mm in width, female: 6.0–7.0 mm in length, 3.5–3.8 mm in width.

Specimens examined. 2 ♂♂, 2 ♀♀, Kallar, 700–850 m, Nilgiri, Tamil Nadu, 12. XII. 1978, Japan-India Coop. Trip; 12 ♂♂ (one the holotype, in ZSI), 11 ♀♀, Mettupalayam View, ca. 800–1000 m, Nilgiri, Tamil Nadu, 10. XII, 1978, Japan-India Coop. Trip.

The genus *Galerotella* MAULIK is represented by 3 species, *virida* (JACOBY) (Text fig. 1a), *garoana* MAULIK and *eury-*

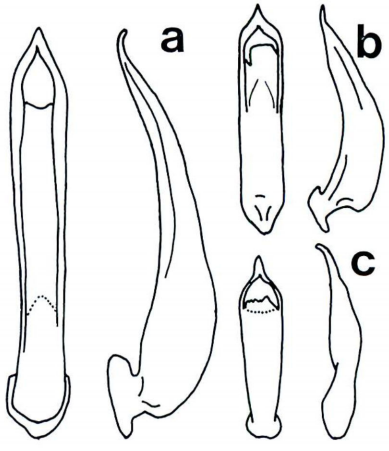


Fig. 1. Aedeagus (right: dorsal view, left: lateral view).
a, *Galerotella virida* JACOBY (from Kallar); b, *G. indicola* n. sp. (from Mettupalayam View); c, *Taphinellina sensarmai* n. sp. (from Dehra Dun).

obotryae MAULIK occurring in India, Sri Lanka, Assam to Burma. This new species is somewhat similar to *euryobotryae* in the brownish body with short antennae, but is distinguished from the latter by the antenna longer than half the body length, and by the shape of pronotum which is distinctly emarginate at anterior margin, etc.

Anastena variomaculata n. sp. (Pl. 6, fig. 8)

Male. Body oblong and slightly dilated posteriorly; shining yellowish brown with vertex, scutellum, elytra on basal margin, on humerus and on suture narrowly piceous; antenna dark brownish except for on 3 basal segments.

Head as wide as pronotum; vertex shining and impunctate; frontal tubercles raised, subquadrate and contiguous to each other, with surface smooth and shining; eyes strongly convex, with interocular space distinctly narrower than transverse diameter of eye; clypeus smooth and shining, narrowly raised between antennal insertions, and not extending beyond the line which links roots of antennae; labrum round at apex; maxillary palpus with 4th segment conical and as long as 3rd; antenna slender 1½ as long as body, thickly pubescent beyond 3rd segment; 1st segment club-shaped, longer than 2nd and 3rd combined together; 5th slightly less than 4 times the preceding 2 combined; relative lengths of antennal segments as: 5th>6th≒7th>4th≒8th≒9th>11th>10th>1st>2nd≒3rd. Pronotum subquadrate, 1½ as wide as long, widest at apical ⅓, thence straightly and weakly narrowed to posterior angles, nearly straight at anterior margin, evenly produced at posterior margin and slantly cut away and margined near posterior angles; both anterior and posterior angles obtusely tuberculate; disc shining and smooth, slightly uneven with obscure oblong depressions basally on each side of median line, and antero-laterally. Scutellum roundly triangular, smooth and shining. Elytra distinctly wider than prothorax basally; humerus well developed; elytron about 3 times as long as wide, widest near apical ⅓, thence gently narrowed anteriorly and roundly so posteriorly; disc sparsely covered with short hairs, and densely covered with shallow punctures, of which diameter is almost as wide as their interspaces; epipleuron wide basally and gradually narrowed posteriorly; surface concave and smooth. Last visible abdominal sternite shallowly trilobed, with the length of median lobe about ⅕ of the sternite. Anterior coxal cavities widely open; legs slender; hind tarsus with 1st segment as long as the following 2 combined.

Female. Head with interocular space wider, about 1½ as wide as the transverse diameter of eye; last abdominal sternite simple at apex.

Size. 5.0–6.0 mm in length, 2.0–2.5 mm in width in both sexes.

Specimens examined. 2♂♂ (one the holotype, in EHU), 1♀, Mettupalayam View, ca. 800–1000 m, Nilgiri, Tamil Nadu, 30. XI., 10. XII. 1978, Japan-India Coop. Trip; 1♂, Kallar, 700–850 m, Nilgiri, Tamil Nadu, 9. XII. 1978, Japan-India Coop. Trip.

Each one specimen of the both sexes has the dorsum entirely shining yellowish brown. The genus *Anastena* MAULIK is represented by two species, *nigromaculata* (JACOBY) from India and *cyanea* CHÛJÔ from Nepal. This new species is distinguished from *nigromaculata* by the head distinctly wider than the width of pronotum at the anterior margin, and by the antennae which are 1½ as long as the body. While *cyanea* is distinguishable by its coloration of metallic deep blue.

Taphinellina sensarmai n. sp. (Pl. 5, fig. 2, Text fig. 1c)

Male. Body small and oblong, weakly dilated posteriorly; steel blue with yellowish abdomen, with mouth-parts, trochanters and claws reddish brown; antenna dark brown except for 2 basal segments reddish brown.

Head impunctate, narrower than pronotum; vertex evenly convex and smooth, with minute punctures; frontal tubercles contiguous to each other, well raised, and demarcated from around, nearly straight on posterior margin, extending slightly between antennal insertions, with apices round; clypeus triangularly raised, gently emarginate at anterior margin; antenna rather robust, reaching apical ⅓ of elytron, thickly pubescent beyond 2nd segment; 1st segment club-shaped, as long as 4th or 2nd and 3rd combined together; 3rd slightly longer than 2nd; 4th to 9th subequal in shape and length to each other; 10th slightly shorter than 9th; 11th longest, twice as long as 3rd, and pointed at apex. Pronotum 1½ as wide as long, gently and weakly rounded on lateral margins, widest at middle, almost straight at anterior margin, gently and roundly produced posteriorly; disc evenly convex from side to side, rather densely covered with minute punctures, longitudinally impunctate along sagittal line. Scutellum smooth with cupreous luster. Elytron 3 times as long as wide, widest near apical ⅓, thence weakly narrowed anteriorly, strongly and roundly narrowed posteriorly; disc weakly elevated subbasally, with a distinct transverse depression behind, with scattered erect hairs posteriorly, densely covered with small punctures, which are distinctly larger than those on pronotum; humerus well developed; in dorsal view lateral margin of elytra invisible for basal ⅔; epipleuron declivitous and visible in lateral view, punctate and gradually narrowed from base to apical ⅓. Prosternum distinct between fore coxae; anterior coxal cavities open behind; last visible abdominal sternite trilobed, with median lobe broadly depressed.

Size. 3.5 mm in length, 1.7 mm in width.

Specimens examined. 2♂♂ (one the holotype, in EHU), FRI, Dehra Dun, 650 m, Utter Pradesh, 10–13. XI. 1978, Japan-India Coop. Trip.

This species belongs to *minuta* group on account of the anterior coxal cavities partly opened and the prosternum distinctly separating the fore coxae. Among the group this new species is similar to *minuta* JOANNIS in the small body size and in having yellowish abdomen, but is separable from the latter by the shape of male aedeagus (Text fig. 1c). This species is named after Dr. P. K. SEN-SARMA of the Forest Research Institute and Colleges, Dehra Dun, to whom we owed much during our stay in Dehra Dun.

Monolepta anaimalaiensis n. sp. (Pl. 6, fig. 6, Text figs. 2d & 3j)

Male. Body small, convex dorsally and weakly widened posteriorly; light yellowish brown, with vertex and scutellum infuscate; coloration of elytra variable: 1, elytra entirely reddish brown, which is well contrasted to light yellowish pronotum; metathorax reddish brown to dark brown; 2, elytra light yellowish brown, broadly margined with piceous on baso-lateral area to apex, and suture below scutellum to apex stained with piceous.

Head impunctate and shining; vertex evenly convex; frontal tubercles contiguous to each other, weakly raised, subquadrate, and archedly delimited behind by a transversely impressed line; eyes large, with interocular space slightly wider than the transverse diameter of eye; clypeus weakly raised between antennal insertions; antenna slender, about 4/5 as long as body, thickly pubescent beyond 3rd segment; 1st segment club-shaped and longest, longer than twice the 2nd; 2nd subequal to, or slightly longer than 3rd; relative lengths of antennal segments as: 1st≒11th>4th≒5th>6th≒7th≒8th>9th>10th>2nd>3rd. Pronotum transverse, 1⅗ as wide as long, straight on anterior margin, evenly produced posteriorly, weakly rounded on lateral margins, widest at middle, thence roundly and evenly narrowed to both ends; disc with a weak transverse depression medially, shining and densely covered with fine punctures. Scutellum triangular, smooth and shining. Elytron 1½ as long as wide; disc with fine suberect hairs, evenly and densely covered with distinct punctures, of which diameter is as wide as their interspaces; posteriorly to scutellum slightly depressed along suture. Last visible abdominal sternite (Text fig. 3j) simply trilobed, with median lobe transverse and broadly depressed; aedeagus (Text fig. 2d) distinctly ridged on each lateral margin on both dorsally and ventrally.

Female. Slightly larger; last visible abdominal sternite simple.

Size. 3.0–3.8 mm in length, 1.6–2.3 mm in width in both sexes.

Specimens examined. 13♂♂ (one the holotype, in ZSI), 7♀♀, Top Slip, 550–800 m, Anaimalai, Tamil Nadu, 2–5. XII. 1978, Japan-India Coop. Trip; 1♀, Mettupalayam View, ca. 800–1000 m, Nilgiri, Tamil Nadu, 10. XII. 1978, Japan-India Coop. Trip; 1♂, Dhony Hills, 180–450 m, Kerala, 7. XII. 1978, Japan-India Coop. Trip.

This species shows a remarkable variation in the coloration of the elytra. Eight specimens with reddish brown elytra were all collected at Top Slip and were male. While 5 males and 7 females collected at the same locality belong to the type of margined elytra. The first type is somewhat similar in the coloration to *M. gotoi* n. sp. (Text fig. 3k), but is easily distinguished from the latter by the rounded pronotum and by the shape of last visible abdominal sternite in the male. The 2nd type is similar to *M. limbata* JACOBY (Text figs. 2c, 3a, 3n) in the coloration of the dorsum, but is distinguished from the latter by: body smaller; antenna thicker, with 10th segment only slightly longer than twice its width; last visible abdominal sternite differently shaped. Male aedeagus is very characteristic, having ridged on each lateral margin.

Monolepta binotata n. sp. (Text fig. 3f)

Female. Body small and ovate, rather convex; shining and light yellowish brown with a dark brownish spot near apical 1/3 of elytron, and suture narrowly stained with dark brown on basal 2/3; metathorax dark brown.

Frontal tubercles raised, contiguous to each other, well delimited behind, and triangular with its pointed apex extending between antennal insertions; around antennal insertions head rather broadly depressed; clypeus broadly raised; interocular space as wide as the depth of eye; antenna slender, almost as long as body, pubescent beyond 2nd segment; 1st segment slender and club-shaped, 1½ as long as 2nd and 3rd combined; 4th as long as 2nd and 3rd combined; relative lengths of antennal segments as: 1st>4th≒5th>11th>6th≒7th>8th≒9th≒10th>3rd>2nd. Pronotum (Text fig. 3f) convex and transverse, 1⅗ as wide as long, nearly straight on anterior margin, gently produced on posterior margin, and gently rounded on lateral margins, widest near middle; anterior angle obsolete; disc evenly convex from side to side, densely covered with distinct punctures, of which diameter is almost as wide as their interspaces. Scutellum triangular and impunctate. Elytra distinctly wider than pronotum at base; elytron about 2 9/10 as long as wide, widest near apical 2/5, thence gently rounded posteriorly; apex broadly rounded; disc evenly and rather strongly convex, densely covered with distinct punctures, which are as large as those on pronotum; epipleuron with a few obscure punctures basally; hind leg rather stout, with tarsus 3/4 as long as tibia; tarsi with 1st segment slightly longer than the rest combined together.

Size. 2.2–2.6 mm in length and 1.2–1.5 mm in width.

Specimens examined. 3♀♀ (one the holotype, in EHU), Kotagiri, 1700 m, Nilgiri, Tamil Nadu, 29. XI. 1978, Japan-India Coop. Trip; 1♀, Coonoor, 1700–1900 m, Nilgiri, Tamil Nadu, 29. XI. 1978, Japan-India Coop. Trip.

This new species is easily distinguished from the known congeners of India by the smaller size and the pattern of elytra. In these respects *M. cardoni* JACOBY may be similar to this species, but the present species has the pronotum distinctly punctate and hind tarsus stouter.

Monolepta dehradunensis n. sp. (Text fig. 3g)

Male. Body oblong, shining yellowish brown, with slight reddish tinge; vertex largely and pygidium dark brownish; apices of mandibles, metathorax and last visible abdominal sternite infuscate.

Vertex evenly convex, almost impunctate; frontal tubercle transverse, raised and well delimited behind; eye large, with its depth ⅓ as large as interocular space; clypeus triangularly raised; antenna rather robust, about ⅘ as long as body, thickly pubescent beyond 3rd segment; 1st segment slender and club-shaped, almost 1½ as long as 2nd and 3rd combined; 3rd 1⅗ as long as 2nd; 4th as long as 2nd and 3rd combined; 6th to 10th each about 2½ as long as wide; relative lengths of antennal segments as: 1st>4th≒5th>11th>6th≒7th≒8th≒9th≒10th>3rd>2nd. Pronotum (Text fig. 3g) transverse, 1½ as long as wide, widest anteriorly to apical ⅓, thence strongly narrowed anteriorly, gently so posteriorly,

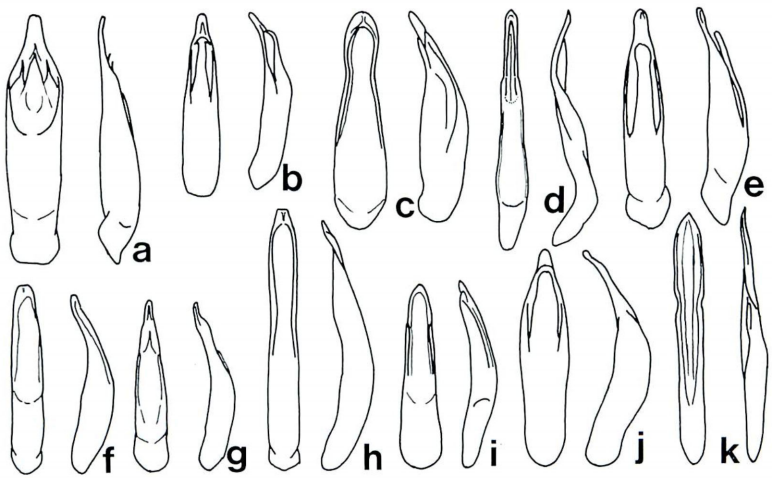


Fig. 2. Aedeagus (right: dorsal view, left: lateral view).
a, *Monolepta gotoi* n. sp. (from Top Slip); b, *M. rufofulva* CHÛJÔ (from Lushan, Taiwan); c, *M. limbata* JACOBY (from Kallar); d, *M. anaimalaiensis* n. sp. (from Top Slip); e, *M. rufominuta* n. sp. (from Coimbatore); f. *M. raychaudhurii* n. sp. (from Pykara); g, *M. bengalensis* WEISE (from Mettupalayam View); h, *M. labiata* OLIVIER (from Solan); i, *M. severini* JACOBY (from Jawad Hills); j, *M. indicola* n. sp. (from Sahastradhara); k, *M. dehradunensis* n. sp. (from Mohand Forest).

gently emarginate on anterior margin, broadly produced on posterior margin and evenly rounded on lateral margins; both anterior and posterior angles thickened; disc convex from side to side, with a shallow transverse depression on each side, finely punctate on lateral areas. Scutellum acutely pointed at apex and impunctate. Elytron fully 3 times as long as wide, widest near middle, thence evenly and very gently narrowed to both ends; apex rounded; humerus well raised; disc evenly convex, densely covered with distinct punctures and sparsely with fine erect hairs; epipleuron smooth and slightly concave. Last visible abdominal sternite weakly trilobed; aedeagus as in Text fig. 2k; fore tarsus with 1st and 2nd segments slightly widened.

Female. Last visible abdominal sternite simple, and dark brownish on apical half; fore tarsus not widened.

Size. 3.0–3.2 mm in length, 1.6–1.8 mm in width in both sexes.

Specimens examined. 12♂♂ (one the holotype, in ZSI), 24♀♀, Mohand Forest nr. Dehra Dun, ca. 500 m, Utter Pradesh, 7–9. XI. 1978, Japan-India Coop. Trip.

This new species is somewhat similar to *M. bengalensis* WEISE (Pl. 5, fig. 4, Text figs. 2g, 3c) or *M. labiata* JACOBY (Text figs. 2h, 3b) in the coloration and body shape, but is distinguished from these by dark-stained vertex and pygidium, the finely punctate pronotum which is rounded on the lateral margins, and by the smaller size, etc.

Monolepta indicola n. sp. (Text figs. 2j & 3d)

Male. Small and oblong; yellowish brown; labrum dark brown; metathorax infuscate.

Vertex finely granulate; frontal tubercles contiguous to each other, subquadrate and not well demarcated; eye large and convex, with its transverse diameter slightly narrower than interocular space; antennal insertion as wide as interantennal space; clypeus broadly raised; antenna 4/5 as long as body, thickly pubescent beyond 2nd segment; 1st segment club-shaped, 3 times as long as 2nd; 4th as long as 2nd and 3rd combined; 10th twice as long as wide; relative lengths of antennal segments as: 1st>4th≒5th≒11th>6th≒7th≒8th≒9th>10th>2nd≒3rd. Pronotum (Text fig. 3d) transverse, 1½ as wide as long, almost straight on anterior margin, roundly and broadly produced on posterior margin, almost straight on lateral margins; anterior angle thickened; disc densely covered with small punctures, of which diameter is as wide as their interspaces, and with a shallow median depression. Scutellum broadly triangular. Elytra at base distinctly wider than pronotum; elytron 3 times as long as wide, widest near middle, thence gently narrowed anteriorly and roundly so posteriorly; disc densely covered with deep punctures, of which diameter is as wide as their interspaces, and scattered with

fine erect hairs; humerus well developed; epipleuron smooth and weakly convex. Last visible abdominal sternite trilobed, with median lobe subquadrate and 1½ as wide as long; aedeagus as in Text fig. 2j; fore tarsus with 1st segment weakly widened, wider than 2nd.

Female. Pygidium and last visible abdominal sternite dark brown on apical half; eye with its transverse diameter ¾ as wide as interocular space; last visible abdominal sternite simple.

Size. 2.4–2.9 mm in length, 1.3–1.7 mm in width in both sexes.

Specimens examined. 8♂♂ (one the holotype, in ZSI), 3♀♀, Dehra Dun, 600–700 m, Utter Pradesh, 2–6. XI. 1978, Japan-India Coop. Trip; 6♂♂, 8♀♀, FRI, 650 m, Dehra Dun, Utter Pradesh, 10–13. XI. 1978, Japan-India Coop. Trip; 1♀, Mohand Forest nr. Dehra Dun, Utter Pradesh, 7–9. XI. 1978, Japan-India Coop. Trip; 1♂, Bhatta Reserve nr. Dehra Dun, ca. 1500 m, Utter Pradesh, 3. XI. 1978, Japan-India Coop. Trip; 3♂♂, 2♀♀, Lachiwala nr. Dehra Dun, 350 m, Utter Pradesh, 8. XI. 1978, Japan-India Coop. Trip; 42♂♂, 60♀♀, Sahastradhara nr. Dehra Dun, 800–900 m, Utter Pradesh, 6. XI. 1978, Japan-India Coop. Trip; 1♀, Rishikesh, 450 m, Utter Pradesh, 5. XI. 1978, Japan-India Coop. Trip; 1♀, Solan, ca. 1500 m, Himachal Pradesh, 24–27. X. 1978, Japan-India Coop. Trip.

This new species is very closely related to *M. severini* JACOBY (Text figs. 2i, 3e) in the coloration, smaller size and in the general shape, but is distinguished from the latter by: Labrum dark brownish; eye with its transverse diameter only slightly narrower than interocular space; vertex finely granulate; antenna more slender; pronotum at anterior margin almost as wide as at posterior margin; elytron very weakly punctate, etc.

Monolepta kandasamyi n. sp. (Text figs. 3h & 3m)

Male. Body oblong, yellowish brown with a reddish tinge on dorsum; mouth-parts infuscate.

Head distinctly narrower than pronotum; vertex smooth; frontal tubercles transverse and raised, well demarcated behind; clypeus rather flat; antennal insertions narrowly separated from each other, with the distance between them narrower than diameter of the insertion; eye large with its transverse diameter 7/10 as long as interocular space; antenna slender, almost as long as body, thickly pubescent beyond 2nd segment; 1st segment slender and club-shaped, slightly longer than 2nd and 3rd combined; 3rd about 1 7/10 as long as 2nd; relative lengths of antennal segments as: 1st≒11th>5th>4th≒6th≒7th≒8th≒9th≒10th>3rd>2nd. Pronotum (Text fig. 3h) transverse, 1⅘ as wide as long, gently emarginate at anterior margin, broadly produced at posterior margin, weakly rounded on lateral margins, widest near apical ⅙, thence gently narrowed to posterior angle; anterior angle thickened; disc with a broad depression medially, densely covered with fine punctures, of which interspaces are somewhat mat. Scutellum acutely triangular, and

mat on the surface. Elytron about 3 times as long as wide, widest behind middle, thence gently narrowed anteriorly and roundly so posteriorly; disc longitudinally and narrowly depressed posteriorly to scutellum; surface shining, densely covered with shallow punctures and scattered with fine hairs; epipleuron convex and smooth. Last visible abdominal sternite (Text fig. 3m) long, deeply trilobed; median lobe almost 5/7 as long as the sternite, and 1⅕ as long as wide, with a shallow fovea basally.

Female. Scutellum opaque and dark brownish; interocular space slightly wider, 1⅕ as wide as the transverse diameter of eye; last visible abdominal sternite simple.

Size. 3.5 mm in length, 2.0 mm in width in both sexes.

Specimens examined. 1 ♂ (holotype, in EHU), 1 ♀, Top Slip, 550–800 m, Anaimalai, Tamil Nadu, 2-5. XII. 1978, Japan-India Coop. Trip.

This new species is somewhat similar to *M. labiata* (OLIVIER) in the coloration, but is distinguished from the latter by the pronotum which is weakly rounded on the lateral margins and by the scutellum acutely pointed at apex. Further the male has the 5th abdominal sternite deeply trilobed. In this character this may be compared to *M. gotoi* n. sp. which is, however, characterized by the distinctly bicolored dorsum. This species is named after Dr. C. KANDASAMY of Loyolla College, Madras, who was a good partner in this project.

Monolepta raychaudhurii n. sp. (Pl. 5, fig. 3, Text figs. 2f & 3l)

Body oblong, rather strongly widened posteriorly, yellowish brown with antenna beyond 3rd segment infuscate; labrum blackish.

Vertex convex with fine wrinkles laterally; frontal tubercles somewhat vertical, with a weak fovea between them; interocular space slightly narrower than the depth of eye; clypeus distinctly raised between antennal insertions, transversely depressed below level of antennal insertions; antenna slender, almost as long as body, thickly pubescent beyond 2nd segment; 1st segment club-shaped; 2nd almost as long as 3rd; 5th 4 times as long as 3rd; relative lengths of antennal segments as: 5th>4th≒6th>7th>8th≒11th>9th≒10th>1st>2nd>3rd. Pronotum 1½ as wide as long, weakly emarginate at anterior margin, roundly produced and obliquely cut away near angles on posterior margin, nearly straight on lateral margins, widest near apical ⅓, thence slightly narrowed anteriorly and weakly so posteriorly; anterior angle distinctly thickened; disc with a broad transverse depression medially, which becomes deep on each side, and covered with punctures which are dense on lateral areas. Scutellum triangular, acute at apex and impunctate. Elytron fully 3 times as long as wide, widest at apical ⅖, thence weakly narrowed anteriorly and roundly so posteriorly; disc evenly convex with well-developed humerus, densely and evenly covered with distinct

punctures, of which diameter is narrower than their interspaces, and scattered with erect short hairs; epipleuron smooth and concave. Last visible abdominal sternite (Text fig. 3l) almost as long as preceding 3 combined; aedeagus (Text fig. 2f) longitudinally raised at apex.

Female slightly larger, with last visible abdominal sternite simple.

Size. 3.3–3.8 mm in length, 1.8–2.0 mm in width in both sexes.

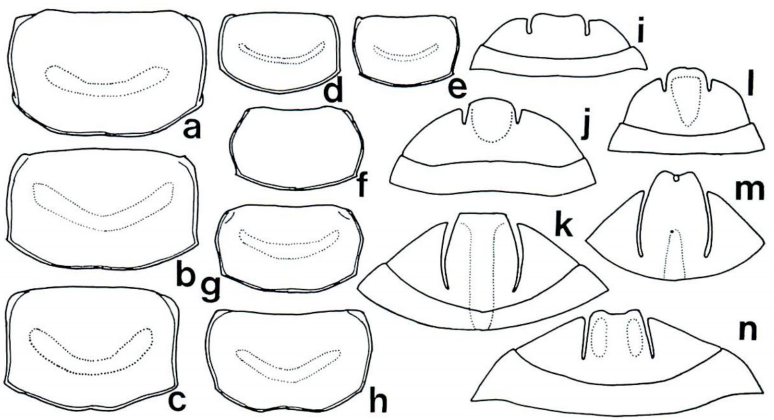


Fig. 3. Pronotum (a–h) and apical abdominal sternites (i–n).
a, *M. limbata* JACOBY; b, *M. labiata* OLIVIER; c, *M. bengalensis* WEISE; d, *M. indicola* n. sp.; e, *M. severini* JACOBY; f, *M. binotata* n. sp.; g, *M. dehradunensis* n. sp.; h, *M. kandasamyi* n. sp.; i, *M. rufominuta* n. sp. j, *M. anaimalaiensis* n. sp.; k, *M. gotoi* n. sp. l, *M. raychaudhurii* n. sp.; m, *M. kandasamyi* n. sp.; n, *M. limbata* JACOBY (localities as in Text fig. 2).

Specimens examined. 2♂♂ (one the holotype, in EHU), Pykara, 2200 m, Nilgiri, Tamil Nadu, 28. XI. 1978, Japan-India Coop. Trip; 3♀♀, Coonoor, 1700–1900 m, Nilgiri, Tamil Nadu, 23–26. XI. 1978, Japan-India Coop. Trip.

This new species is characterized by the pronotum which is divergent on the lateral margins and is distinctly narrower than the elytra at base, and by the elongate elytron. With these characters this is somewhat similar to *M. nigrobasalis* JACOBY from S. India, but is distinguished from the latter by the entirely yellowish brown dorsum. This species is dedicated to the late Professor D. N. RAYCHAUDHURI of the Department of Zoology, Calcutta University.

Monolepta gotoi n. sp. (Pl. 6, fig. 7, Text figs. 2a & 3k)

Male. Body oblong, strongly dilated posteriorly; dorsum bicolorous, with head, prothorax, antennae and legs yellowish brown, and with elytra, meso- and metathorax and abdomen reddish brown; apical seg-

ments of antenna and tarsi darkened.

Head distinctly narrower than pronotum; vertex impunctate and shining; frontal suture raised and triangular, extending between antennal insertions, delimited behind by a shallowly impressed line; clypeus flat; eyes large, with interocular space almost as wide as the transverse diameter of eye; antenna slender, extending to apical 1/3 of elytron; 1st segment slightly curved and almost 3 times as long as 2nd; relative lengths of antennal segments as: 1st≒11th>5th≒6th≒7th>8th≒9th>4th≒10th>3rd>2nd. Pronotum subquadrate, 1⅔ as wide as long, widest at posterior angles, thence gently narrowed to anterior angles, almost straight at anterior margin, archedly produced and obliquely cut at lateral ¼ on posterior margin; disc weakly depressed medially, densely covered with fine punctures especially on lateral areas. Scutellum roundly triangular, smooth and shining. Elytron 3 times as long as wide, widest at apical 2/5, thence roundly narrowed posteriorly, and rather straightly so to humerus; elytron separated from each other at apex; disc slightly and longitudinally depressed below scutellum, densely covered with distinct punctures, of which diameter is as wide as their interspaces, and scattered with fine erect hairs. Fourth visible abdominal sternite strongly constricted at middle, and longitudinally depressed medially; 5th visible one wide, broadly depressed medially (Text fig. 3k); the median lobe large, extending near anterior margin of the sternite; aedeagus as in Text. fig. 2a.

Size. 3.6–4.0 mm in length, 2.1–2.3 mm in width.

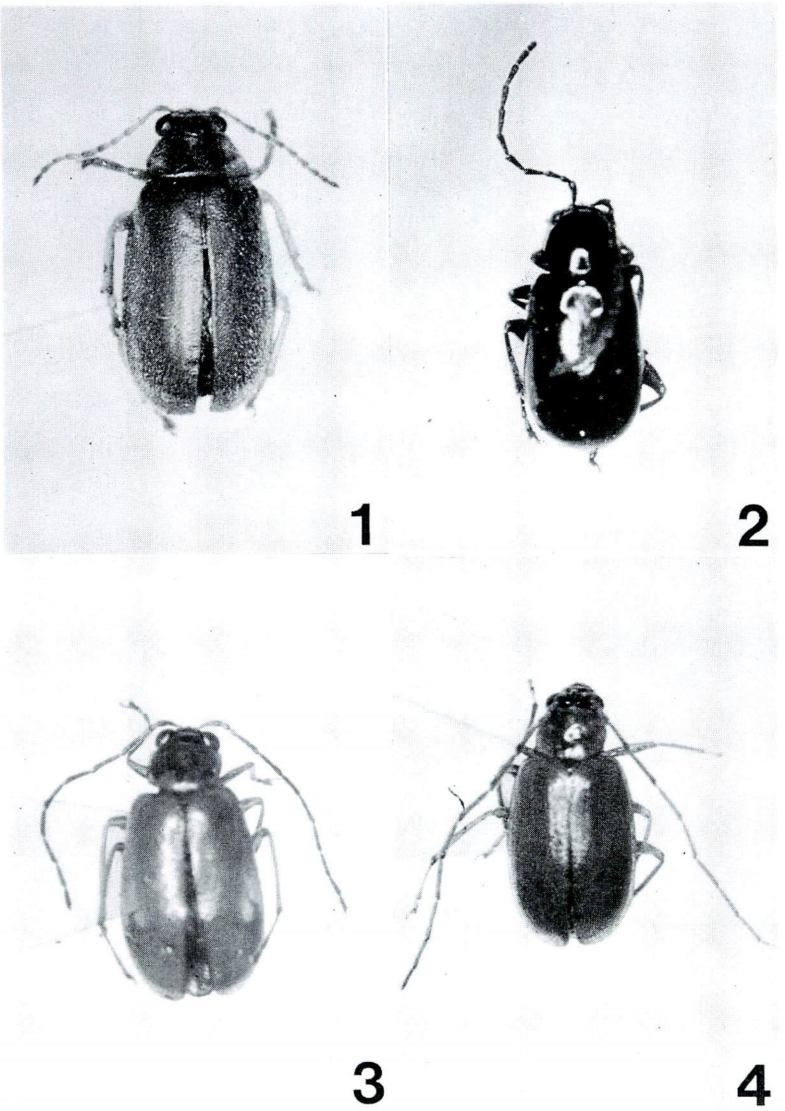
Specimens examined. 3♂♂ (one the holotype, in EHU), Top Slip, 550–800 m, Anaimalai, Tamil Nadu, 2–5. XII. 1978, Japan-India Coop. Trip.

This new species is characterized by the bicolored dorsum, the subquadrate pronotum with a transverse depression, and by the deeply trilobed last visible abdominal sternite in the male. With these characters, this new species is easily distinguished from the known Indian congeners. This new species is named in honor of late Mr. M. GOTO, a manager of the Japan Coleopterological Society.

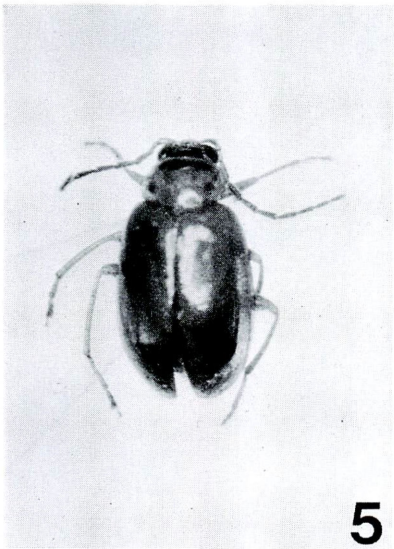
Monolepta rufominuta n. sp. (Pl. 6, fig. 5, Text figs. 2e & 3i)

Male. Small and oblong, narrowed both anteriorly and posteriorly; light reddish brown, with antenna except for 3 or 4 basal segments dark brownish.

Vertex rather flat, shining with fine transverse wrinkles under high power lens; frontal tubercles triangularly and rather sharply extending between antennal insertions, contiguous to each other and not well demarcated; clypeus weakly raised between antennal insertions; interocular space almost as wide as the depth of eye; antenna about ¾ as long as body, thickly pubescent beyond 2nd segment; 1st club-shaped,



(H. TAKIZAWA photo.)



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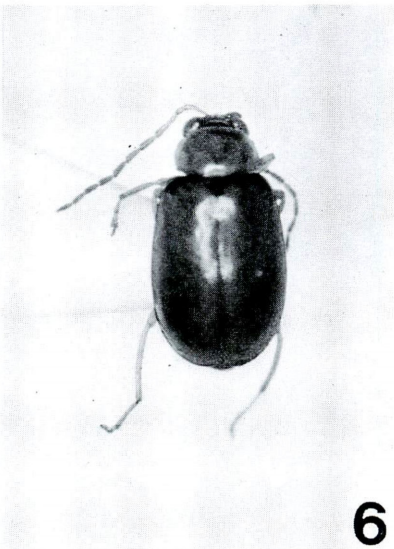

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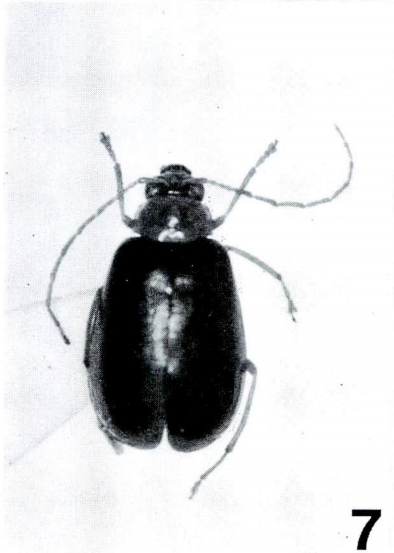

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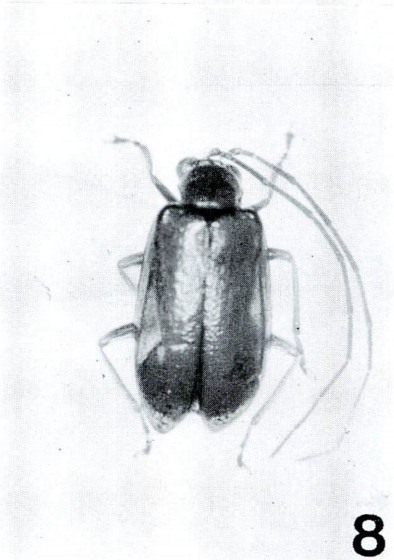

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(H. TAKIZAWA photo.)

as long as 2nd and 3rd combined together; 10th slightly longer than twice its width; 11th longest and obtusely pointed at apex; relative lengths of antennal segments as: 11th>5th>1st≒4th≒8th≒9th>6th≒7th≒10th>3rd>2nd. Pronotum about 1⅔ as wide as long, gently emarginate at anterior margin, evenly and archedly produced at posterior margin, distinctly rounded at lateral margins, widest before middle, thence narrowed to both angles; anterior angle distinctly thickened; disc narrowly and rather deeply depressed along lateral margins, evenly convex from side to side, and distinctly punctate; punctures denser on latero-anterior areas. Scutellum triangular and shining. Elytron 2⅗ as long as wide, widest near middle, thence roundly narrowed to both ends, separately rounded at apex; disc distinctly punctate with interspaces somewhat rough, with scattered erect hairs; epipleuron shining and weakly concave. Last visible abdominal sternite (Text fig. 3i) broadly truncate at apex, with a distinctly transverse median lobe which is broadly depressed; aedeagus (Text fig. 2e) longitudinally raised at apex.

Female. Body slightly larger; last visible abdominal sternite simple and sometimes infuscate at apex.

Size. 2.8–3.6 mm in length, 1.7–2.0 mm in width in both sexes.

Specimens examined. 22♂♂ (one the holotype, in ZSI), 9♀♀, 10–13. XII. 1978, Coimbatore, Tamil Nadu, Japan-India Coop. Trip; 6♂♂, 7♀♀, Agric. Coll., Coimbatore, Tamil Nadu, 5. XII. 1978, Japan-India Coop. Trip.

This new species is characterized by the smaller size, almost wholly light reddish brown color and by the pronotum which is rounded at lateral margins and evenly convex from side to side. It is somewhat similar to *M. rufofulva* CHÛJÔ (Text fig. 2b) from Taiwan in appearance. The latter species has, however, the pronotum straight on lateral margins and transversely depressed on the disc.

Explanation of plates 5–6.

Pl. 5, fig. 1. *Galerotella indicola* n. sp.
2. *Taphinellina sensarmai* n. sp.
3. *Monolepta raychaudhurii* n. sp.
4. *Monolepta bengalensis* WEISE

Pl. 6, fig. 5. *Monolepta rufominuta* n. sp.
6. *Monolepta anaimalaiensis* n. sp.
7. *Monolepta gotoi* n. sp.
8. *Anastena variomaculata* n. sp.

Studies on Staphylinidae from Japan. I.

By YASUHIKO HAYASHI

In this series I would like to report on some Staphylinidae collected principally from Japan and exceptionally from the adjacent regions.

When I submit my first report on Japanese Staphylinidae, above all, I with to express my deepest appreciation to Mr. T. SHIBATA for his kind helps in materials, literature, constant guidance on my taxonomic studies and various ways; Dr. K. SAWADA for his many valuable advices in taxonomic approach on Staphylinidae, sincere assistances in literature and other ways. I am very grateful to the members of Osaka Coleopterological Society who have been kind enough to offer me numerous materials. Also I am under especial obligations to the associate members of Osaka Coleopterological Society; Dr. J. KAMEI, Messrs. S. TAKABA, E. KAWASE, I. TOGASHI and H. TOKUMOTO of Ishikawa Entomologist Association for their kind presentation of many interesting materials. I would like also to thank Mr. M. OHKURA for his usual courtesy in various ways.

Proteinus LATREILLE from Japan (1).

Proteinus crassicornis SHARP (Figs. 1–9)

Body suboval, moderately convex and mat above, with elytra fairly shining; dark brown, head and abdomen almost black, antennae brownish with basal 2 or 3 segments sordid yellow, mouth organs (maxillary palpi pitchy) and legs pale yellow, lateral and basal margins of pronotum and apical margin of elytra narrowly yellowish brown. Length: 1.2–2.0 mm.

♂: Head about three-fourths as broad as breadth of pronotum, without visible punctures in 80 magnification except for frontal part extremely finely and sparingly punctured. Antennae comparatively long but barely reaching basal angles of pronotum; basal 3 segments and apical one a little longer than broad, segments IV to X more or less broader than long and subclaviform

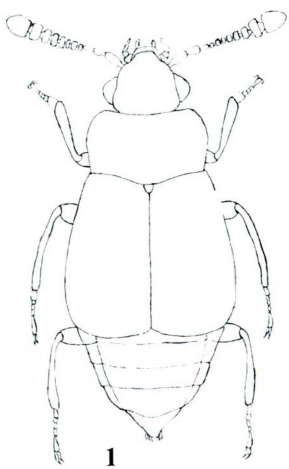
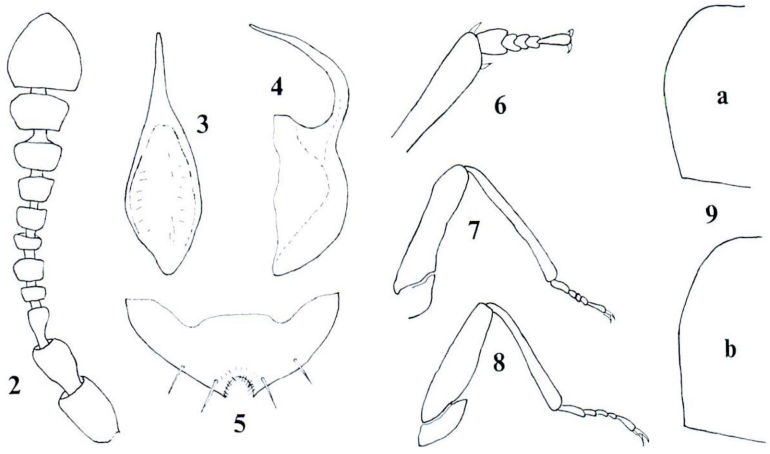


Fig. 1. *Proteinus crassicornis* SHARP, ♂.

[Ent. Rev. Japan, Vol. XLI, No. 2, pp. 107–112, Dec., 1986]



Figs. 2–9. *Proteinus crassicornis* SHARP, ♂ except 9b.
2, antenna; 3, male genitalia, ventral view; 4, ditto, lateral view; 5, abdominal sternite VIII; 6, a part of front leg; 7, middle leg; 8, hind leg; 9, left lateral side of pronotum, a: ♂, b: ♀.

with XI, I to IV shorter than each preceding, V a little shorter than VII, from which to IX are subequal in length to each other and somewhat shorter than X, XI subconical and twice as long as X.

Pronotum nearly twice as broad as long, considerably narrower (7 : 10) and shorter than elytra (about 2 : 5), the broadest point just before middle, from which sides arcuately narrowed in front but straightly so behind; disc finely, sparingly punctured and weakly impressed medianly; basal angles (fig. 9) subrectangular and sharp; basal margin finely but distinctly bordered except near basal angles. Elytra nearly as long as broad, coarsely and rather sparingly punctured, gently arcuate at sides and the broadest point at apical fourth. Abdomen extremely finely and sparingly punctured, the punctures a little larger than those on head; apical margin of sternite VIII (fig. 5) semicircularly notched at the middle.

Legs slender; protibiae (fig. 6) gradually thickened apically, segment I of protarsi, much broader than II and a half as long as the following 4 combined together, mesotibiae (fig. 7) weakly curved and metatibiae (fig. 8) gradually thickened apically in lateral view; tarsi rather short and ratio of lengths of tibiae to tarsi as about 1.7 (pro-), 1.9 (meso-) and 1.5 (meta-).

Male genitalia without parameres; median lobe fusiform in ventral view as in fig. 3, and in lateral view (fig. 4) its basal half semicircular and

apical narrow process strongly curved ventrally.

♀: Basal angles of pronotum more sharply angulate, apical margin of abdominal sternite VIII narrowly and shallowly emarginate at the middle, pro- and metatibiae slenderer, segment I of protarsi narrower, as broad as II, shorter and nearly one-fourth as long as the following 4 combined together.

Specimens examined: 2 exs., Yamadera, Ina, Nagano Pref., 2. V. 1960, Y. HAYASHI leg.; 4 exs., Mt. Hiei, Shiga Pref., 4. XII. 1984, T. ITO leg.; 1 ex., Kitashirakawa, Kyoto Pref., 22. XII. 1952, S. UÉNO leg.; 23 exs., Yawata-Shi, Kyoto Pref., 7. XII. 1985, T. ITO leg.; 4 exs., Miwa-Cho, Kyoto Pref., 7. XII. 1983, Y. HAYASHI leg.; 14 exs., Minoh, Osaka Pref., 4. V. 1966, T. ITO leg., 4. IV. 1959, K. UEDA leg., 19. IV. 1959, H. KONISHI leg., 18. XII. 1955, T. SHIBATA leg., 13. IV. 1958, Y. HAYASHI leg.; 2 exs., Kasuga, Nara Pref., 17. IV. 1960, K. UEDA leg., 11. V. 1959, K. SAWADA leg.; 5 exs., Hasedera, Nara Pref., 15. V. 1966, T. ITO and Y. HAYASHI leg.; 57 exs., Mt. Amaishi (by chicken trap), Sasayama-Cho, Hyogo Pref., 4, 8, 15. XII. 1979, 12, 19. I., 2, 27. II., 6, 19, 25. III., 26. IV., 10, 12, 23. V., 11, 14, 17, 25. XI., 1, 5, 8. XII. 1980, Y. HAYASHI leg.

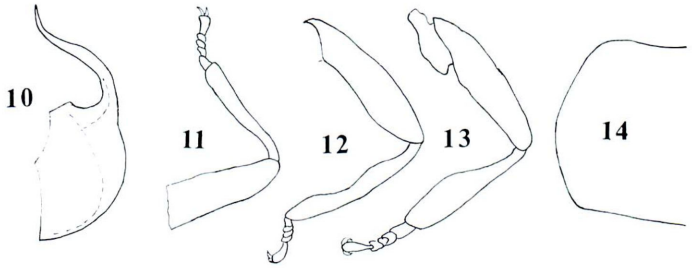
P. crassicornis may be distinguished from other Japanese species of the *Proteinus* by sharp basal angles of pronotum, coarse and sparing punctures on the elytra and the comparatively longer antennae. The present species is closely allied to *P. hyperboreus* MUONA from nothern Europe in the similar form of the male genitalia, but it is easily distinguished from the latter by shorter first segment of male protarsi, also may be separated from *P. atomarius* ERICHSON of the Holarctic region by distinctly dilated first segment of the protarsi, darker color of the body and different form of the male genitalia.

Proteinus shibatai sp. nov. (Figs. 10–14)

Body oblong-oval, subparallel-sided and rather shining; brown to yellowish-brown, head and abdomen dark brown, antennae pale yellow with apical 3 segments infuscate, mouth organs and legs pale yellow, pronotum narrowly yellowish along lateral and basal margins. Length: 1.1–1.6 mm.

♂: Head about seven-tenths as broad as breadth of pronotum and without visible punctures in 80 magnification. Antennae a little shorter than breadth of pronotum (nearly 9 : 10); basal 4 segments a little longer than broad and shorter than each preceding, segment V nearly as long as broad, VI to X more or less transverse, in which VIII to X subequal in length to each other, and subclaviform with XI, XI suboval, slightly longer than broad and a little more than twice as long as X.

Pronotum a little more than twice as broad as long, slightly narrower (11 : 12) and considerably shorter than elytra (10 : 23), gently arcuate at sides and the broadest point at basal third; disc very finely, sparingly punctured and weakly but distinctly impressed medianly; basal angles (fig. 14) obtuse and angulately rounded; basal margin obsoletely bordered.



Figs. 10–14. *Proteinus shibatai* sp. nov., ♂.
10, Male genitalia, lateral view; 11, front leg; 12, middle leg; 13, hind leg; 14, left lateral side of pronotum.

Elytra barrel-shaped, almost as long as broad, with puncture fairly finer than those in *P. crassicornis,* gently arcuate at sides, and base nearly as broad as apex. Abdomen extremely finely and sparingly punctured, the punctures much finer than those on pronotum; apical margin of sternite VIII semicircularly notched at the middle.

Legs slender; protibiae (fig. 11) gradually thickened apically, segment I of protarsi not dilated, almost as broad as II, short and one-fourth as long as the following 4 combined together, mesotibiae shallowly sinuate in the middle on inner margin as in fig. 12, metatibiae (fig. 13) oar-shaped and the broadest point at about apical third; tarsi very short, ratio of lengths of tibiae to tarsi as about 2.2 (pro-), 2.5 (meso-) and 2.3–2.6 (meta-).

Male genitalia without parameres; in lateral view median lobe (fig. 10) very similar in form to *P. crassicornis* but more expanded ventrally, with narrow process distinctly flexed apically.

♀: Apical margin of abdominal sternite VIII subtruncate, not emarginate at the middle; meso- and metatibiae slenderer.

Holotype: ♂ and Allotype: ♀, Mt. Ifuri, Echizen-Ohno, 3. X. 1965, Y. HAYASHI leg. (in coll. T. SHIBATA). Paratype: 6♂♂, 4♀♀, same data as holotype; 2♀♀, Mt. Arashima, Echizen-Ohno, 24. X. 1965, Y. HAYASHI leg. (in coll. Osaka Mus. Nat. Hist., T. ITO and mine).

The present new species is very closely allied to *P. crassicornis* in the feature of the male genitalia, but it is easily distinguished from the latter by paler color of the body, rounded basal angles of the pronotum, the comparatively shorter antennae and the very short tarsi which are less than a half length of tibiae, while in *P. crassicornis* the body is much darker in color, basal angles of pronotum are distinctly angulate and the tarsi are slightly longer, a little more than a half length of the tibiae.

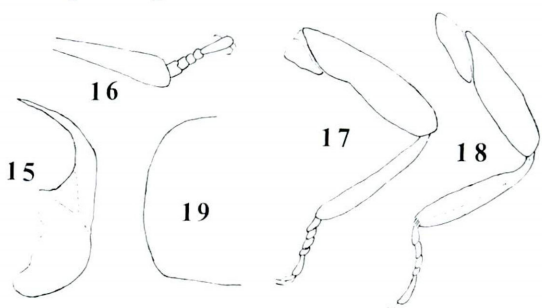
Proteinus gotoi sp. nov. (Figs. 15–19)

Body suboval and rather shining; dark brown, head and abdomen nearly black, antennae sordid yellow with apical 3 or 4 segments infuscate, base of pronotum and apex of elytra narrowly yellowish brown, mouth organs (maxillary palpi brownish) and legs pale yellow. Length: 1.1–1.3 mm.

♂: Head subflattened above, nearly two-thirds as broad as breadth of pronotum, extremely finely and sparsely punctured on frons. Antennae nearly 0.8 times as long as breadth of pronotum; basal 3 segments and apical one a little longer than broad, segments IV to X more or less transverse and subclaviform with XI, segments I to VI decreasing but VI to XI increasing in length, XI a little more than twice as long as X.

Pronotum about 1.7 times as broad as long, a little narrower (7 : 9) and shorter than elytra (6 : 13), gently arcuate at sides and the broadest point at basal third; disc very finely, sparingly punctured and not impressed medianly; basal angles (fig. 19) obtuse and rounded; basal margin obsoletely bordered. Elytra nearly as long as broad, coarsely and sparingly punctured as in *P. crassicornis,* weakly arcuate at sides and the broadest point at apical third. Abdomen extremely finely and sparingly punctured, the punctures larger than those on head; apical margin of sternite VIII shallowly emarginate at the middle.

Legs slender; protibiae (fig. 16) gradually thickened apically, segment I of protarsi narrow, nearly as broad as II, one-fourth as long as the following 4 combined together, mesotibiae (fig. 17) weakly curved, metatibiae (fig. 18) substraight, rather elongate-fusiform and weakly emarginate in basal part of inner margin; pro- and mesotarsi very short and metatarsi moderate in length, ratio of lengths of tibiae to tarsi as about 2.5 (pro-), 2.4 (meso-) and 1.6 (meta-).



Figs. 15–19. *Proteinus gotoi* sp. nov., ♂.
15, Male genitalia, lateral view, 16, a part of front leg; 17, middle leg; 18, hind leg; 19, left lateral side of pronotum.

Male genitalia similar in form to those of *P. crassicornis,* but in lateral view apical process of median lobe (fig. 15) much thicker even at the base.

♀: Apical margin of abdominal sternite VIII narrowly and very

weakly emarginate at the middle; basal segment of protarsi somewhat narrower than in the male; metatibiae slenderer.

Holotype: ♂ and Allotype: ♀, Mt. Amaishi (by chicken trap), Sasayama-Cho, Hyogo Pref., 25. III. 1980, Y. HAYASHI leg. (in coll. T. SHIBATA). Paratype: same locality as holotype, 2♀♀, 11. XI. 1980, 1♀, 27. II. 1980, 1♂, 25. III. 1980, 1♂, 15. XII. 1979, 1♀, 14. XI. 1980, 1♀, 6. III. 1980, 1♂, 1♀, 2. IV. 1980, 1♂, 19. III. 1985, Y. HAYASHI leg. (in coll. Osaka Mus. Nat. Hist., T. ITO and mine).

Specimens examined: 2♀♀, Minoo, Osaka Pref., 18. XII. 1955, and 9. II. 1958, T. SHIBATA leg.; 1♀, Mt. Kôya, Wakayama Pref., 12. X. 1957, K. SAWADA leg.

The present new species resembles closely to *P. crassicornis* in appearance, but it is easily distinguished from the latter by less transverse pronotum, the rounded basal angles of pronotum, pale yellowish antennae and different ratio of lengths of pro- and mesotibiae to the tarsi.

The specific name is dedicated to the late M. GOTO, who made a great contribution to the developement of the Japan Coleopterological Society.

Redescription of Larvae of *Pheropsophus jessoensis* MORAWITZ (Coleoptera, Carabidae)

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The larvae of *Pheropsophus jessoensis* MORAWITZ are dimorphic: — slender and very active in the first instar, but plump and inactive in the second and third instars. The larvae in the first instar and the supposed third instar were described by HABU and SADANAGA in 1965. The description of the latter was founded on a single specimen which was not certain concerning its instar at that time inasmuch as it was impossible to observe moulting in a mud-cell, and as the second instar larva was not known yet. The larva of the second instar was later described by the same authors in 1969.

I have arranged these separate descriptions, put in a necessary correction, and added some biological notes in this paper. The present redescription of the third instar larva is based on the two specimens reared by Miss KIMIE SADANAGA, the former member of our laboratory.

Larvae *ex ovipositione*

Pheropsophus jessoensis MORAWITZ: HABU and SADANAGA, 1965, Bull. Natl. Inst. Agr. Sci., (C) no. 19: 172–177, 181, 186, 190, 209, 216, figs. 240, 241–249, 250, 251–255; HABU and SADANAGA, 1969, *do.*, no. 23: 133–135, 136, 141, figs. 51–53, pl. 1.

Third instar (Figs. 1, 2–8, 9–11). Length 13.0–15.5 mm. Width of head 1.48, 1.49 mm in two specimens (twice as wide as in instar 2). Greatest width of abdomen 4.0–4.5 mm. Body plump.

Head light yellowish brown, more brownish along apical margin. Mandibles brown. Antennae, maxillae and labium light yellowish brown in one ex., brown, rather dark in other ex. Pronotum light yellowish brown; meso- and metanotum pale yellowish brown, more brownish on basal margin. Legs pale brownish yellow. Tergites yellowish white,

[1] Retired in June, 1981.

[Ent. Rev. Japan, Vol. XLI, No. 2, pp. 113–122, Dec., 1986]

tergite 9 and abdominal segment 10 a little more yellowish; pleural and ventral sclerites white, slightly yellowish.

Head (Figs. 2-4) widest at about middle, one and one-fifth to -fourth times as wide as long, thick in lateral view; lateral sides constricted behind base of antennae, fairly rounded anteriorly and posteriorly; dorsal side rather convex, with rather oblique, shallow impression between F_1 and F_2 on either side; ocelli completely obliterated; setae more or less

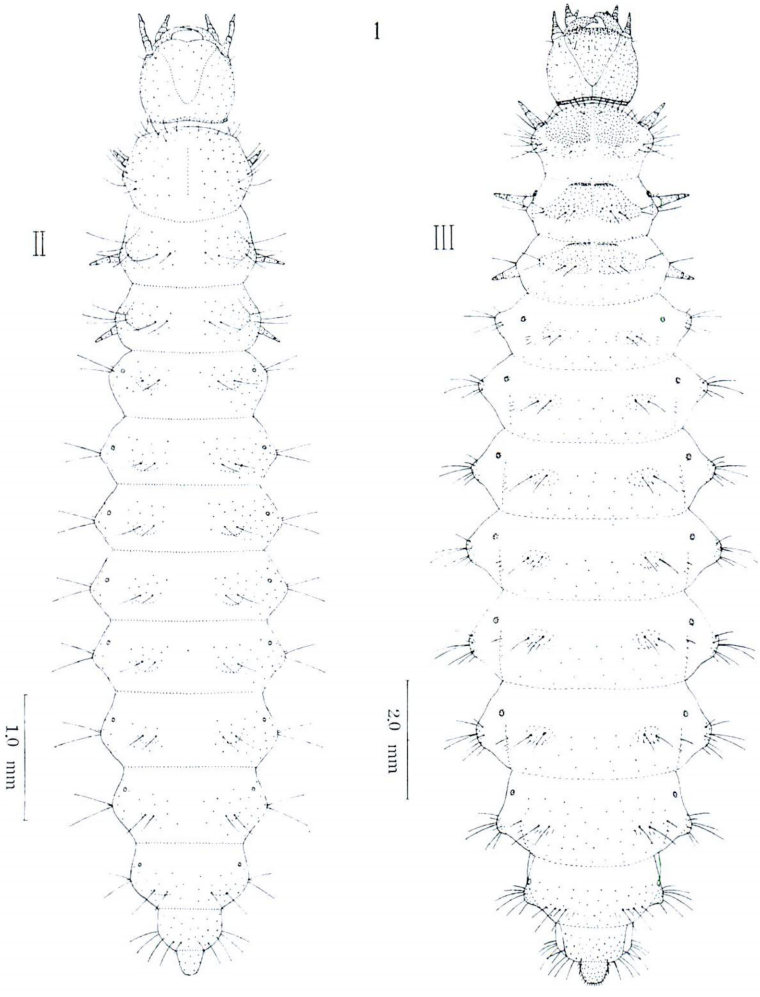
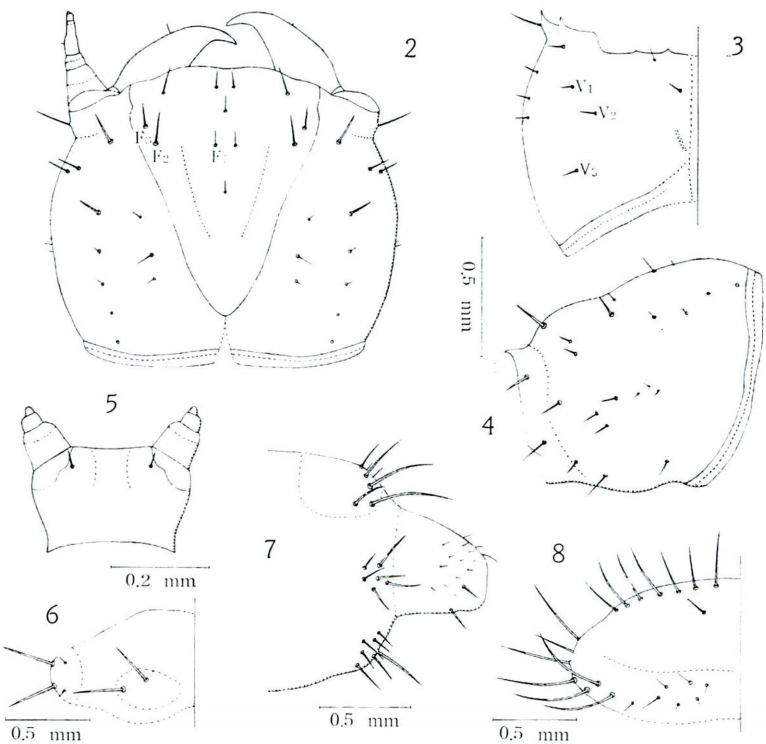


Fig. 1. *Pheropsophus jessoensis* MORAWITZ, larvae.
II. Instar 2. III. Instar 3.

short, F_1 fully short, on level of F_2, F_2 a little developed, $F_2 > F_3 > F_1$, F_3 not so remote from F_2 as in instar 1, identification of Cl-group not certain, one pair of setae behind apical margin at middle (Cl_1 ?) and a little longer setae (Cl_2 ?) on level of supposed Cl_1, frontal piece with a few unpaired secondary setae in middle, one (in one ex.) or two (in other ex.) between supposed Cl_1 and F_1 and fairly behind F_1; identification of setae on epicrania uncertain except V-group, about five setae replacing P-group, one rather developed seta (P_3 ?) on level of F_2, two setae on supposed ocellar areas, one rather developed seta (O_1 ?) behind base of antennae on lateral sides, lateral sides with some setae, V-group as in Fig. 3; frontal piece almost straightly contracted posteriorly, apex a little rounded, slightly emarginate at middle, apical angles not defined, hind angle less than 90° though dull; epicranial suture rather short though



Figs. 2–8. *Pheropsophus jessoensis* MORAWITZ, larva in instar 3. 2. Head in dorsal view. 3. Epicranium in ventral view. 4. *Do.* in lateral view. 5. Labium with labial palpi in ventral view. 6. Mesonotum. 7. Abdominal segments 9 and 10 in lateral view. 8. Pronotum.

distinct; hind margin of epicrania shallowly emarginate on dorsal side, well emarginate on ventral side. Antennae (Fig. 10 III) fully shorter than mandibles, almost straight, segment 1 stout, fully wider than long, glabrous, base wider than apex, segment 2 nearly one-half as wide as segment 1 at base, one-third as long as segment 1, fully more than twice as wide as long, glabrous, segment 3 longest, a little longer than segments 1 and 2 together, narrower than segment 2, more than twice as long as wide, narrowed at apical third, without sensorial appendix, with one seta on outer side at about middle, segment 4 small, a little longer than wide, rounded at apex, probably with one very short, fine seta near apex. Mandibles (Fig. 2) rather short, nearly two and one-half times as long as wide, fairly bent before apex, without retinaculum, outer side with one short seta at about middle. Maxillary stipes (Fig. 9 III) stout, twice as long as wide, outer side straight, inner side somewhat undulate, one rather long seta on outer side at apex, one seta on outer ventral side at about one-third, three short setae on inner side, base distinctly separated from cardo; outer lobe short, segment 1 stout, a little wider at base than long, with one short, fine seta on ventral side, segment 2 fully small; maxillary palpi stout, segment 1 as long as segment 2, with one seta on ventral side, segment 3 a little longer than segment 2, one-half as wide at base as segment 2, segment 4 fully small. Labium (Fig. 5) fully wider than long, with some setae on dorsal side, with two short setae near apex on ventral side, apex slightly emarginate, without ligula; labial palpi widely separated from each other, glabrous, segment 1 stout, fully wider than long, segment 2 fully shorter and narrower than segment 1, fully wider than long, with one small but distinct sensorial appendix at apex.

Pronotum (Fig. 8) one and one-third times as wide as head, with about fourteen rather long setae near anterior margin, seven or eight similar setae at lateral areas, about fourteen short setae at posterior area; mesonotum (Fig. 6) and metanotum less developed than pronotum, with two weakly convex areas at about middle, weakly convex on lateral areas, median convex areas with two rather short setae, lateral convex areas with two rather short setae (on lateral margin) and two very short and fine setae.

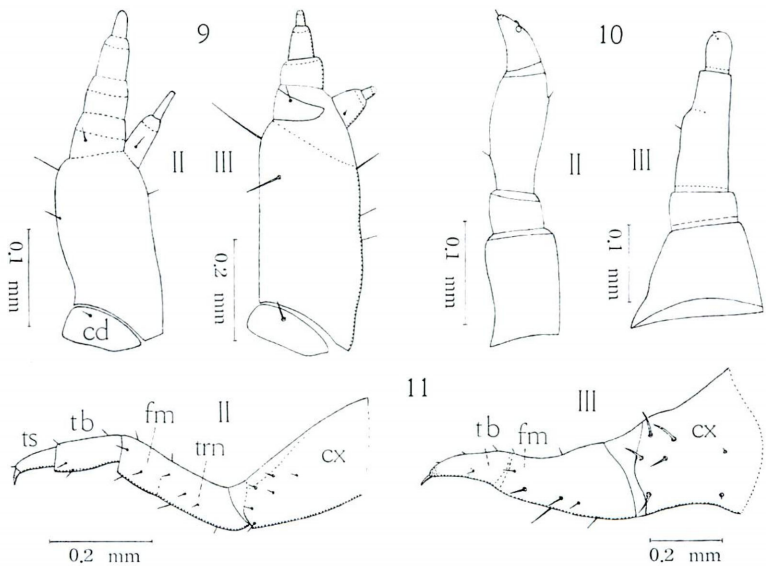
Legs (Fig. 11 III) short, stout, narrowed apically, practically 3-segmented, with some short setae; coxa short and fully stout; trochanter well separated from coxa, stout; femur completely fused with trochanter; tibia rather faintly separated from femur; tarsi fused with tibia, with single, short, slightly curved, spinous claw at apex.

Tergites hardly sclerotized, median line vestigial, tergites 1 to 8 with two weakly convex areas, convex areas with two rather short setae and

a few short, fine setae, a few very short and fine setae visible on lateral areas, one of setae becoming a little distinct on tergites 5 to 8, tergite 9 (Fig. 7) with ten rather short setae and a few short, fine setae at posterior area; cerci absent; abdominal segment 10 (Fig. 7) without bifurcate membranous part at apex, without hooks on ventral side; pleural and ventral sclerites turned into small convex areas, with some setae.

Second instar (Figs. 1, 9–11). Length 7.0 mm. Width of head 0.74 mm (about one and three-fourths times as wide as instar 1). Maximum width at abdomen 1.5 mm. Body narrower than in instar 3. Colour almost same[2] as in instar 3.

Head almost similar in form to that of instar 3, a little more emarginate at apex of frontal piece; epicrania with traces of ocelli, three in anterior row, two in posterior row, brown part visible like in instar 1 at ocellar areas. Antennae (Fig. 10 II) narrower than in instar 3, segment 1 cylindrical, one and one-half times as long as wide, three



Figs. 9–11. *Pheropsophus jessoensis* MORAWITZ, larva.
II. Instar 2. III. Instar 3.
9. Right maxillae in ventral view. cd: cardo. 10. Left antennae in dorsal view. 11. Right mid legs in front view. cx: coxa. trn: trochanter. fm: femur. tb: tibia. ts: tarsus.

2) Fig. 1, II has recently been drawn for the present paper from the single specimen reared by Miss K. SADANAGA in 1967, and therefore it is rather faded in colour.

times as long as segment 2, segment 3 somewhat tumid near middle, a little longer than segment 1, almost as wide as segment 2, with one short and fine seta at outer and inner sides, segment 4 conical, longer than wide, curved outward, with one short, fine seta at apex, apex somewhat pointed. Maxillary stipes (Fig. 9 II) distinctly separated from cardo as in instar 3, twice as long as wide, outer side somewhat constricted before base; outer lobe distinctly longer and narrower than in instar 3 in proportion; maxillary palpi proportionally longer than in instar 3. Labial palpi a little longer than those of instar 3 in ratio.

Legs (Fig. 11 II) rather developed and slenderer than in instar 3, 4-segmented; coxa normal, long, setae shorter and finer; trochanter and femur fused into one long cylindrical segment; tibia cylindrical, distinctly separated from femur; tarsi also well separated from tibia, fully shorter than tibia, claw short and single as in instar 3.

Pleural and ventral sclerites less setose than in instar 3, pleural sclerites with only two long setae and one very short, fine seta.

First instar (Figs. 12, 13–17). Length 2.3–2.8 mm. Width of head 0.40–0.44 mm, mean 0.42 mm, in ten specimens.

Dorsal side pale yellowish brown. Mandibles more brownish at apical area. Antennae, maxillae, labium and legs pale brownish yellow; pleural and ventral sclerites dirty yellow.

Head (Figs. 13, 14) nearly quadrate, almost as long as wide, lateral sides slightly tumid near middle, not constricted before ocellar areas, dor-

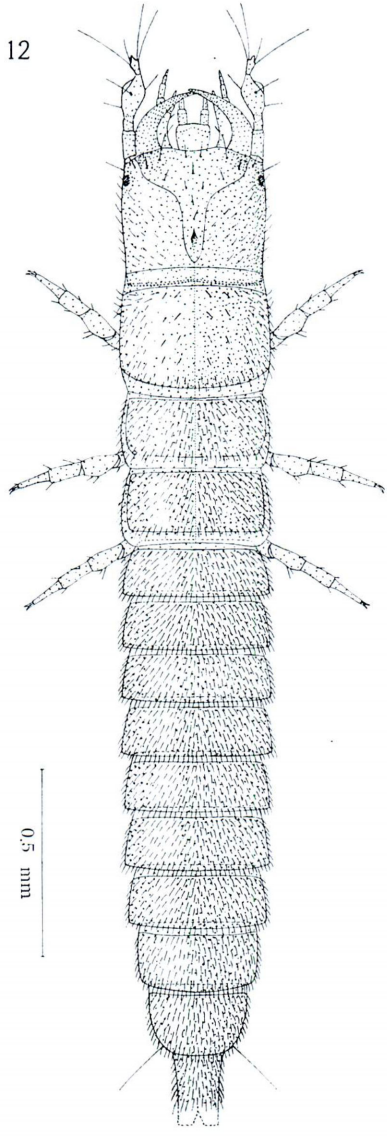


Fig. 12. *Pheropsophus jessoensis* MORAWITZ, larva in instar 1.

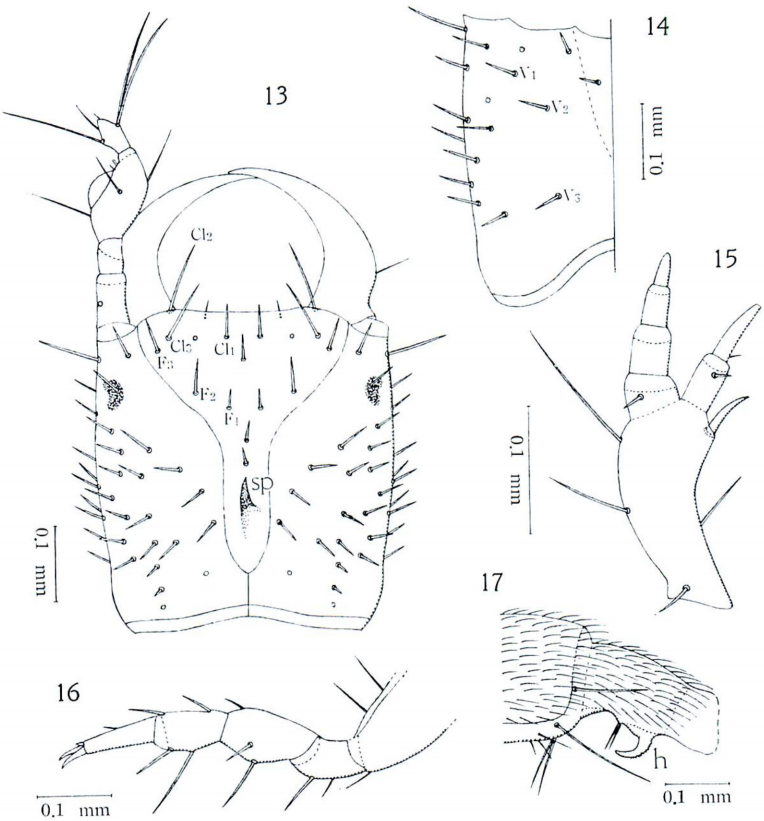
sal side almost flat; ocellar areas not raised nor delimited, but black part visible; setae rather short, spinous, F_1 behind level of F_2, F_3 transferred more anteriorly than usual, Cl_2 and Cl_3 longer than Cl_1 and other setae, Cl_2 on indistinct apical angles, one single (not paired) short seta behind Cl_1, two short setae placed longitudinally in middle between F_1 and spine; epicrania with rather many setae, identification of setae uncertain except V-group, one seta on lateral sides behind base of antennae longer than other setae; frontal piece almost straight or weakly emarginate at apex, apical angles not defined, posterior half of frontal piece fully narrow, hind angle fully dull, indistinct, one large acute spine in middle of narrow part fairly before hind angle, spine turning anteriorly; epicranio-frontal sutures well sinuate near middle; epicranial suture rather short though distinct; hind margin of epicrania shallowly emarginate on dorsal side, deeply emarginate on ventral side. Antennae (Fig. 13) with segment 1 cylindrical, one and one-half times as long as wide, fully longer than segment 2, segment 2 oblique at apex in sclerotized part, segments 1 and 2 without setae, segment 3 longest, twice as long as segment 1, curved, with rather large, roundly tumid, membranous sensorial appendix[3] at outer side from behind middle to behind apex, with one short and narrow protuberance and one short and fine seta on outer side near apex, with three somewhat long setae near middle, each on outer, dorsal and inner side, segment 4 somewhat tumid at middle, with three long, one rather long and one short seta. Mandibles (Fig. 13) longer and narrower than in instars 2 and 3, gently curved, rather slender, tapering apically, outer side with one seta at about basal fourth. Maxillary stipes (Fig. 15) fairly curved, outer side distinctly rounded, with two long setae, one near apex, one at middle, inner side with one rather long seta behind middle, base completely fused with cardo, with one seta, one long, stout, curved spine present below outer lobe, spine distinctly longer than segment 1 of outer lobe; segment 1 of outer lobe shorter than segment 2, with one seta near apex on ventral side, segment 2 with one short, fine seta near base on inner side; maxillary palpus with segment 2 twice as long as segment 1, almost as long as segment 3, segment 1 with one seta on ventral side. Labium with one pair of spinous setae on dorsal side near base of labial palpi and one pair of normal setae on ventral side near middle; labial palpi glabrous.

Pronotum slightly wider than head, wider than long, rather sparsely pubescent; meso- and metanotum rather densely pubescent, with one small glabrous area on either side. Legs (Fig. 16) rather slender, with

3) It must be necessary for searching for the egg-cell of the African mole cricket in the soil.

some bristles, distinctly 5-segmented; trochanter distinct; femur somewhat tumid at middle; tibia shorter and stouter and tarsi longer than in instar 2, tarsi longer than tibia, with two claws, claws developed, without tooth nor appendix.

Tergites covering spiracles, almost as wide as mesonotum, with weak basal border, without median line, densely pubescent; tergite 9 semicircular, with one seta on either side at apex; abdominal segment 10 (Fig. 17) with apical part membranous and bifurcate, with one pair



Figs. 13–17. *Pheropsophus jessoensis* MORAWITZ, larva in instar 1. 13. Head in dorsal view. sp: spine probably necessary for breaking eggs of mole cricket. 14. Epicranium in ventral view. 15. Right maxilla in ventral view. 16. Left mid leg in hind view. 17. Abdominal segments 9 and 10 in lateral view. h: Left hook for fixing body to inner surface of cell in breaking eggs of mole cricket.

of hooks[4] on ventral side, hooks turning forward, minutely denticulate on hind margin.

Biological notes in larval stage. The larvae devour only the eggs of *Gryllotalpa africana* PALISOT DE BEAUVOIS (Gryllotalpidae, Orth.) in its cell. The first instar larvae are slender and very active; they lived in July about twenty-three days without taking food, while the first instar larvae of *Poecilus coerulescens encopoleus* SOLSKY (Pterostichini) were alive only five days in the same condition. They did neither accept larvae of Lepidoptera, Diptera, Coleoptera etc., nor live on the separate eggs picked out of the cell of the African mole cricket. The younger larvae search for the cell in the soil, pass through it and reach the eggs stored in it, then fix the posterior part[5] of the body to the inner surface of the cell by a pair of characteristic hooks on the ventral side of the tenth abdominal segment (Fig. 17, h) — the hooks disappear after the first moulting — and probably break the eggs by the large acute spine on the posterior part of the frontal piece (Fig. 13, sp), and therefore this spine is probably not homologous to a pair of egg-bursters common to most of the carabid larvae in the first instar. The second instar larvae are rather stout and distinctly differ from those in the first instar in the form, and have the mouth apparatus, antennae and legs a little reduced. It must be noteworthy that a pair of claws in the first instar are turned into single after the first moulting, and that the maxillary cardo fused with the stipes in the first instar (Fig. 15) is revealed contrariwise in the second instar (Fig. 9, cd). The third instar larvae are much stouter and grub-like, with the appendages much shorter and more simplified as in Figs. 9 III to 11 III.

The breeding of the larvae is rather difficult. The first instar larvae were put in fully more than fifty cells of the African mole cricket — some of them were natural, but the remaining ones were artificial, made of mud, containing twenty to thirty eggs of the mole cricket— but they developed only in the five cells. 1) Some larvae in the first instar were released into a cell on the 5th and 12th of July, and only one of them had become the third instar when examined on the 22nd of July in 1963. 2) One of the two larvae of the first instar put in a cell on the 14th of June was not found on the 19th of June, 1967, but the other had become the second instar. 3) The single first instar larva released into a cell on the 7th of July was still unchanged on the 13th of July, but when examined on the 17th of July, 1967, it had become the second instar;

4) HABU and SADANAGA (1965) mention erroneously "Abdominal tergite 10 with one hook……" in p. 216.

5) Owing to this peculiar habit, cerci must be reduced.

this second instar larva had already pupated on the 24th of July. 4) The first instar larvae put in an artificial cell on the 5th of July were still unchanged on the 10th of July, but one of them had fully grown when examined on the 17th of July, 1967; probably affected by photographic lightning, however, it died the next day. 5) One of the first instar larvae taken in an artificial cell on the 22nd of July pupated during the 5th and 7th of August, and became the imago during the 14th to 16th of August in 1967.

New or Little Known Chrysomelidae (Coleoptera) from Japan and its Adjacent Regions, V.

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This paper is revised and supplementary notes on Kimoto (1964–1966), and Kimoto & Gressitt (1966). Description of a new subspecies, and a number of new synonyms, corrections of scientific name, and additional records of distribution are presented.

Subfamily **Zeugophorinae**

Zeugophora (*Zeugophora*) *chujoi* Ohno (Fig. 1)

Zeugophora chujoi Ohno, 1961, Kontyû, Tokyo, 29 (1) : 36 (Mts. Iide, Fukushima Pref.).

Material examined. 1 ex., R. Rubeshibe, Kamikawa-cho, Hokkaido, 25. v. 1980, N. Yasuda leg.

Distribution : Japan (Hokkaido, Honshu).

This species was first described from Mts. Iide, Fukushima Pref., by a single male specimen. A specimen taken from "R. Rubeshibe", is slightly different from the original description of this species, in having the most part of vertex and pronotum pitchy black, and entire meso- and metathorax and abdomen shining black. However, I would like to treat this specimen as an infraspecific variation of this species at present, because I have not enough material to decide as an independent species.

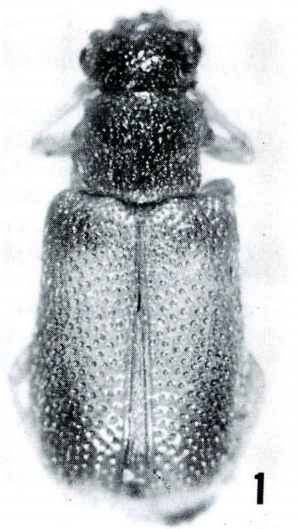

Fig. 1. *Zeugophora* (*Zeugophora*) *chujoi* Ohno

Subfamily **Criocerinae**

Lema cirsicola Chûjô

Lema cirsicola Chûjô, 1959, Mem. Fac. Lib. Arts & Educ., Kagawa Univ., 2 (81) : 2 (Ja-

[Ent. Rev. Japan, Vol. XLI, No. 2, pp. 123–129, Dec., 1986]

pan: Aomori, Fukushima, Tochigi, Niigata, Nagano, Mie, Tottori, Hiroshima, Tokushima, Ehime, Fukuoka).

Distribution: Japan (Honshu, Shikoku, Kyushu).

This species was treated by MEDVEDEV (1982) as a synonym of *Lema cyanella* (LINNAEUS, 1758). However, this species is clearly separable from *cyanella* in being the body length longer and having the apical margin of scutellum distinctly rounded posteriorly.

Subfamily **Donaciinae**

Plateumaris hirashimai KIMOTO

Plateumaris hirashimai KIMOTO, 1963, Fragm. Col., ed. NAKANE, (3): 13 (Hokkaido: Ashoro).

Plateumaris morimotoi KIMOTO, 1963, ibid.: 13 (Hokkaido: Tenninkyo); 1981, Bull. Osaka Mus. Nat. Hist., (34): 25 (=*hirashimai*).

Distribution: Japan (Hokkaido).

MEDVEDEV (1982) treated *Plateumaris morimotoi* KIMOTO as a synonym of *weisei* DUVIVIER, 1885. However, *hirashimai* (= *morimotoi*) is separable from *weisei*, in having the lateral margin of pronotum rounded, widest at 1/4 from the anterior corner, gradually narrowed towards the basal margin and slightly constricted subbasally, and the interstices of elytral punctate-striae very closely impressed with another fine punctures.

Subfamily **Cryptocephalinae**

Cryptocephalus luridipennis SUFFRIAN, resurrected from synonymy

Cryptocephalus luridipennis SUFFRIAN, 1854, Linn. Ent., 9: 99 (Siberia).

Cryptocephalus quinquedecimnotatus SUFFRIAN, 1854, ibid.: 101 (Daurien, Irkutzk). — MEDVEDEV, 1982, Chrysom. Mongol., identif. key: 225 (=*luridipennis*).

Cryptocephalus instabilis BALY, 1873, Trans. Ent. Soc. London, 1873: 911 (Japan). — MEDVEDEV, 1982, Chrysom. Mongol., identif. key: 225 (=*luridipennis*).

Cryptocephalus pallescens KRAATZ, 1879, Berl. Ent. Z., 23: 133 (Amur). — CHEN, 1940, Sinensia, 13 (1-6): 117 (=*pustulipes luridipennis*).

Cryptocephalus muscifer FAIRMAIRE, 1888, Rev. d'Ent., 7: 152 (Peking). — CHEN, 1940, Sinensia, 13 (1-6): 117 (=*pustulipes luridipennis*).

Cryptocephalus serinicolor PIC, 1907, Échange, 23 (Suppl.): 112, 3 (Siberia). — MEDVEDEV, 1982, Chrysom. Mongol., identif. key: 225 (=*luridipennis pallescens*).

Cryptocephalus pallescens abb. *latepallescens*, *subpallescens* PIC, 1908, Échange, 24: 14 (Amur).

Cryptocephalus pallescens subsp. *distinctior* PIC, 1908, ibid.: 92 (Amur).

Cryptocephalus kiotosinus PIC, 1908, ibid.: 92 (Kioto). — CHÛJÔ & KIMOTO, 1961, Pac. Ins., 3 (1): 133 (=*instabilis*).

Cryptocephalus multiconnexus PIC, 1908, Échange, 24: 92 (Japan). — CHÛJÔ & KIMOTO, 1961, Pac. Ins., 3 (1): 133 (=*instabilis*).

Cryptocephalus luridipennis var. *bodoi* PIC, 1913, Échange, 29: 102 (Amur).

Cryptocephalus pallescens ab. *kapfereri* PIC, 1913, ibid.: 102 (Amur).

Cryptocephalus multicolor PIC, 1922, Mél. Exot. Ent., 35 : 10 (Shanghai). — CHEN, 1940, Sinensia, 13 (1-6) : 117 (=*pustulipes luridipennis*).

Cryptocephalus pustulipes luridipennis : CHEN, 1940, ibid. : 117 (China).

Cryptocephalus pustulipes : GRESSITT & KIMOTO, 1961, Pac. Ins. Mon., 1A : 142 (China). — KIMOTO, 1964, J. Fac. Agr. Kyushu Univ., 13 (1) : 151 (Japan).

Distribution : Siberia, Mongolia, N. China, Korea, Japan (Honshu).

CHEN (1942) treated *luridipennis* as a subspecies of *Cryptocephalus pustulipes* MÉNÉTRIÈS, 1836, and GRESSITT & KIMOTO (1961) as a synonym of *pustulipes*. According to the illustrations of the male genitalia by MEDVEDEV (1982), *luridipennis* is an independent species, and is clearly separable from *pustulipes*.

Cryptocephalus exiguus SCHNEIDER

Cryptocephalus exiguus SCHNEIDER, 1792, Neuest. Magaz., 1 (2) : 189 (Europe).

Cryptocephalus wasastjernae GYLLENHAL, 1827, Ins. Suec., 4, app. : 669 (Europe).

Cryptocephalus wasastjernae adcetus JACOBSON, 1901, Öfv. Finsaka Vet. Soc. Förh., 43 : 114 (Dauria).

Cryptocephalus kiyosatonus KIMOTO, 1964, J. Fac. Agr. Kyushu Univ., 13 (1) : 153 (Hokkaido, Yamanashi, Nagano, Tochigi, Tottori, Osaka, Aomori). **New Synonym**

Distribution : Japan (Hokkaido, Honshu, Kyushu), S. Kuriles, Sachalin, Korea, N. China, Mongolia, Siberia, Europe.

This species widely distributes from Europe to East Asia, and *kiyosatonus* seems to be a synonym of *exiguus*.

Cryptocephalus weymarni GRESSITT & KIMOTO

Cryptocephalus weymarni GRESSITT & KIMOTO, 1961, Pac. Ins. Mon., 1A : 168 (China, E. Siberia). — KIMOTO & HIURA, 1964, Bull. Osaka Mus. Nat. Hist., (17) : 10 (Akita). — KIMOTO, 1986, Ent. Pap. pres. Kurosawa, Tokyo : 311 (Japan).

Cryptocephalus janthinus : KOMIYA, 1983, Coleopterists' News, Tokyo, (62) : 6 (Hokkaido).

Distribution : E. Siberia, China, Japan (Hokkaido, Honshu).

MEDVEDEV (1982) treated *weimarni* (sic) GRESSITT & KIMOTO as a synonym of *Cryptocephalus janthinus* GERMAR, 1824. However, *weymarni* is separable from *janthinus* in having the head with characteristic yellowish spot on each side of vertex adjacent to the inner end of upper eye lobe, and pronotum with the anterior margin entirely bluish. Illustrations of male genitalia of *janthinus* were presented by BURLINI (1955), WARCHALOWSKI (1971), and GRUEV & TOMOV (1984). Judging from these illustrations, *weymarni* is able to separable from *janthinus*. The male genitalia of *weymarni* is presented by KOMIYA (1983) based on the Japanese specimen.

Subfamily **Synetinae**

Syneta adamsi BALY

Syneta adamsi BALY, 1877, Ann. Mag. Nat. Hist., ser. 4, 20 : 378 (Tsushima,

Vladimir Bay, Manchuria). — KIMOTO, 1964, J. Fac. Agr. Kyushu Univ., 13 (2): 261 (Japan).

Syneta major NAKANE, 1963, Fragm. Col., ed. NAKANE, (5): 19 (Kamikochi, Nikko). **New Synonym**

Distribution: Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima), Kuriles, Sachalin, NE. China, E. Siberia.

This species is very variable on the body length, coloration of the dorsal surfaces and the longitudinal costae of elytron, and *major* seems to be only an infraspecific variation.

Subfamily **Chrysomelinae**

Genus *Phratora* CHEVROLAT, 1837

Phratora CHEVROLAT, 1837, in DEJEAN, Cat. Col., ed. 3: 405 (type-species: *Chrysomela vitellinae* LINNAEUS, 1758).

Phyllodecta KIRBY, 1837, Fauna Bor. Amer., 4: 216.

Subgenus *Chaetocera* WEISE, 1884

Chaetocera WEISE, 1884, Ins. Deutschl., 6 (3): 514 (*Chrysomela vulgatissima* LINNAEUS, 1758).

Chaetoceroides STRAND, 1935, Fol. Zool.-Hydrobiol., 7: 285.

Phratora (*Chaetocera*) *obtusicollis* MOTSCHULSKY

Phratora obtusicollis MOTSCHULSKY, 1860, Schrenck's Reisen Amurl., 2: 230 (Amour).

Phyllodecta inhonesta WEISE, 1884, Ins. Deutschl., 9 (3): 514, nota (Kjachata, Sarepta). — MEDVEDEV, 1982, Chrysom. Mongol., identif. key: 250 (=*obtusicollis*).

Phyllodecta longulus: CHÛJÔ, 1959, Mem. Fac. Lib. Arts & Educ., Kagawa Univ., 2 (81): 9 (Hokkaido). — KIMOTO, 1964, J. Fac. Agr. Kyushu Univ., 13 (2): 284 (Japan).

Phratora inhonesta: KIMOTO, 1965, Kontyû, Tokyo, 33: 312 (Kuriles: Etorofu). — KIMOTO & HIURA, 1971, Bull. Osaka Mus. Nat. Hist., (25): 14 (Hokkaido). — KIMOTO, 1974, Kontyû, Tokyo, 42: 147 (Japan).

Phratora (*Chaetocera*) *obtusicollis*: DUBESHKO, 1983, Rev. d'Ent. URSS, 62: 749, figs. (E. Siberia, Mongolia, NE. China, Sachalin, S. Kuriles, Korea, Japan).

Distribution: Japan (Hokkaido), S. Kuriles (Etorofu), Sachalin, Korea, NE. China, Mongolia, E. Siberia.

DUBESHKO (1983) finely redescribed and illustrated *Phratora obtusicollis* MOTSCHULSKY. Referring to his paper, it is clear that *Phyllodecta inhonesta* WEISE should be treated as a synonym of *obtusicollis*. Also, *Phratora longulus* MOTSCHULSKY was treated by LOPATIN (1975), as a synonym of *Phratora vulgatissima* (LINNAEUS).

Chrysolina yezoensis (MATSUMURA)

Chrysomela yezoensis MATSUMURA, 1911, J. Agr. Tohoku Imp. Univ., Sapporo, 4: 149 (S. Sachalin, Japan: Sapporo).

Chrysomela geminata: JACOBY, 1885, Proc. Zool. Soc. London, 1885: 207 (Hakodate).

Chrysolina pseudogeminata BECHYNÉ, 1950, Ent. Arb. Mus. Frey, 1: 156 (Kioto, Innai in N. Hondo). — KIMOTO, 1964, J. Fac. Agr. Kyushu Univ., 13 (2): 268 (=*aeruginosa*). **New Synonym**

Chrysolina shikokensis NAKANE, 1963, Fragm. Col., ed. NAKANE, (5): 19 (Mt. Tsurugi). — TAKIZAWA, 1970, Kontyû, Tokyo, 38 (2): 122 (=*yezoensis*).

Chrysolina aeruginosa: KIMOTO, 1964, J. Fac. Agr. Kyushu Univ., 13 (2): 268 (Japan).

Chrysolina yezoensis: TAKIZAWA, 1970, Kontyû, Tokyo, 38 (2): 122 (Sakhalin, Japan: Hokkaido).

Distribution: Japan (Hokkaido, Honshu, Shikoku), Sachalin.

Judging from the illustration given by MOHR (1966), the identification of *aeruginosa* FALDERMANN by KIMOTO (1964) is erroneous, and this should be corrected as *yezoensis* MATSUMURA. The illustration of male genitalia of *yezoensis* is presented by TAKIZAWA (1970).

Gonioctena (*Gonioctena*) *sibirica* (WEISE)

Gonioctena sorbi MOTSCHULSKY, 1860, Schrenck's Reisen Amurl., 2: 223, pl. 11, fig. 6 (nec GRIMMER, 1841) (Dauria). — MEDVEDEV, 1982, Chrysom. Mongol., identif. key: 251 (=*sibirica*).

Phytodecta sibiricus WEISE, 1893, Ins. Deutschl., 6: 1128 (Siberia).

Phytodecta sorbinus WEISE, 1916, Col. Cat. Junk, 68: 176 (n. n. for *sorbi* MOTSCHULSKY, 1860). — BECHYNÉ, 1947, Acta Mus. Nat. Prag., 3B (3): 104, 134, pl. 1, fig. 10, pl. 5, figs. 10, 11 (Sib. or.).

Phytodecta (*Phytodecta*) *cheni* BECHYNÉ, 1947, Acta Mus. Nat. Prag., 3B (3): 102, 134, pl. 1, fig. 8, pl. 5, figs. 6, 7 (Ussuri, Amur). — MEDVEDEV, 1982, Chrysom. Mongol., identif. key: 251 (=*sibirica*).

Gonioctena (*Gonioctena*) *sorbina*: KIMOTO, 1964, J. Fac. Agr. Kyushu Univ., 13 (12): 282, fig. (Japan).

Gonioctena (*Gonioctena*) *sibiricus* (sic): MEDVEDEV, 1982, Chrysom. Mongol., identif. key: 251 (Mongolia).

Distribution: E. Siberia, Mongolia, Japan (Hokkaido).

Gonioctena (*Gonioctena*) *honshuensis* NAKANE

Phytodecta (*Phytodecta*) *sibiricus*: BECHYNÉ, 1947, Acta Mus. Nat. Prag., 3B (3): 103, 134, pl. 1, fig. 9, pl. 5, figs. 8, 9 (Siberia).

Gonioctena honshuensis NAKANE, 1963, Fragm. Col., ed. NAKANE (5): 19 (Shimashima).

Gonioctena (*Gonioctena*) *sibirica*: KIMOTO, 1964, J. Fac. Agr. Kyushu Univ., 13 (2): 281 (Japan).

Gonioctena chujoi MEDVEDEV, 1966, Forest Ent. - Fauna Kuril, Kamch. & Magda.: 41, fig. 2 (Kuriles). — TAKIZAWA, 1971, Kontyû, Tokyo, 39 : 173 (Sakhalin); 1971, ibid.: 177 (S. Kuriles: Kunashiri, Etorohu). — KIMOTO, 1986, Ent. Pap. pres. Kurosawa, Tokyo: 311 (=*honshuensis*).

Distribution: Japan (Hokkaido, Honshu), Kuriles.

According to MEDVEDEV (1982), the identification of *Phytodecta sibiricus* WEISE by BECHYNÉ (1974) is erroneous. Since KIMOTO (1964) followed BECHYNÉ's identification, the species treated as *Gonioctena sorbina* (WEISE) and *Gonioctena sibirica* (WEISE) should be corrected as *Gonioctena* (*Gonioctena*) *sibirica* (WEISE) and *Gonioctena* (*Gonioctena*) *honshuensis* NAKANE, respectively.

Subfamily **Cassidinae**

Cassida rubiginosa babai n. subsp.

Ground color of dorsal surfaces yellowish in living specimens, and in most specimens basisutural area of elytron and scutellum pitchy brown; ventral surfaces entirely black, antenna brownish with subapical segments infuscate, legs brownish with femora largely pitchy black.

Length: 8.7-7.3 mm.

Holotype: 25. v. 1983, Shimokuchi, Ryotsu-shi, Sado Is., K. BABA leg.

Paratypes: 13 exs., same data as the holotype; 8 exs., 12. v. 1985, Oohashi, Hamochi, Sado Is., K. BABA leg.; 3 exs., 27. v. 1983, Aoneba-goe, Sado Is, K. BABA leg.; 3 exs., 7. viii. 1984, Matsugasaki, Sado Is., K. BABA leg.; 2 exs., 8. viii. 1985, Mt. Myoken, Sado Is., K. BABA leg.

This new subspecies is separable from the nominate subspecies in having the dorsal surfaces entirely yellowish instead of greenish in living or fresh material. As far as I know, this characteristic population has been known only from the Sado Is.

Distribution: Japan (Sado Is.).

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国際動物命名委員会からのお願い (2)

ITZN 59 14 July, 1986

The following Opinions, rulings of the International Commission on Zoological Nomenclature, have been published in volume 43, part 2, of the Bulletin of Zoological Nomenclature (9 July, 1986).

Opinion No.

1383 (p. 121) *Apis pilipes* FABRICIUS, 1775 (Hymenoptera): designated as type species of *Megilla* FABRICIUS, 1805.

1386 (p. 128) *Papilio erato* LINNAEUS, 1758 (Lepidoptera): neotype designated.

1387 (p. 130) *Curculio picirostris* FABRICIUS, 1787 and *Tychius stephensi* SCHÖNHERR, 1836 (Coleoptera, Curculionidae): conserved.

1391 (p. 138) *Zygaena anthyllidis* BOISDUVAL, [1828] (Lepidoptera): conserved.

1396 (p. 148) *Byrrhus murinus* FABRICIUS, 1794 (Coleoptera, Byrrhidae): conserved.

1397 (p. 150) *Rhopalocerus* W. REDTENBACHER, 1842 (Coleoptera, Colydiidae): conserved.

1398 (p. 152) *Capys* HEWITSON, [1865] (Lepidoptera, Lycaenidae): conserved.

1399 (p. 154) *Cochliomyia* TOWNSEND, 1915 (Diptera, Calliphoridae): conserved.

ITZN 11/5 14 July, 1986

The following applications have been received by the Commission and have been published in volume 43, part 2, of the Bulletin of Zoological Nomenclature (9 July, 1986). Comment or advice on them is welcomed and should be sent c/o The British Museum (Natural History), London, England. Comments will be published in the Bulletin.

Case No.

2463 *Antispila* HÜBNER, [1825] (Lepidoptera): proposed validation of *Antispila stadtmüllerella* HÜBNER, [1825] as type species.

2495 *Napomyza* WESTWOOD, 1840 (Diptera): proposed conservation by the suppression of *Napomyza* CURTIS, 1837.

2397 *Microgaster* LATREILLE, 1804 (Hymenoptera): proposed designation of *Microgaster australis* THOMSON, 1895 as type species.

2494 *Sigara scholtzi* FIEBER, [1860] (Heteroptera): proposed conservation by the suppression of *Sigara scholtzii* SCHOLTZ, 1846.

2519 *Micronecta griseola* HORVÁTH, 1899 (Heteroptera, Corixidae): proposed conservation by the suppression of *Sigara minuta* FABRICIUS, 179 ? and *Sigara lemana* FIEBER, 1860.

2395 *Agromyza* FALLÉN, 1810 (Diptera): proposed validation of *Agromyza reptans* FALLÉN, 1823 as type species.

2537 *Tropiphorus* SCHÖNHERR, 1842 (Coleoptera): proposed conservation by suppression of *Brius* DEJEAN, 1821.

2534 *Tetropium* KIRBY, 1837 (Coleoptera, Cerambycidae): proposed conservation by the suppression of *Isarthron* DEJEAN, 1835.

2511 *Cyclaxyra* BROUN, 1893 (Coleoptera): proposed conservation by the suppression of *Melanochroa* BROUN, 1882.

Nachtrag zu den Fam. Cantharidae und Malachiidae (Col.) auf Taiwan

von WALTER WITTMER[1)]

Naturhistorisches Museum, CH-4001 Basel, Switzerland

Seit meinen Veröffentlichungen (WITTMER, 1982, 1983 und 1984) erhielt ich weiteres Material aus Taiwan, teils von neuen Ausbeuten von Herrn TORU SHIMOMURA, Tokyo, oder aus dem Musée de Paris stammend, das mir erlaubt, ein paar Ergänzungen zu veröffentlichen:

Cantharidae

Micropodabrus formosanus (PIC)

Rhagonycha formosana PIC, 1910, Le Naturaliste 32: 291.

Podabrus curvatipes PIC, 1922, Mél.-exot. ent. 37: 4. **n. syn.**

In den Sammlungen des MP (coll. M. PIC) fand ich den Holotypus von *curvatipes*, der von Trinan, Formosa, stammt. Die Untersuchung ergab eine Übereinstimmung mit *M. formosanus* (PIC), weshalb ich *curvatipes* PIC als Synonym von *formosanus* betrachte.

Stenothemus furcatus n. sp. (Abb. 1)

♂. Einfarbig dunkelbraun, nur die Augen sind schwarz.

Kopf mit den halbkugelförmigen Augen kaum merklich breiter als der Halsschild, Stirne mit einer schwachen Beule hinter der Augenmitte, davor und bis zwischen die Fühlerwurzeln mit einem deutlichen Längseindruck; Oberfläche unregelmäßig gewirkt, körnig, teils gestrichelt, matt. Fühler lang, zurückgelegt, die Spitzen der Flügeldecken fast erreichend, Glieder 4 bis 10 schwach flachgedrückt; 3. Glied 3 mal länger als das 2., 4. etwas mehr als um die Hälfte länger als das 3.

1) Die Zeichnungen wurden durch Herrn ARMIN CORAY, dipl. wissenschaftl. Zeichner, Basel, ausgeführt, dem ich für seine Hilfe bestens danke. Sie wurden durch einen Beitrag der Freiwilligen Akademischen Gesellschaft (Leitung Dr. H. L. SARASIN), Basel, ermöglicht.

Die beiden photographischen Aufnahmen verdanke ich Herrn Dr. R. GUGGENHEIM, Leiter des Laboratoriums für Raster-Elektronenmikroskopie, Geologisch-Paläontologisches Institut der Universität Basel, sowie seinem Mitarbeiter Herrn M. LÜÖND.

[Ent. Rev. Japan, Vol. XLI, No. 2, pp. 131–135, Dec., 1986]

Halsschild deutlich breiter als lang, Seiten leicht gerundet, die breiteste Stelle befindet sich etwas vor der Mitte, Basalecken leicht vorstehend, schwach nach oben gebogen; Scheibe mit 2 breiten Beulen, die durch einen seichten Längseindruck von einander getrennt sind; Oberfläche auf den Beulen mit groben, ziemlich stark erloschenen Punkten, an der Basis zwischen den Beulen und in den Vorderecken mehr oder weniger stark chagriniert, dazwischen teils fast glatt. Flügeldecken langgestreckt, fein körnig gewirkt mit Spuren von 1 bis 2 Längsrippen.

Kopulationsapparat Abb. 1, daneben die Laterophyse, die gewöhnlich

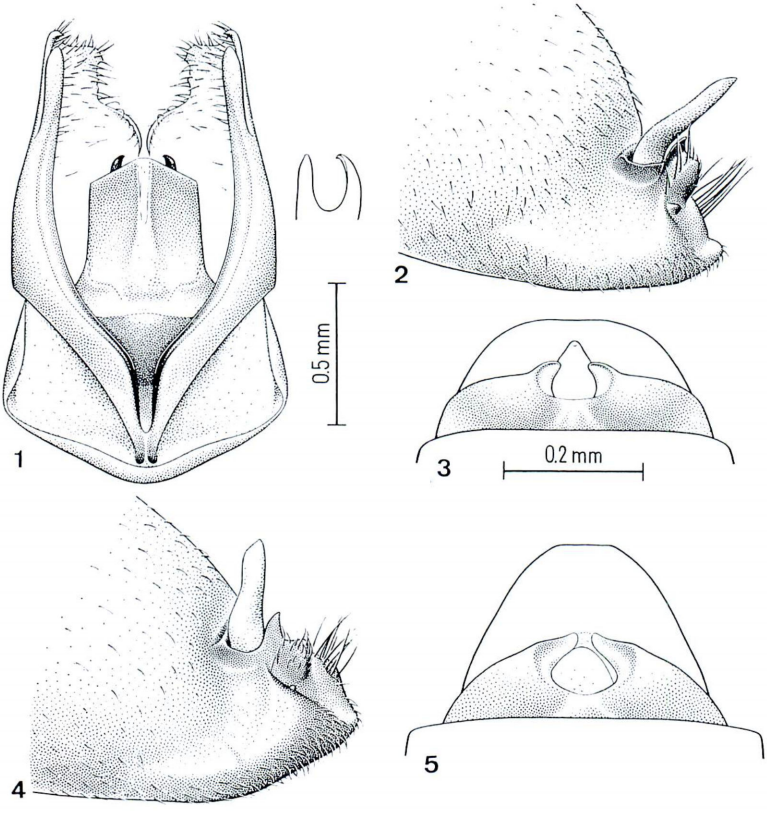

Abb. 1–5. 1, Kopulationsapparat von *Stenothemus furcatus* n. sp. ♂, rechts daneben Laterophyse. 2 und 4, Spitze der Flügeldecke fast im Profil von: 2, *Ebaeus alutaceus* n. sp. ♂. 4, *Ebaeus nantouensis* n. sp. ♂. 3 und 5, Letzte Abdominalsegmente von der Ventralseite von: 3, *Ebaeus alutaceus* n. sp. ♂. 5, *Ebaeus nantouensis* n. sp. ♂.

durch das Mittelstück verdeckt wird. Die beiden Spitzen der Laterophyse sind leicht gegeneinander gekrümmt und dorsalwärts gebogen. Dorsales Basalstück tief gespalten, so lang wie die Parameren des ventralen Basalstücks, letztere bilden jederseits einen schmalen Fortsatz, der zur Basis ein wenig verschmälert ist, Spitze stumpf.

Länge: 11 mm.

Fundort: Taiwan: Mt. Alishan, Chiayi Pref., 2200 m, 24. III. 1982, T. SHIMOMURA, Holotypus und 2 Paratypen im Naturhistorischen Museum Basel (NHMB).

Die neue Art ist neben *S. fukienensis* WITTMER zu stellen, deren Kopulationsapparat ähnlich gebaut ist. Sie unterscheidet sich von *fukienensis* durch einfarbig dunkelbraune Gestalt, das tiefer eingeschnittene, etwas verschieden geformte dorsale Basalstück und die verschieden gebaute Laterophyse.

Malachiidae

Ebaeus alutaceus n. sp. (Abb. 2, 3)

♂. Kopf, Fühler, Halsschild und Beine gelborange, die letzten Fühlerglieder sind kaum angedunkelt; Schildchen und Flügeldecken schwarz, das apikale Drittel bis Viertel der letzteren zuerst gelb, die Spitze mit den Anhängseln mehr orange, die helle Färbung steigt an den Seiten schmal nach vorne, ohne die Höhe der Schulterbeulen zu erreichen; Abdomen dunkelbraun.

Kopf mit den Augen nur wenig schmäler als der Halsschild, Stirne zwischen den Augen fast flach, Oberfläche feinstens chagriniert (64×). Fühler zwischen 10 und 15% kürzer als die Flügeldecken, Glieder 3 bis 10 gegen die Spitze leicht verbreitert, 8 bis 10 deutlicher weniger als 3 bis 7. Halsschild breiter als lang, Seiten schwach gerundet, gegen die Basis verengt, Oberfläche ein wenig deutlicher als der Kopf chagriniert. Flügeldecken (Abb. 2) nach hinten leicht erweitert, Oberfläche fein gewirkt, matt, nur an der Basis ein wenig glatter, leicht glänzend, kurz vor den Spitzen, in der Nähe der Naht (bei Ansicht von vorne nach hinten) zuerst ein sehr langer, schmaler, fast paralleler Fortsatz mit gerundeter Spitze, der nach oben immer durchsichtiger wird, dahinter ein viel kürzerer, kräftiger Fortsatz und noch weiter gegen die Spitze, fast an der Naht, eine Anzahl längere Borsten, deren Spitzen mehr oder weniger zusammengeklebt sind. Letztes Tergit und letztes Sternit (Abb. 3) fast doppelt so breit wie lang, Spitze kaum ausgerandet.

Länge: 2.2 mm.

Fundort: Taiwan: Near Ssuling, Taoyuan Pref., 1100 m, 2. IV. 1982, T. SHIMOMURA, Holotypus ♂ NHMB.

Diese neue Art ist nahe mit *nantouensis* WITTMER verwandt, die nachfolgend beschrieben wird.

Ebaeus nantouensis n. sp. (Abb. 4, 5)

Eine mit *E. alutaceus* WITTMER sehr nahe verwandte Art, die etwas größer und auch sehr ähnlich gefärbt ist. Die Basis des Kopfes ist bis zur Mitte der Augen schwarz, vorne gelb; Fühler vorwiegend hell, von Glied 4 oder 5 an leicht gebräunt, 1. oft leicht angedunkelt auf der Oberseite; die helle Färbung an den Seiten der Flügeldecken fehlt bei 2 Exemplaren. Auch die Anhängsel (Abb. 4) an den Spitzen der Flügeldecken sind sehr ähnlich, der vorderste Fortsatz ist etwas kürzer, weniger durchsichtig und vor der Spitze schwach eingeschnürt, der dahinter stehende Fortsatz ist breiter und in 2 kurze Spitzen ausgezogen, die Haarborsten an der Naht sind ähnlich. Das letzte Tergit (Abb. 5) ist deutlich länger, nur 1½ mal so breit wie lang, gegen die Spitze verschmälert, diese gerundet.

Länge: 2.5 mm.

Fundort: Taiwan: Hohuanchi, Nantou Pref., 1950 m, 30–31. III. 1982, T. SHIMOMURA, Holotypus ♂ und 3 Paratypen ♂ NHMB.

Neben *E. alutaceus* WITTMER zu stellen.

Anthocomus denticornis n. sp. (Abb. 6, 7)

Nahe mit *A. bipartitus* WITTMER verwandt, der ebenfalls auf Taiwan vorkommt. Die neue Art ist etwas kleiner (2.8–3 mm), die Färbung ist etwas heller grün, die gelbe Färbung nimmt auf dem Vorderkopf meistens nicht den ganzen Raum zwischen den Fühlerwurzeln ein, die Spitzen der Flügeldecken sind weniger breit gelb, die gelbe Farbe bedeckt nur ca. ¼ der Länge (♂), beim ♀ sind die Spitzen nur ganz kurz gelb, und die Beine und Fühler vorwiegend dunkel. Fühlerglieder 5 bis 10 kräftig gezahnt, 3 und 4 ebenfalls verbreitert, Spitze gerundet (Abb. 6) ♂; beim ♀ sind die Fühler wesentlich kürzer, Glieder 3 bis 10 gegen die Spitze etwas erweitert, schwach gezahnt.

Spitzen der Flügeldecken (Abb. 7) ziemlich breit eingedrückt, Hinterrand gegen die Naht nur wenig erhöht, mit einer schmalen, gebogenen, wurmförmigen Falte, die von der Mitte der Spitze schräg gegen die Naht verläuft, an dieser Stelle verbreitert sich die Falte gerundet, nach oben, fast durchsichtig und ist mit einem feinen, nach oben und vorne gekrümmten Fortsatz versehen. Diese verbreiterte Falte und der feine gekrümmte Fortsatz sind meistens verdeckt. Hintertibien auf ihrem unteren Teil stark gekrümmt; auf der ganzen Länge befindet sich ein Kiel auf der Oberseite.

Fundort: Taiwan: Piluchi, Nantou Pref., 2300 m, 27. VI. –5. VII. 1982, T. SHIMOMURA, Holotypus und 12 Paratypen NHMB.

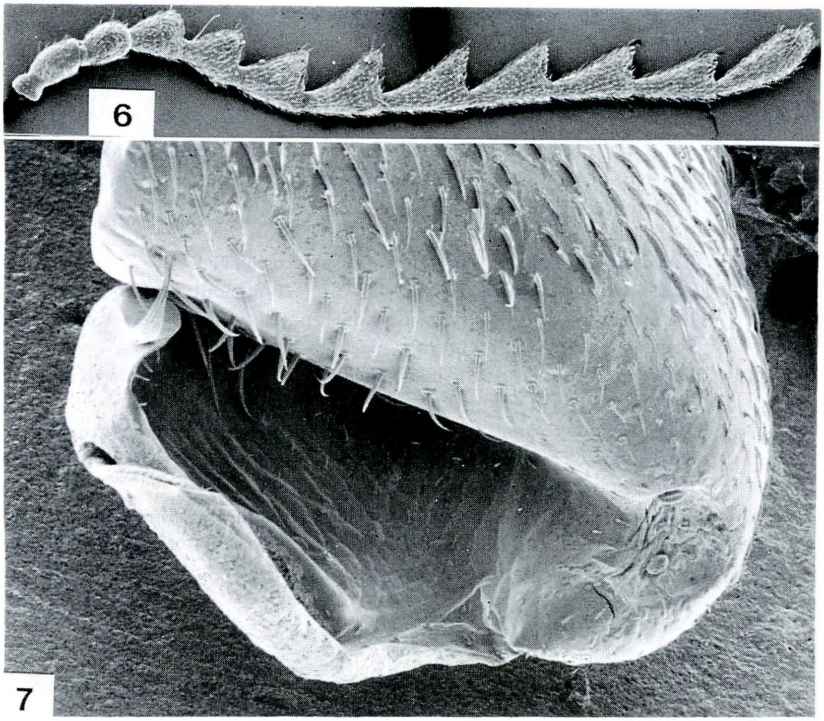

Abb. 6, 7. *Anthocomus denticornis* n. sp. ♂ : 6, Fühler, 63×. 7, Spitze der Flügeldecke, 240×.

Abgesehen von den verschieden eingedrückten Spitzen der Flügeldecken unterscheidet sich *denticornis* von *bipartitus* durch die Fühler, bei denen die Glieder 3 bis 10 in abnehmendem Masse nach innen gerundet erweitert sind und gezahnte Glieder vollständig fehlen.

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国際動物命名委員会からのお願い (3)

ITZN 59 8 October, 1986

The following Opinions, rulings of the International Commission on Zoological Nomenclature, have been published in volume 43, part 3, of the Bulletin of Zoological Nomenclature (6 October, 1986).

Opinion No.

1401 (p. 231) *Leucaspis* SIGNORET, 1869 (Homoptera): conserved.

1405 (p. 239) *Aphelinus mytilaspidis* LE BARON, 1870 (Hymenoptera): conserved.

1406 (p. 241) *Phalaena stagnata* DONOVAN, 1806 designated as type species of *Nymphula* SCHRANK, 1802 (Lepidoptera).

1407 (p. 243) *Lamia aethiops* FABRICIUS, 1775 designated as type species of *Ceroplesis* SERVILLE, 1835 (Coleoptera).

1408 (p. 245) *Hypocryphalus mangiferae* (STEBBING, 1914) given nomenclatural precedence over *Cryphalus inops* EICHHOFF, 1872 and *Hypothenemus griseus* BLACKBURN, 1885 (Coleoptera).

1411 (p. 251) *Drymus ryeii* DOUGLAS & SCOTT, 1865 (Hemiptera): neotype set aside.

1416 (p. 264) *Cnetha* ENDERLEIN, 1921 and *Pseudonevermannia* BARANOV, 1926 (Diptera): type species designated; *Atractocera latipes* MEIGEN, 1804: confirmation of holotype.

ITZN 11/5 8 October, 1986

The following applications have been received by the Commission and have been published in volume 43, part 3, of the Bulletin of Zoological Nomenclature (6 October, 1986). Comment or advice on them is welcomed and should be sent c/o The British Museum (Natural History), London, England. Comments will be published in the Bulletin.

Case No.

2520 *Corixa albifrons* MOTSCHULSKY, 1863 (Heteroptera): proposed confirmation of neotype designation.

2252 *Dexia* MEIGEN, 1826 (Diptera): proposed designation of *Musca rustica* FABRICIUS, 1775, as the type species.

2565 *Geonemus* SCHOENHERR, 1833 and *Brachyomus* LACORDAIRE, 1863 (Coleoptera): proposal to maintain current usage by designation of a type species for *Geonemus*.

2524 *Phaulacridium vittatum* (SJÖSTEDT, 1920) (Orthoptera): proposed conservation by suppression of *Acridium ambulans* ERICHSON, 1842.

New Distributional Data about Some Species of Alticinae (Coleoptera, Chrysomelidae)

By Blagoy Gruev

University of Plovdiv, Bulgaria

In this paper 10 taxa of Alticinae are newly recorded to various parts of Eurasia.

I thank Prof. Dr. L. N. Medvedev from Moskow and Dr. M. Daccordi from Verona for the loan of the material, and Prof. Dr. S. Kimoto from Kurume for the loan of a male specimen of *Aphthona foudrasi* Jacoby from Japan for a comparison, as well as for other valuable assistance.

Altica japonica Ohno, 1960

China: Chekiang, Hangchow, 10. IV. 1929, leg. Prof. P. H. Tsai, 1 ex. (ex coll. Museum of Verona, Italy) (aedeagus examined).

Distribution: Japan (Honshu), Korea (S. Phenan). New to China.

Aphthona foudrasi Jacoby, 1885

U. S. S. R.: Krasnoiarsk Distr., Tura, 28. VIII. 1982, 8 exs. (ex coll. L. N. Medvedev) (aedeagus examined).

Distribution: Japan (Hokkaido, Honshu, Kyushu), E. China, N. Vietnam. New to U. S. S. R.

Hermaeophaga adamsii Baly, 1874

China: Fukien, Kuatun, leg. Tschung-Sen, IV. 1946, 1 ex. (ex coll. Museum of Verona, Italy).

Distribution: Japan (Honshu, Sado Is., Oki Is., Shikoku, Kyushu, Tsushima Is.). New to Continental Asia.

Longitarsus alfieri furthi Gruev, 1982

U. S. S. R.: Ukrainian S. S. R., Voroshilovgrad Distr., Belovodsk, river Derkul, 31. V. 1952, 2 exs. (ex coll. L. N. Medvedev) (aedeagus examined).

Distribution: Bulgaria, Yugoslavia, U. S. S. R. (Crimea), Spain. New to the East of the Ukrainian S. S. R.

[Ent. Rev. Japan, Vol. XLI, No. 2, pp. 137-138, Dec., 1986]

Longitarsus fulgens (FOUDRAS, 1860)

U. S. S. R.: Krasnoiarsk Distr., S. from Abakan, 19. VIII. 1973, 2 exs. (ex coll. L. N. MEDVEDEV) (aedeagus examined).

Distribution: Europe (Finland, Poland, F. R. G., G. D. R., Switzerland, Czechoslovakia, Hungary, Austria, France, Italy, Yugoslavia, Bulgaria, U. S. S. R. — Saratov Distr., Ukrainian S. S. R.). New to Siberia.

Longitarsus nigerrimus (GYLLENHAL, 1827)

U. S. S. R.: Amurland, river M. Pera - river B. Ergel, 1 ex. (ex coll. L. N. MEDVEDEV) (aedeagus examined).

Distribution: Europe (Norway, Sweden, Finland, Poland, Czechoslovakia, G. D. R., F. R. G., England, Yugoslavia, U. S. S. R. — Karelia, Carpathians, Caucasus). New to Asia.

Longitarsus nitidiamiculus KIMOTO, 1965

U. S. S. R.: Far East (Primorskii krai: Hassan Distr., 10 km S. from Kraskino), 15. VIII. 1956, 1 ex. (ex coll. L. N. MEDVEDEV) (aedeagus and spermatheca examined); Kuril Islands (Kunashir Is.: Tretiakovo), 5. VII. 1973, leg. KERJNER, 3 exs. (ex coll. L. N. MEDVEDEV).

Distribution: Japan (Hokkaido, Rebun Is., Rishiri Is., Yagishiri Is., Okushiri Is., Honshu, Oki Is., Shikoku, Kyushu, Tanegashima Is.). New to Continental Asia.

Longitarsus salviae GRUEV, 1975

U. S. S. R.: Krasnodarsk Distr., Gelendjik, 2. VII. 1964, 1 ex. (ex coll. L. N. MEDVEDEV) (aedeagus examined).

Distribution: Bulgaria, Yugoslavia, Rumania, Hungary, Czechoslovakia, G. D. R., Austria, Italy, France. New to U. S. S. R.

Longitarsus trepidus WARCHALOWSKI, 1973

U. S. S. R.: Georgia, Tbilisi, Bulagauri, V. 1956, 1 ex. (ex coll. L. N. MEDVEDEV); Afghanistan: Kabul, 2000 m, 21. VII. 1966, 1 ex. (ex coll. L. N. MEDVEDEV) (aedeagus of both specimens examined).

Distribution: N. Iran, Turkey. New to U. S. S. R. and Afghanistan.

Longitarsus walterhorni CSIKI, 1940

China: Fukien, Kuatun, leg. TSCHUNG-SEN, 5 exs. (ex coll. Museum of Verona, Italy) (aedeagus examined).

Distribution: Taiwan (Hokuto; Kuangyinshan), Korea (Kumi nr. Taegu, Palkongsan). New to China.

A Study on the Electron Microscopic Comparison of the Elytra of Cerambycidae (Coleoptera), Part I

By Shu Tamura and Tamotsu Tamura

Abstract

The authors examined the elytra of six subfamilies of Cerambycidae by scanning electron microscope.

Some Prioninae, e. g. Eurypodini, Prionini and Anacolini, and Parandrinae resemble each other. Spondylinae differs from the other subfamilies microscopically.

We easily distinguished Disteniinae from Lepturinae by their elytral patterns.

Lepturinae has two characteristic features: one is the scale-shaped surface in some Lepturinae, e. g. *Leptura, Stenurella, Anastrangalia* and *Pedostrangalia*; the other is the arrangement of many small round processes on the elytra in some of the Lepturinae, e. g. *Xenophyrama, Pyrrhona* and *Nivellia*.

We conclude that Necydalini (including *Callisphyris*) belongs to Lepturinae, microscopically.

Introduction

There are varying opinions as to the classification of the subfamilies of Cerambycidae.

The subfamilies of Cerambycidae are generally distinguished by the following morphological features Tarsi four-segmented or five-segmented, third tarsal segment emarginate or deeply bilobated. Pronotum margined or rounded laterally. Front coxae globular, conical or transverse. Base of antennae surrounded by eyes or not. Last segment of maxillary palpus pointed or blunt apically. Face vertical, slanting backward or slanting forward, and so on.

Villiers (1978) divides them into nine subfamilies: Parandrinae, Prioninae, Philinae, Aseminae, Spondylinae, Cerambycinae, Lamiinae, Lepturinae and Disteniinae, showing the relation between the nine subfamilies in a schematic graph.

Blackwelder (1946), however, divided them into only three subfamilies: Prioninae, Cerambycinae and Lamiinae.

Linsley (1962) and Crowson (1981) recognized Disteniidae as an independent family. Lamiidae was designated a family by Gahan (1906).

Electron microscopic study of the insect was begun by Anderson and Richards (1942) and Gentil (1942).

They examined the fine structures of the wing scales of *Morpho* spp. and the

[Ent. Rev. Japan, Vol XLI, No. 2, pp. 139-145, pls. 7-16, Dec., 1986]

elytron of the iridescent beetle *Serica sericea* via transmission electron microscope.

KOLYER and REIMSCHUESSEL (1969) carried out the first scanning electron microscopic study of the wing scales of *Colias eurytheme*.

Since then, many investigators have examined electron micrographs of the insects, especially of Lepidoptera.

Up to the present, however, no one has systematically compared the surface of the elytra of Coleoptera among the families.

In the present study, the authors examined the surface of the elytra of six subfamilies of Cerambycidae by scanning electron microscope and investigated the differences and similarities between them.

Materials and Methods

42 materials (40 species) were used for this study (Table 1).

Each left elytron was mounted and thinly coated with gold to approximately 700Å in thickness by ion sputter (JFC-1100).

We examined the secondary electron micrographs of the dorsal view of the elytral base at varying magnifications via scanning electron microscope (JSM-T200).

Table 1. Examined species of Cerambycidae and the sites of collection.

Parandrinae	
Parandra shibatai HAYASHI	Amami Is., Japan
Parandra brunnea (FABRICIUS)	Boston, U. S. A.
Prioninae	
Eurypodini	
Eurypoda batesi GAHAN	Fukuoka, Japan
Megopidini	
Megopis nipponica MATSUSHITA	Ehime, Japan
Megopis scabricornis (SCOPOLI)	Czechoslovakia
Prionini	
Prionus insularis MOTSCHULSKY	Hyogo, Japan
Anacolini	
Psephactus remiger HAROLD	Tottori, Japan
Spondylinae	
Spondylis buprestoides (LINNÉ)	Czechoslovakia
Spondylis buprestoides (LINNÉ)	Nara, Japan
Disteniinae	
Disteniini	
Distenia gracilis (BLESSIG)	Nara, Japan
Tengius ohkuboi MATSUSHITA	Kochi, Japan
Aseminae	
Asemini	

Arhopalus rusticus (LINNÉ)	Czechoslovakia
Arhopalus rusticus (LINNÉ)	Nara, Japan
Tetropium castaneum (LINNÉ)	Czechoslovakia
Megasemum quadricostulatum KRAATZ	Nara, Japan
Atimini	
Atimia okayamensis HAYASHI	Okayama, Japan
Lepturinae	
Vesperini	
Vesperus conicicollis FAIRMAIRE	Spain
Xylosteini	
Xylosteus spinolae FRIVALDSZKY	Yugoslavia
Encyclopini	
Encyclops olivacea BATES	Nara, Japan
Rhagiini	
Rhagium inquisitor (LINNÉ)	Czechoslovakia
Xenophyrama purpureum BATES	Oita, Japan
Stenocorini	
Pachyta quadrimaculata (LINNÉ)	Czechoslovakia
Brachyta interrogationis (LINNÉ)	Czechoslovakia
Carilia virginea (LINNÉ)	Czechoslovakia
Pseudosieversia japonica (OHBAYASHI)	Nagano, Japan
Lepturini	
Pyrrhona laeticolor BATES	Fukuoka, Japan
Nivellia sanguinosa (GYLLENHAL)	Czechoslovakia
Leptura arcuata PANZER	Czechoslovakia
Leptura quadrifasciata LINNÉ	Czechoslovakia
Anastrangalia dubia (SCOPOLI)	Czechoslovakia
Pedostrangalia pubescens (FABRICIUS)	Czechoslovakia
Stenurella septempunctata (FABRICIUS)	Bulgaria
Eroschemini	
Corennys sericata BATES	Nara, Japan
Necydalini	
Necydalis gigantea KANO	Gunma, Japan
Necydalis major LINNÉ	Czechoslovakia
Necydalis ulmi CHEVROLAT	Italy
Necydalis solida BATES	Hyogo, Japan
Necydalis harmandi PIC	Tokushima, Japan
Necydalis formosana KANO	Miyazaki, Japan
Callisphyris vespa FAIRMAIRE et GERMAIN	Chile
Callisphyris semicarigatus FAIRMAIRE et GERMAIN	Chile
Callisphyris macropus NEWMAN	Chile

Classification according to HAYASHI (1984) and VILLIERS (1978).

Results

Parandra shibatai (Figs. 1, 2): round holes (40–50μ in diameter) and smooth surface, each hole containing a short hair.

Parandra brunnea (Fig. 3): nearly the same as in Figs. 1, 2.

Eurypoda batesi (Fig. 4): nearly the same as in Figs. 1, 2.

Megopis nipponica (Figs. 5, 6): dense hairs on the rugged surface.

Megopis scabricornis (Fig. 7): nearly the same as in Figs. 5, 6.

Prionus insularis (Figs. 8, 9): round holes (approximately 50μ in diameter) and grooved surface, each hole containing a short hair.

Psephactus remiger (Figs. 10, 11): guitar-shaped holes, each with a short hair.

Distenia gracilis (Figs. 12, 13): dense hairs and round holes (50–60μ in diameter) on the grooved surface, each hole with a hair from the basal area.

Tengius ohkuboi (Figs. 14, 15): dense hairs and oval holes on the smooth surface, each hole with a very short hair from the basal area.

Spondylis buprestoides (Figs. 16–18): sparse hairs and round holes (approximately 60μ in diameter) on the grooved surface, each hole without a hair.

Arhopalus rusticus (Figs. 19–21): sparse hairs on the slightly uneven surface.

Tetropium castaneum (Fig. 22): nearly the same as in Figs. 19–21.

Megasemum quadricostulatum (Figs. 23, 24): nearly the same as in Figs. 19–21.

Atimia okayamensis (Figs. 25, 26): dense hairs on the smooth surface.

Vesperus conicicollis (Figs. 27, 28): sparse hairs on the grooved surface, some hairs longer (150–300μ).

Xylosteus spinolae (Figs. 29, 30): round holes (approximately 30μ in diameter) and smooth surface, each hole with a long hair.

Encyclops olivacea (Figs. 31, 32): round holes (approximately 20μ in diameter) and scale-shaped grooves, each hole with a long hair.

Rhagium inquisitor (Fig. 33): dense hairs and scale-shaped grooves.

Xenophyrama purpureum (Figs. 34, 35): many small, round processes and irregularly round holes, each hole with a hair.

Pachyta quadrimaculata (Figs. 36, 37): round holes (approximately 80μ in diameter) and scale-shaped grooves, each hole with a short hair.

Brachyta interrogationis (Fig. 38): dense hairs on the grooved surface.

Carilia virginea (Fig. 39): shallow holes and scale-shaped grooves, each hole with a hair.

Pseudosieversia japonica (Fig. 40): small holes (approximately 20μ in diameter) and long hairs on the scale-shaped surface.

Pyrrhona laeticolor (Fig. 41): nearly the same as in Figs. 34, 35.

Nivellia sanguinosa (Fig. 42): nearly the same as in Figs. 34, 35.

Leptura arcuata (Fig. 43): dense hairs on the scale-shaped surface.

Leptura quadrifasciata (Fig. 44): nearly the same as in Fig. 43.

Anastrangalia dubia (Fig. 45): nearly the same as in Fig. 43.

Pedostrangalia pubescens (Fig. 46): nearly the same as in Fig. 43.

Stenurella septempunctata (Fig. 47): nearly the same as in Fig. 43.

Corennys sericata (Figs. 48, 49): very dense hairs on the smooth surface.

Necydalis gigantea (Figs. 50, 51): dense hairs on the smooth surface.

Necydalis major (Fig. 52): dense, short hairs on the grooved surface.
Necydalis ulmi (Fig. 53): nearly the same as in Figs. 50, 51.
Necydalis harmandi (Fig. 54): short hairs and scale-shaped grooves.
Necydalis solida (Fig. 55): slender hairs on the smooth surface.
Necydalis formosana (Fig. 56): dense hairs and scale-shaped grooves.
Callisphyris vespa (Figs. 57, 58): dense, short hairs on the uneven surface.
Callisphyris semicaligatus (Fig. 59): dense hairs on the grooved surface.
Callisphyris macropus (Fig. 60): dense, short hairs on the grooved surface.

Discussion

Some tribes of Prioninae, e. g. Eurypodini, Prionini and Anacolini, are similar to Parandrinae in the pattern of the elytra. We believe this fact proves the genetic similarity among both subfamilies.

Only one species of Spondylinae was examined. *Spondylis buprestoides* is obviously different from the other subfamilies microscopically.

Only two species of Disteniinae in Japan have been examined; we, however, consider the hair from the basal area of each hole as possibly being a characteristic feature of this subfamily. VILLIERS (1978) stated that Disteniinae had similarity to Lepturinae, but they are quite different from Lepturinae micrographically.

Three species belonging to Aseminae resemble each other; *Atimia okayamensis*, however, is somewhat different from other species of Aseminae.

The scale-shaped elytra of Lepturinae, e. g. *Leptura, Anastrangalia, Pedostrangalia, Stenurella, Pseudosieversia* and so on, is a remarkable feature. There are few differences among these genera.

The many small, round processes on the elytra of Lepturinae, e. g. *Xenophyrama, Pyrrhona* and *Nivellia*, are also characteristic. *Xenophyrama* belongs to Rhagiini, *Pyrrhona* and *Nivellia* to Lepturini, according to HAYASHI (1984). KUSAMA et al. (1984), however, hold that these genera belong to Lepturini. Microscopic findings cannot distinguish among these genera.

Vesperus is a peculiar genus in view of its hypermetamorphosis. CROWSON (1981) placed it among Disteniinae; this genus, however, is quite different from two genera of Disteniinae and other genera of Lepturinae.

Xylosteus spinolae and *Corennys sericata* do not show scale-shaped surfaces, a fact, which suggests that Xylosteini and Eroschemini may be independent tribes.

Although *Necydalis harmandi* and *N. formosana* have many scale-shaped grooves on the surface of the elytra, the surface of the other *Necydalis* is smooth. *Necydalis* is quite different from the other Lepturinae morphologically, we conclude, however, that Necydalini (including *Callisphyris*) belongs to Lepturinae, microscopically.

Acknowledgements

This is a memorial paper for the late Mr. MITSUO GOTO, our fine friend, who was so kind to us over the years.

The authors are grateful to Dr. MASAO HAYASHI, Osaka Jonan Women's Junior College, for his valuable suggestions throughout this study.

We also thank Mr. SEIYA OGATA for providing some of the materials, and Mr. EIJI TSUJI, Osaka Prefectural Industrial Research Institute, for his excellent technical assistance.

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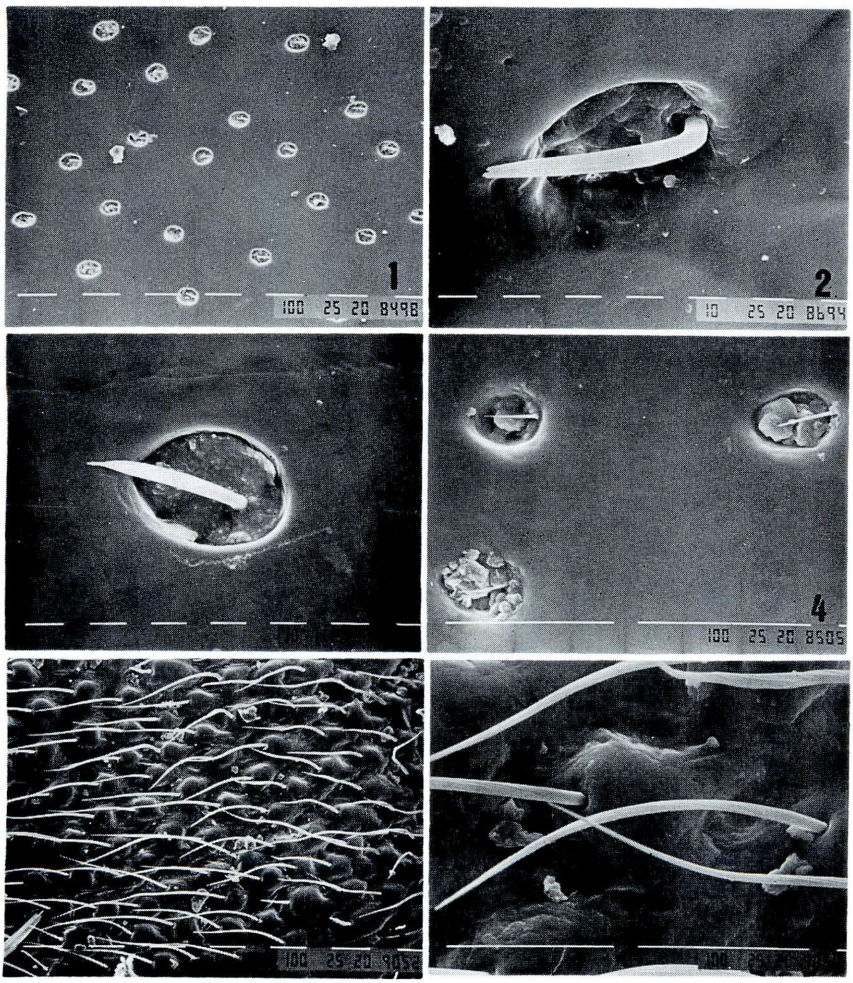
Explanation of Plates 7-16.

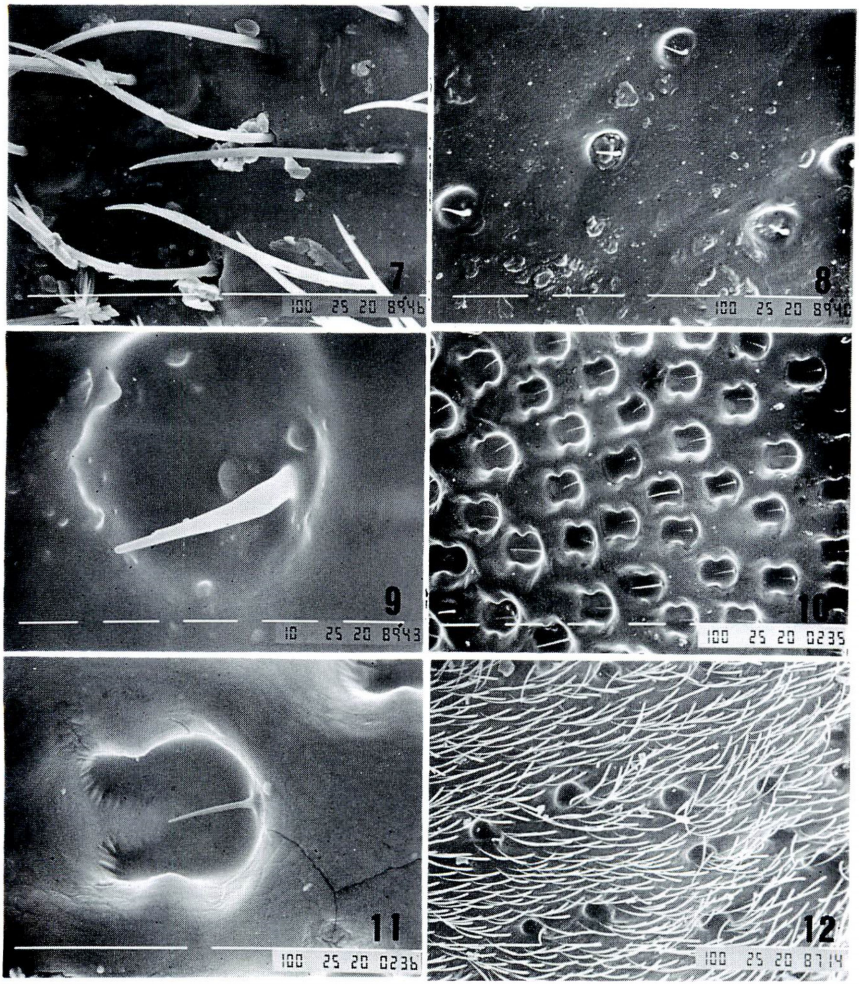
Pl. 7, fig. 1. *Parandra shibatai*, ×100.
2. Ditto, ×1,000
3. *Parandra brunnea*, ×1,000.
4. *Eurypoda batesi*, ×500.
5. *Megopis nipponica*, ×100.
6. Ditto, ×500.

Pl. 8, fig. 7. *Megopis scabricornis*, ×500.
8. *Prionus insularis*, ×200.
9. Ditto, ×1,500.
10. *Psephactus remiger*, ×100.
11. Ditto, ×500.
12. *Distenia gracilis*, ×100.

Pl. 9, fig. 13. Ditto, ×500.
14. *Tengius ohkuboi*, ×100.
15. Ditto, ×500.
16. *Spondylis buprestoides*, ×100, (Czechoslovakia).
17. Ditto, ×500, (Czechoslovakia).



(S. & T. TAMURA photo.)



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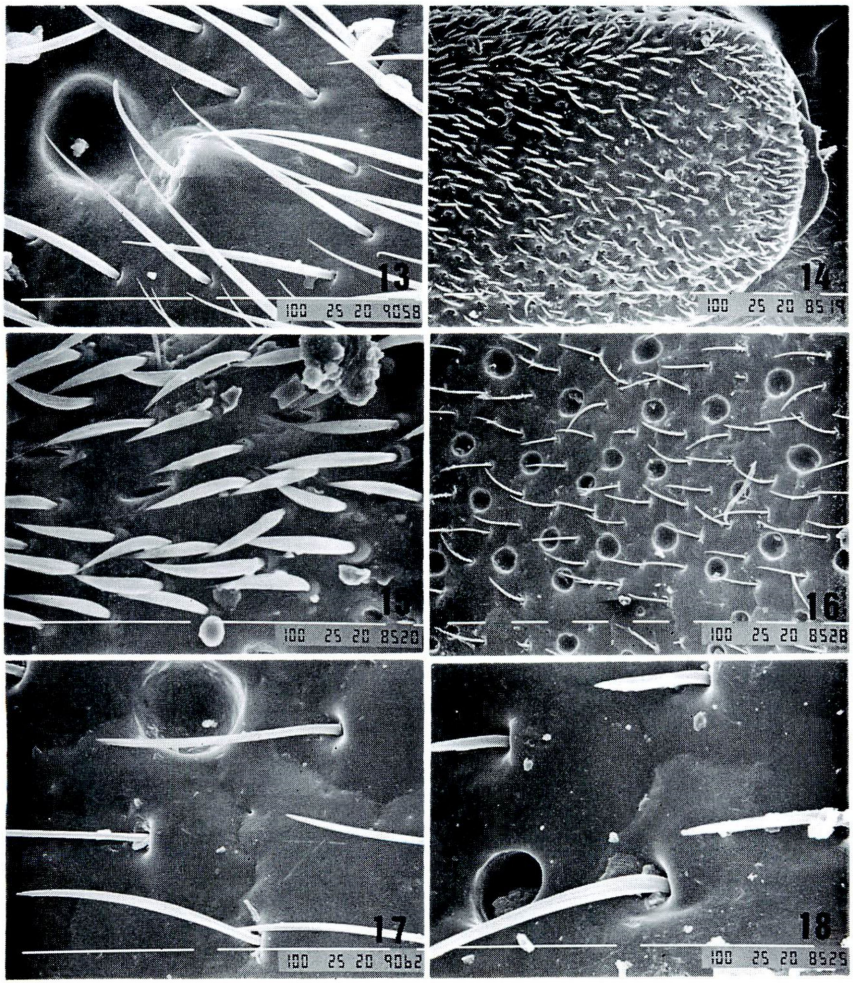

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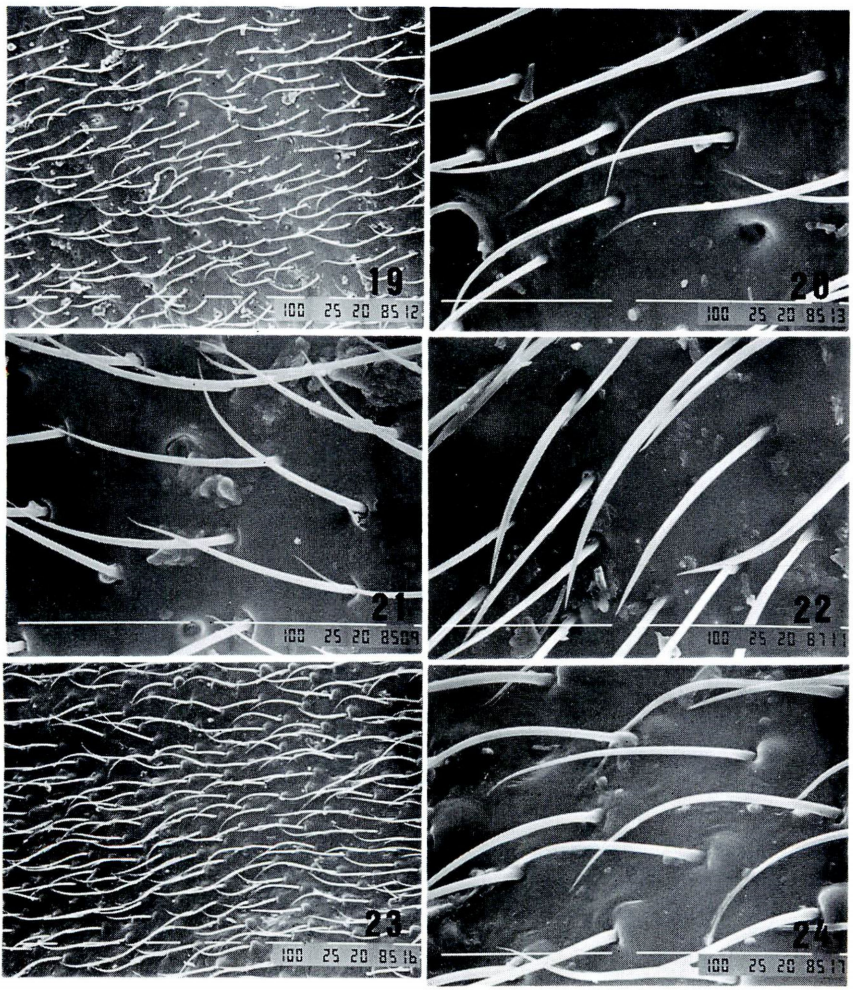

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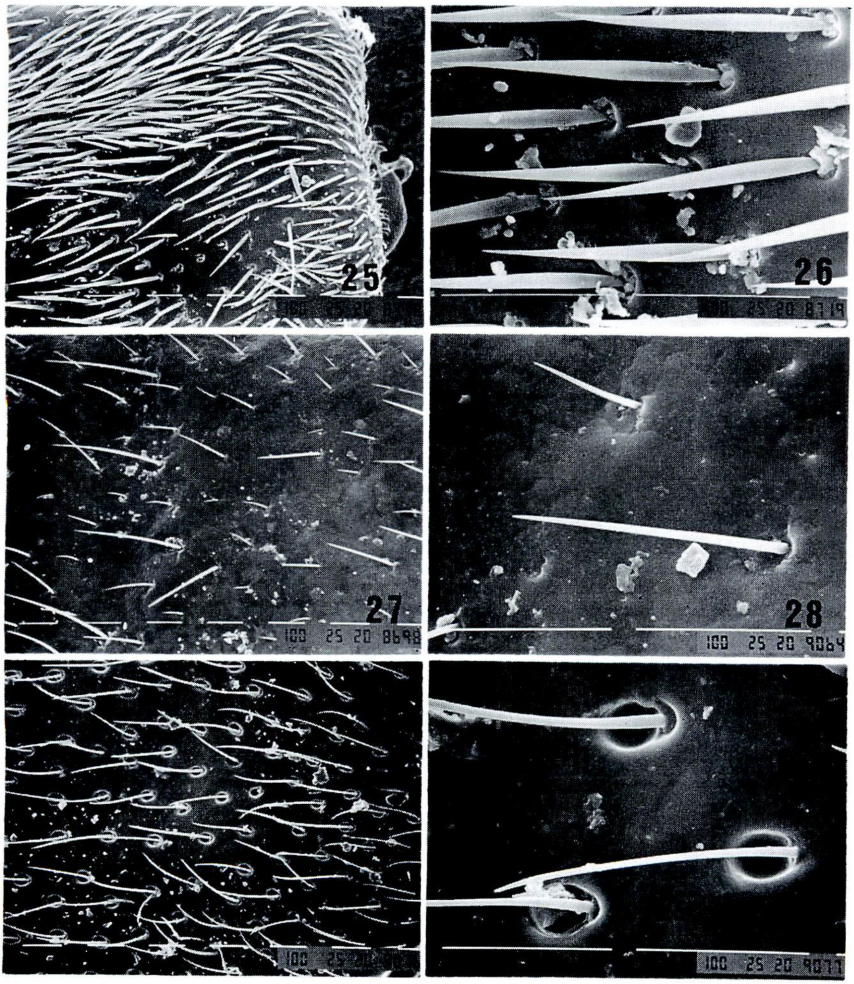

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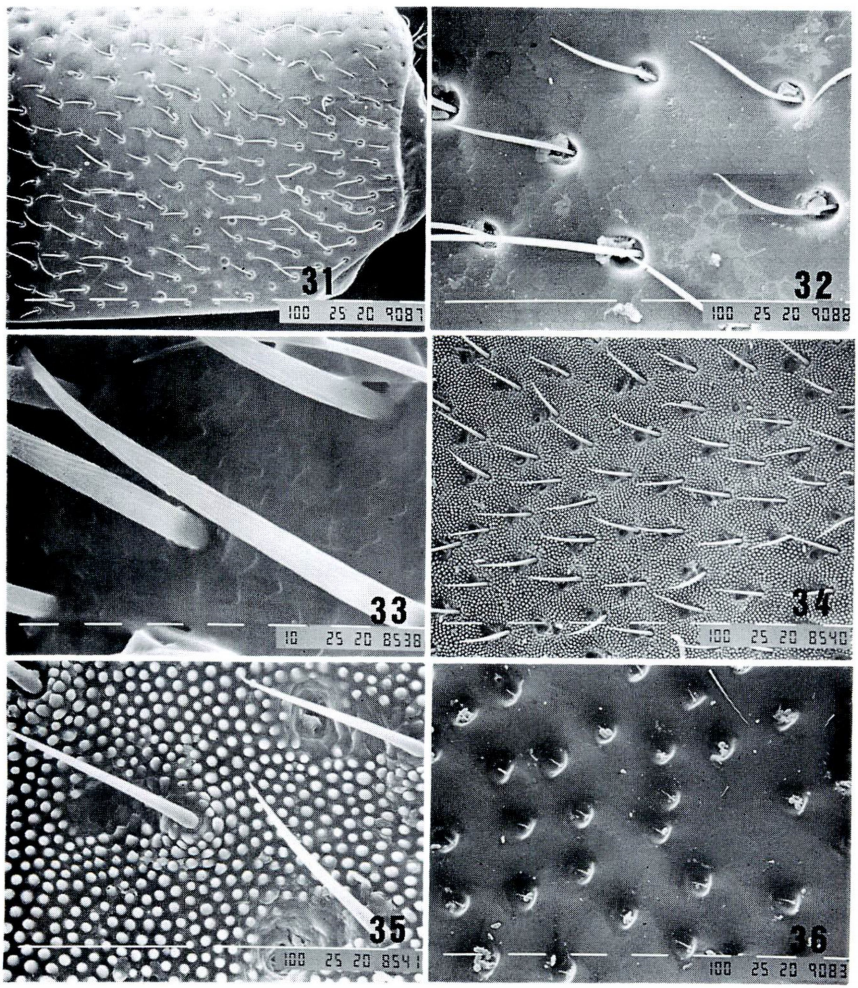

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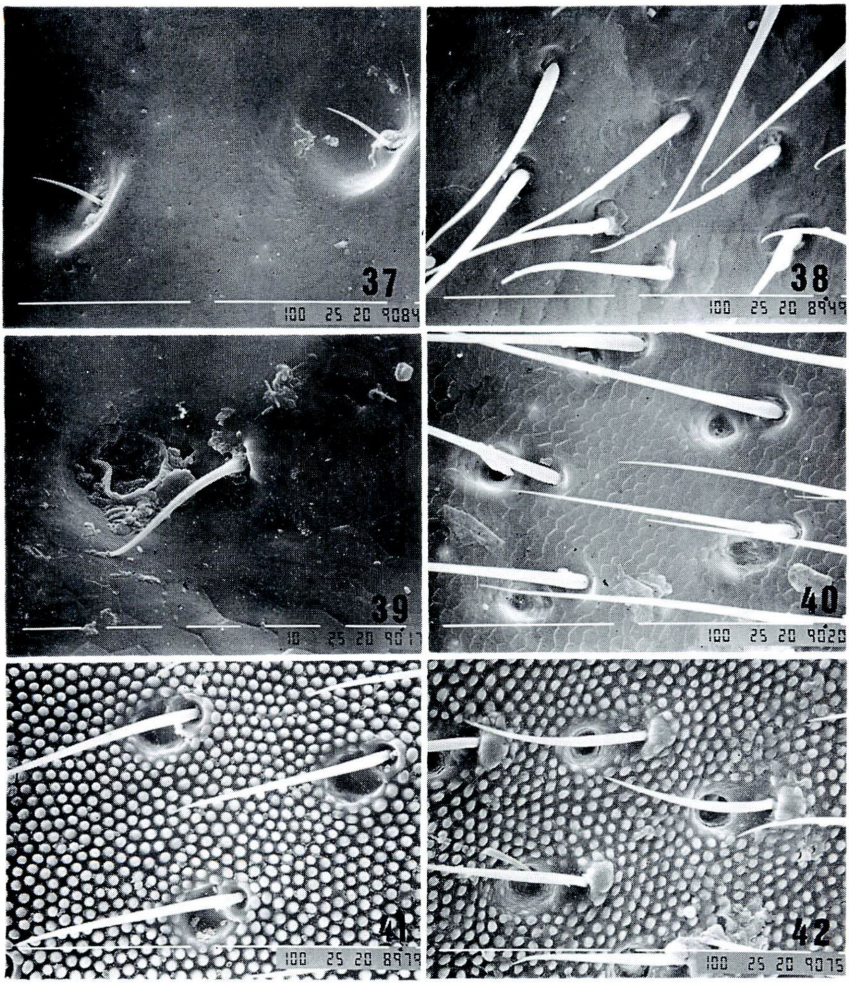

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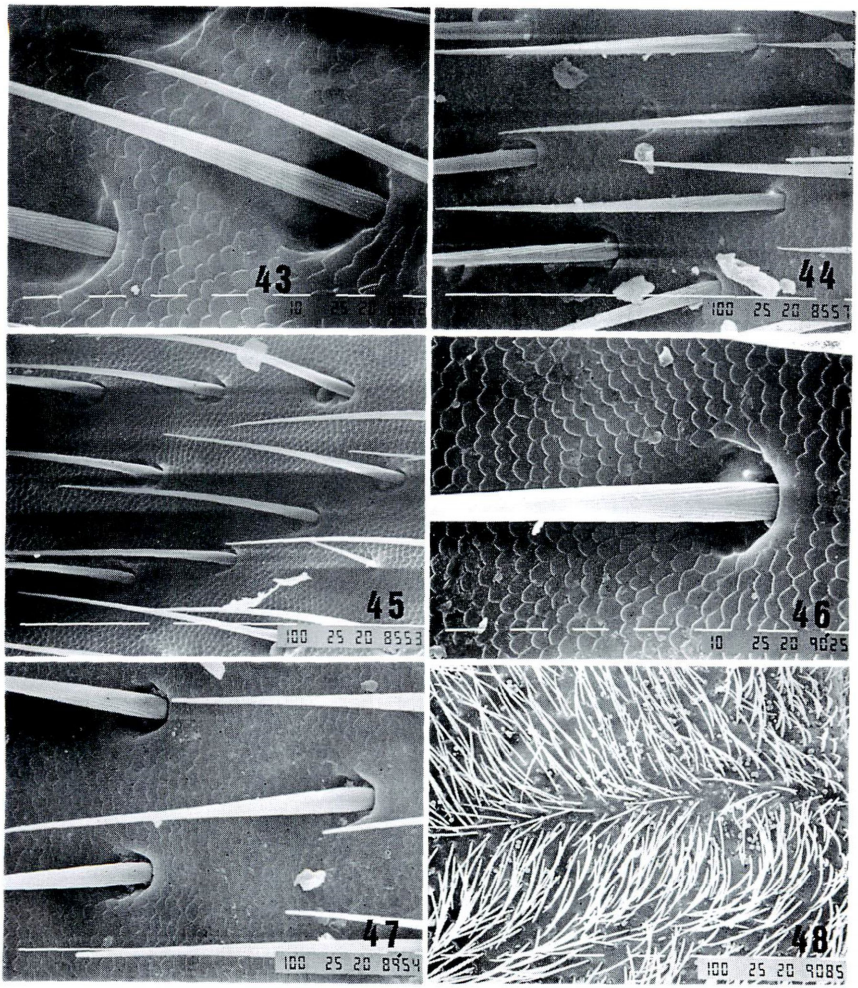

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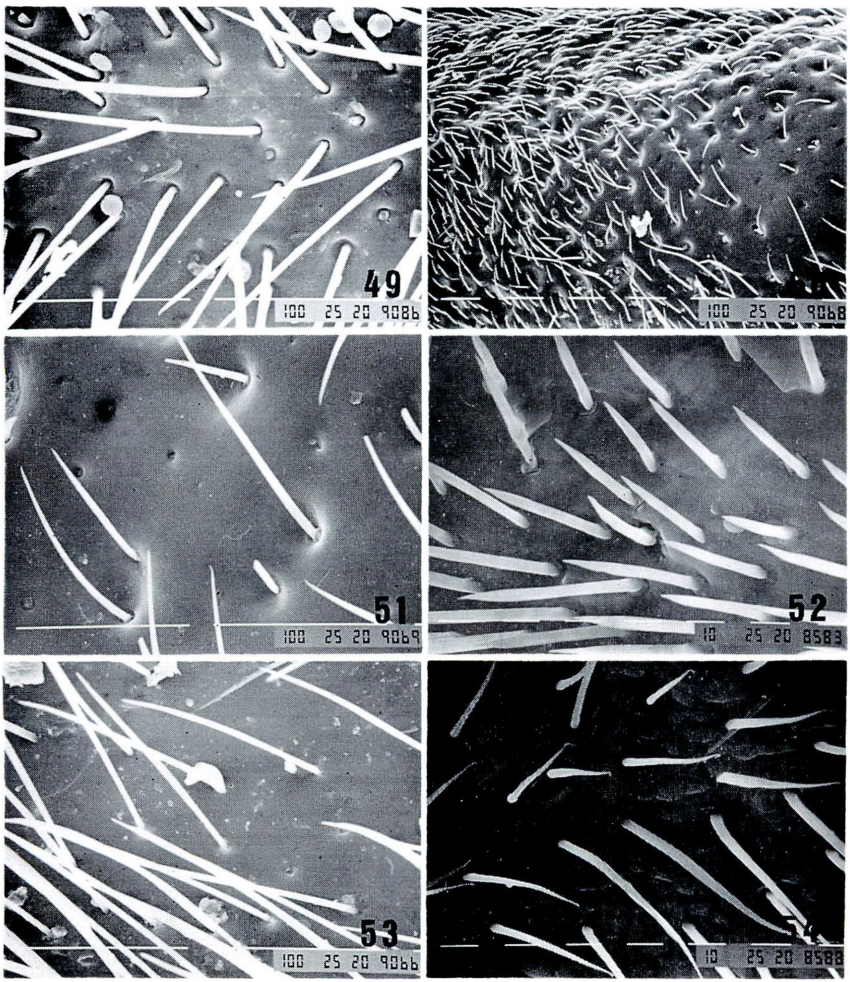

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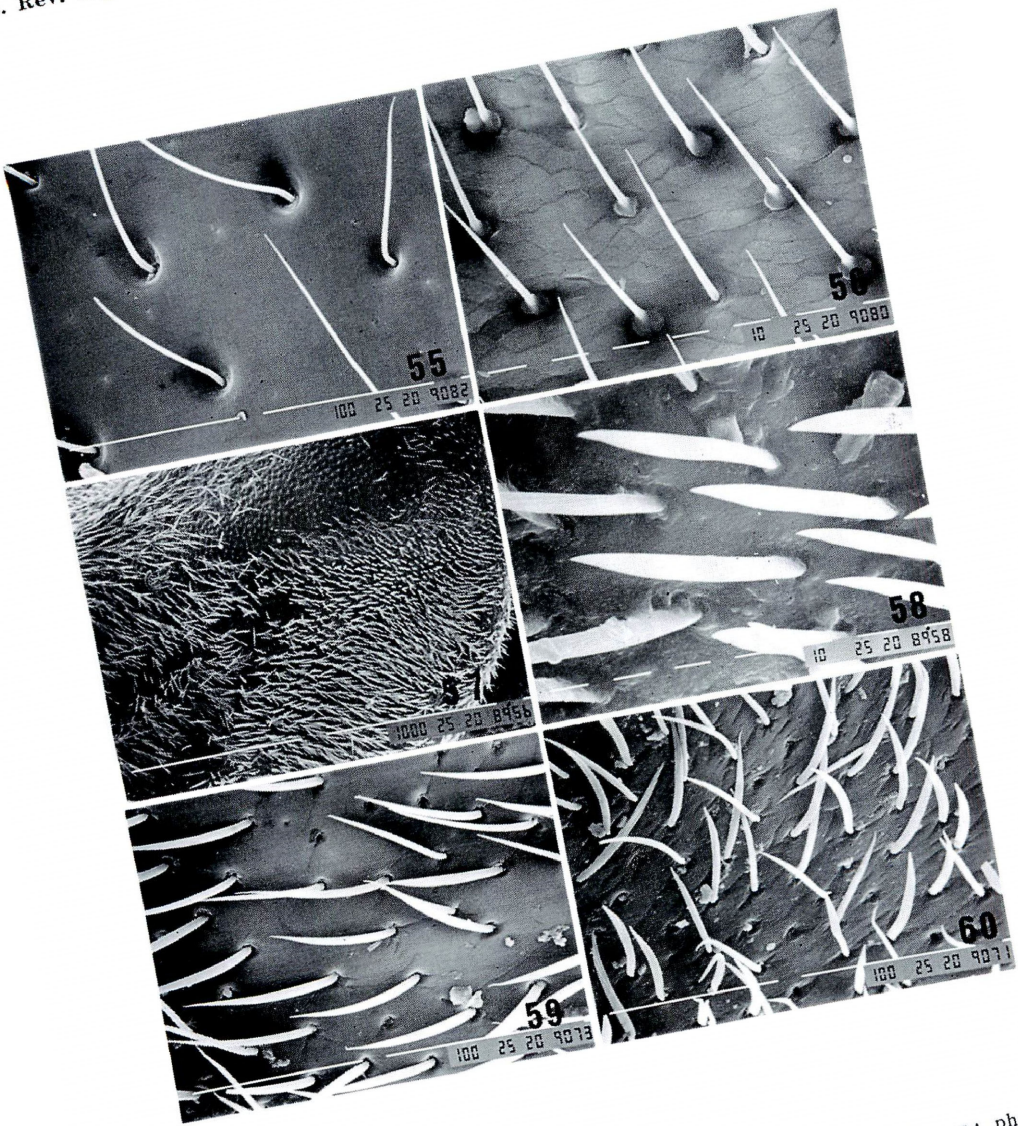
Ent. Rev. Japan, Vol. XLI, Pl. 16.



(S. & T. TAMURA phot

18. Ditto, ×500, (Nara, Japan).

Pl. 10, fig. 19. *Arhopalus rusticus*, ×100, (Czechoslovakia).
20. Ditto, ×500, (Czechoslovakia).
21. Ditto, ×500, (Nara, Japan).
22. *Tetropium castaneum*, ×500.
23. *Megasemum quadricostulatum*, ×100.
24. Ditto, ×500.

Pl. 11, fig. 25. *Atimia okayamensis*, ×100.
26. Ditto, ×500.
27. *Vesperus conicicollis*, ×100.
28. Ditto, ×500.
29. *Xylosteus spinolae*, ×100.
30. Ditto, ×500.

Pl. 12, fig. 31. *Encyclops olivacea*, ×100.
32. Ditto, ×500.
33. *Rhagium inquisitor*, ×1,000.
34. *Xenophyrama purpureum*, ×100.
35. Ditto, ×500.
36. *Pachyta quadrimaculata*, ×100.

Pl. 13, fig. 37. Ditto, ×500.
38. *Brachyta interrogationis*, ×500.
39. *Carilia virginea*, ×1,000.
40. *Pseudosieversia japonica*, ×500.
41. *Pyrrhona laeticolor*, ×500.
42. *Nivellia sanguinosa*, ×500.

Pl. 14, fig. 43. *Leptura arcuata*, ×1,000.
44. *Leptura quadrifasciata*, ×500.
45. *Anastrangalia dubia*, ×350.
46. *Pedostrangalia pubescens*, ×1,000.
47. *Stenurella septempunctata*, ×500.
48. *Corennys sericata*, ×100.

Pl. 15, fig. 49. Ditto, ×500.
50. *Necydalis gigantea*, ×100.
51. Ditto, ×500.
52. *Necydalis major*, ×1,000.
53. *Necydalis ulmi*, ×500.
54. *Necydalis harmandi*, ×1,000.

Pl. 16, fig. 55. *Necydalis solida*, ×500.
56. *Necydalis formosana*, ×1,000.
57. *Callisphyris vespa*, ×50.
58. Ditto, ×1,000.
59. *Callisphyris semicarigatus*, ×500.
60. *Callisphyris macropus*, ×500.

Scale : Each white line is equal to 100μ at a magnification of ×50, ×100, ×200, ×350 or ×500, and 10μ at a magnification of ×1,000 or ×1,500.

中華人民共和国初記録のツマキアオジョウカイモドキ

李　景　科

Malachius prolongatus MOTSCHULSKY ツマキアオジョウカイモドキは日本では普通種であるが，従来中華人民共和国からは記録されていなかった．筆者は1984年8月4日に同国東北大石橋で，本種3♀♀を採集したので報告する．なお，種の同定は林靖彦，芝田太一両先生にお願いした．ここに厚くお礼申しあげる．

ヤエヤマサビコメツキについて

大　平　仁　夫

Notes on *Lacon* (*Alaotypus*) *yaeyamanus* (Miwa, 1934) (Coleoptera : Elateridae)

By Hitoo Ôhira

本種は Miwa (1934) によって石垣島で採集された標本にもとづいて新種として記載された種であるが，その後西表島を初め沖縄本島，沖永良部島，奄美大島，宝島，中之島，黒島などから知られ，北限は大隅諸島の黒島である．成虫は燈火によく飛来するので，そこで見出されることが多い．

本種は最近になって岸井 (1985) によって北海道から九州にかけて広く分布している *Lacon* (*Alaotypus*) *maeklinii* (Candèze, 1865) オオサビコメツキの亜種とされた．筆者はこれについて調査を進めてきたが，若干の知見を得たのでここに明らかにしておきたいと思う．

本種は体長 10～15mm で，一般に雌は雄より大形である．体は暗褐色で淡黄色の鱗状毛を生ずる．雌雄の形態上の差は外形からは明瞭ではない．触角の第3節は細長で円錐形状，第4節は第3節より明らかに短い (Fig. D)．前胸背板は細長く，後角は短く，後方に向ってとがる．腰板は巾広く，外方に顕著に巾せまくなる (Fig. E)．また，雄交尾器の外形は図示したように，中央突起は巾せまく，末端に向って漸次細まる．側突起は巾広く，末端部の外形は図示 (Fig. B) したようで，表面には少数の剛毛を生ずる．

一方，オオサビコメツキでは，触角の第3節は短く，第4節とほぼ等長である (Fig. H)．前胸背板は比較的短大で，後角は後外方に向ってとがる．小腮ひげの末節は弱く先端に向って拡大，末端は切断状に近い (Fig. J)．雄交尾器の外形は図示 (Fig. G) したように，側突起は巾広く，末端近くでくびれ，表面には多くの剛毛を生じ，その生ずる位置は前種とは著しく相違する．

以上のように，両種間には多くの相違点がみられ，このような形態上の差は，亜種の段階を越えたもので，種の特徴であると判断される．また，岸井 (1985) は“邦産の *Alaotypus* 種は先島諸島の *churakagi* を除くと，他は相互に極めてよく似ていて，共通種の分化型であることは間違いない”とされているが，オオサビコメツキでは爪の基部の背方に明らかに短剛毛 (Fig. I，↑印，2本みられるが1本のこともある) を生じているが，ヤエヤマサビコメツキではこの剛毛は欠如している (Fig. C)．このことは，本種がオオサビコメツキの亜種ではなく，明らかに独立種であることを示しているものと思われる．また，オオサビコメツキは日

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本を中心とした比較的北の方で分化した種であり，ヤエヤマサビコメツキは東南アジア地域で分化した流れの一端であって，両種はそれぞれ別の系統のものから分化した種であると判断される．

引 用 文 献

岸井　尚 (1985)；日本とその周辺地域に分布するコメツキムシについての知見 (4)．月刊むし，175：8–10.

MIWA, Y. (1934)；The Fauna of Elateridae in the Japanese Empire. Dep. Agr., Gov. Res. Inst. Formosa, 65：1–289.

Summary

Lacon (*Alaotypus*) *yaeyamanus* (MIWA, 1934) is widely distributed throughout Loo-Choo Iss. KISHII (1985) established this species as the subspecies of *Lacon* (*Alaotypus*) *maeklinii* (CANDÈZE, 1865) from Japan (Hokkaidô, Honshû, Shikoku and Kyushû). The author has demonstrated that these are two distinct species to each other as shown in SEM images (Plate 17).

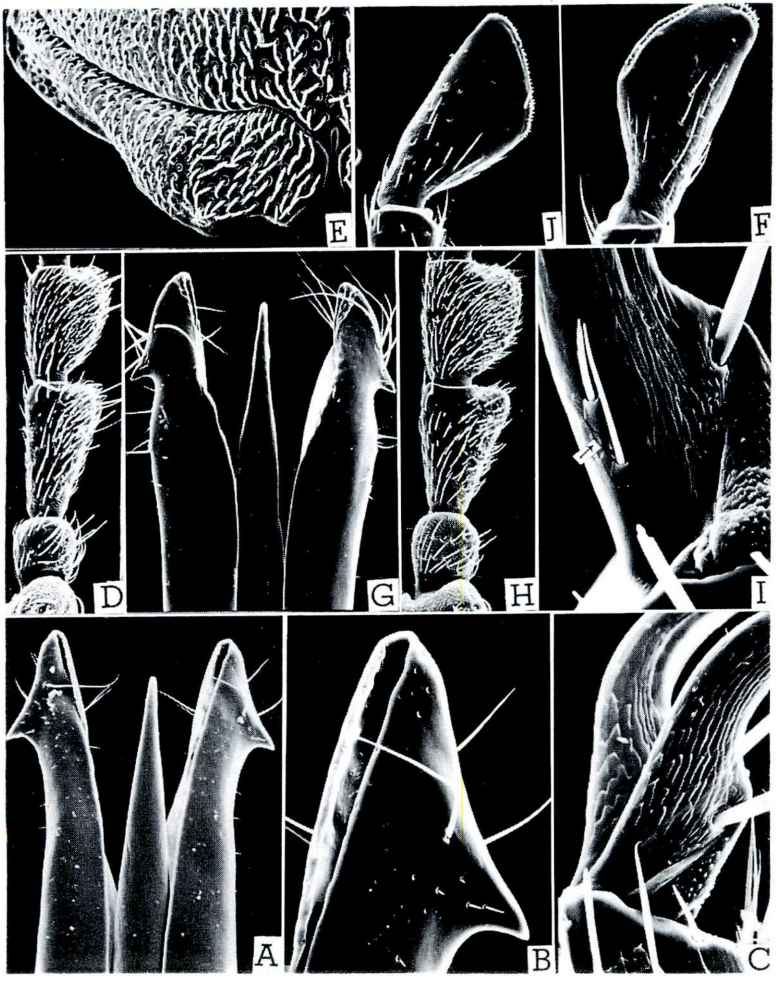
Explanation of Plate 17.

Figs. A–F：*Lacon* (*Alaotypus*) *yaeyamanus* (MIWA, 1934), Okinawa-honto.

A：Anterior part of aedeagus (dorsal view)；B：Ditto, lateral lobe；C：Ungula (lateral view)；D：2nd to 4th antennal segments (male)；E：Basal plate；F：Apical segment of maxillary palpus.

Figs. G–J：*Lacon* (*Alaotypus*) *maeklinii* (CANDÈZE, 1865), Hirakura, Mie-ken.

G：Anterior part of aedeagus (dorsal view)；H：2nd to 4th antennal segments (male)；I：Ungula (lateral view)；J：Apical segment of maxillary palpus.



H. Ôhira photo.