

Kontyû, Tokyo, 55 (2): 284-297. June 25, 1987

The Anobiid Beetles from the Philippines (Coleoptera)¹⁾

Masahiro SAKAI

Department of Parasitology, Ehime University School of
Medicine, Shigenobu, Ehime, 791-02 Japan

Abstract Seven species of Anobiidae occurring in the Philippines are recorded. One genus and five species are described as new: *Striatheca filipinae*, *Stagetomorphus tuberculifrons*, *Dimorphotheca ganodermicola*, *Dimorphotheca luzonica* spp. nov. and *Caenotylistus palawanensis* gen. et sp. nov. Taxonomic and zoogeographical notes of each species are presented.

During a period from July to September, 1985, I had a chance to survey the coleopterous fauna of the Philippines, as a member of a zoological expedition to the Philippines made by the National Science Museum, Tokyo. Through the survey, I was able to collect more than 700 specimens of anobiid beetles from various localities in Luzon, Mindanao and Palawan. They were discriminated into 13 species of 11 genera. However, most of them belong to only two fungivorous species, *Dimorphotheca ganodermicola* and *Caenotylistus palawanensis* described below as new to science. Owing to the presence of only one female or damaged specimen, it was very difficult to determine the specific name of 6 species.

Excepting two cosmopolitan pests of stored products, *Lasioderma serricornne* (FABRICIUS) and *Stegobium paniceum* (LINNAEUS), *Sculptotheca minor* (PIC) which is a unique species of Anobiidae known from the Philippines, was not obtained in the present survey.

In this paper, I deal with seven species whose taxonomic status was determined, together with brief zoogeographical and taxonomic notes, while the remainings will be reported when additional specimens are collected in the future.

Abbreviations used for the type depository are as follows: NSMT=National Science Museum (Nat. Hist.), Tokyo, ELEU=Entomological Laboratory, College of Agriculture, Ehime University, Matsuyama.

Stegobium paniceum (LINNAEUS)

Dermestes paniceus LINNAEUS, 1758, Syst. Nat., (ed. 10): 357.

Stegobium paniceum: MOTSCHULSKY, 1860, R.-F. Amur-Land., 2: 154.

Sitodrepa panicea: THOMSON, 1863, Scand. Coleopt., 5: 166.

Specimen examined. 1 ex., Manila, Luzon, 3. VII. 1985, M. SAKAI leg.

1) This study is supported by the Grants-in-aid for Overseas Scientific Survey Nos. 60041078 and 61043074 from the Ministry of Education, Science and Culture, Japan.

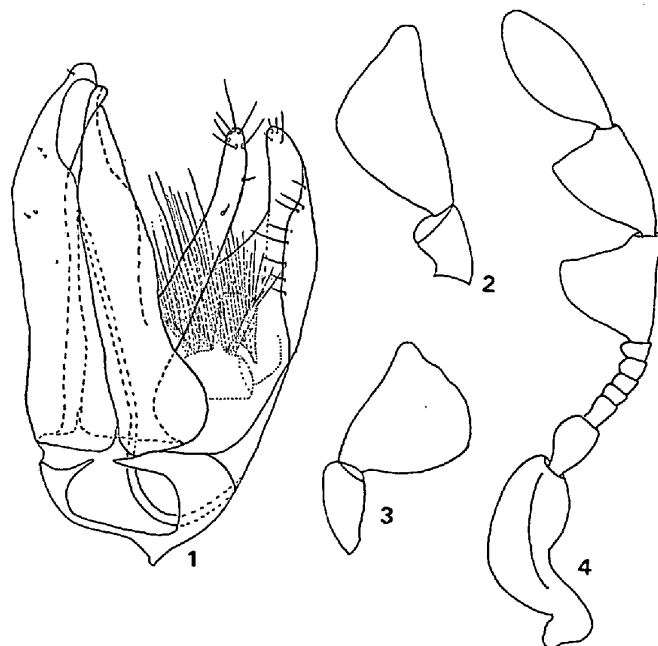
Lasioderma serricorne (FABRICIUS)*Ptinus serricornis* FABRICIUS, 1792, Ent. Syst., 1: 240.*Lasioderma serricorne*: STEPHENS, 1833, Nom. Br. Ins., 2: 47.*Specimens examined.* 2 exs., Manila, Luzon, 3. VII., 24. VIII. 1985, M. SAKAI leg.*Striatheca filipinae* sp. nov.

(Figs. 1-4)

Length: 1.63-1.78 mm; width: 0.88-1.00 mm.

Male. Body elongate elliptical, about 1.8 times as long as wide. Colour reddish brown to dark reddish brown, antennae except for 1st segment, palpi and tarsi diluted with yellow. Pubescence whitish yellow, fine, relatively long, moderate to dense, suberect on dorsum and recumbent on venter, directed anteriorly or anterolaterally on pronotum except on narrow portion at the centre of base where hairs are inclined posteriorly; elytral pubescence along each side of striae crossing above the stria, those on interstices inclined posteriorly.

Head shining, moderately and minutely punctured; frontal area slightly depressed, with a short and faint median longitudinal keel; fronto-clypeal suture indistinct. Eyes large, protruding, separated by 1.3 times their vertical diameter. Under surface of head excavated into a receptacle of antennae of which the basal margin is ridged throughout like the shape of the letter 3. Antennae 10-segmented,



Figs. 1-4. *Striatheca filipinae* sp. nov. — 1, Male genitalia; 2, maxillary palpus; 3, labial palpus; 4, male antenna.

distal three segments enlarged, forming a loose club, 1st segment robust, recurved, 2nd elongate-rotundate, about twice as long as 3rd, 3rd elongate, slightly dilated apically, twice as long as 4th, 4th through 7th very short, transverse, feebly produced inwards, 8th enlarged, strongly dilated apically, nearly as long as wide, approximately equal in length to 3rd through 7th combined, with apical margin feebly emarginate, 9th scarcely longer, but more weakly dilated apically than 8th, with the apical margin nearly straight, 10th elongate-oval, more than twice as long as wide. Last segment of maxillary palpus subtriangular, 1.7 times as long as wide; last segment of labial palpus broadly dilated, scarcely longer than wide. Pronotum with punctures dual, minute punctures predominant at the centre, becoming sparser both anteriorly and basally, lacking at sides, large punctures with vague outlines shallow, sparse and irregular in arrangement at the centre, then increasing in density and intergrading to setigerous granules towards sides. Scutellum semi-elliptical, moderate in size. Elytra well convex above, conjointly about 1.3 times as long as wide, subparallel-sided in basal 3/4, each elytron with 10 distinct striae which include punctures decorated with granules, scutellary striole usually indistinct, faintly indicated as a very short fine furrow in an example, interstices feebly elevated, shining but transversely rugulose.

Prosternum short, deeply concave beside medio-longitudinal carina; prosternal process short, triangularly produced between procoxae. Metasternum with anterior 1/3 declivous, keeled around, and medially produced into a hook-like process of which the posterior extension is bi-carinate, disc of the anterior declivity microscopically shagreened, deeply excavated for the reception of middle legs; posterior 2/3 of metasternum roughly asperate, medio-longitudinal groove broad, of which the anterior end forms a deep mycangium-like pit. Abdominal sternites finely scabrous, owing to small punctures and fine flattened granules which are irregular in shape, 2nd to 4th sternites subequal in length on mid-line, 5th the longest, about 1.6 times as long as 4th, deeply furrowed along apical margin, with the apex gently rounded. Protibiae very slender, barely visible in retraction; middle femora flattened and expanded at the middle.

Female. The external sexual dimorphism is quite uncertain, but the 3rd through 7th funicular segments of antennae are slenderer; eyes scarcely smaller, separated by 1.5 times their vertical diameter.

Type series. Holotype ♂ (NSMT), allotype (ELEU) and 2 ♀♀ paratypes (ELEU): Trident Mine, ca. 500 m alt., the foot of Mt. Victoria Peak, near Narrha, Palawan, emerged on 10. II. 1986 from a kind of polyporus-fungus which was collected by me on 5. IX. 1985.

Notes. This new species is easily distinguished from the closely related species, *Striatheca cariniceps* SAKAI, 1983 from Nepal by the small-sized body, large eyes, 10-segmented antennae, male genitalic features and so on.

The genus *Striatheca* was established by WHITE (1973), and is distributed in North and Central Americas. Recently, an Asian representative was recorded

from Nepal by SAKAI (1983). As was pointed out by ESPAÑOL (1978) and SAKAI (1979), *Striatheca* is very closely related to *Stagetomorphus* PIC, 1914 which is widely distributed in Africa and Asia, and hardly separated from the latter in morphology except for the antennal characters. Especially, according to ESPAÑOL (1978), there are no differences between *Striatheca* and *Zanzibarinus* ESPAÑOL, 1974 described as a subgenus of *Stagetomorphus* from Zanzibar even in the antennal conformation. In spite of the above statements, he (1982) used later *Zanzibarinus* for the African species, based on slight differences besides antennal characters.

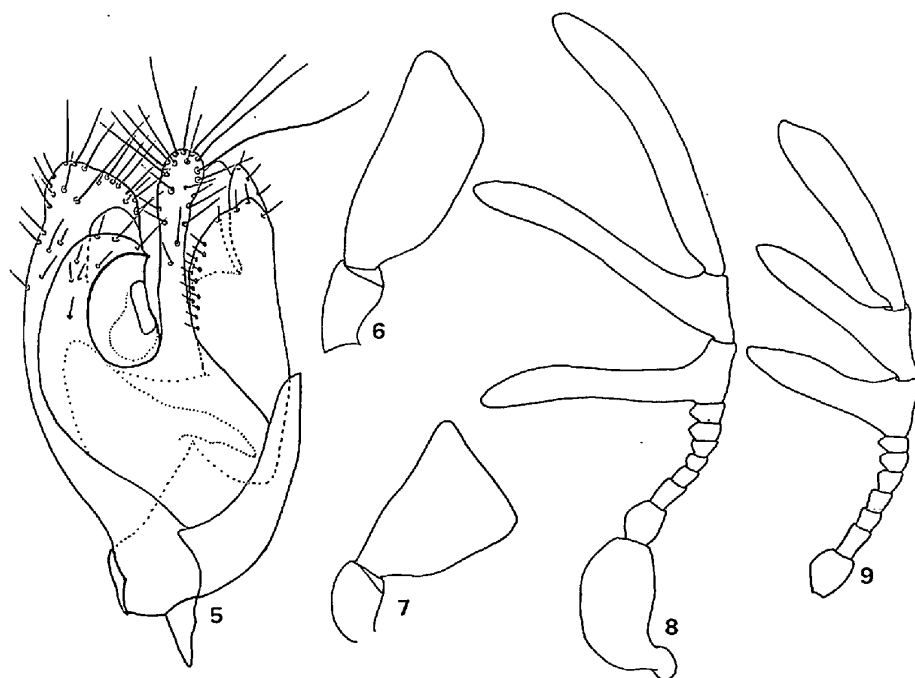
The discovery of additional species of *Striatheca* suggests that a heterogeneous species-group related to *Stagetomorphus* exists in Asia. If it is true, *Striatheca* had better to be treated as a good genus. There hardly remains doubt that *Striatheca*, *Stagetomorphus* and African subgenera of *Stagetomorphus*, *Hiekeus* ESPAÑOL, 1974 and *Zanzibarinus*, form a monophyletic group, and the antennal characters are most primitive in *Striatheca*. In the present paper, I would like to treat *Striatheca* as a genus, not as a subgenus of *Stagetomorphus*.

Stagetomorphus (s. str.) *tuberculifrons* sp. nov.

(Figs. 5-9)

Length: 1.52-1.82 mm; width: 0.96-1.08 mm.

Male. Body oblong-oval, 1.6 to 1.7 times as long as wide. Colour reddish brown to dark reddish brown, antennae except for 1st segment, palpi and legs lighter,



Figs. 5-9. *Stagetomorphus tuberculifrons* sp. nov. — 5, Male genitalia; 6, maxillary palpus; 7, labial palpus; 8, male antenna; 9, female antenna (scape omitted).

pronotum and elytra rarely infuscate. Pubescence fine, fairly long, moderate in density, erect to suberect on dorsum, recumbent to suberect on venter, inclined anteriorly to antero-laterally on pronotum, erected and arranged crosswise on elytra except for sutural hairs which are uniformly inclined posteriorly.

Head shining, very finely punctured, with a definite conical tubercle on frons, fronto-clypeal suture uncertain, because of a deep depression on clypeal area. Eyes large, prominent, separated by about 1.7 times their vertical diameter. Under surface of head deeply excavated in a shape like a letter 3 for the reception of antennae in repose. Antennae 11-segmented, 1st segment robust, 2nd rotundate, 3rd elongate-cylindrical, about 1.8 times as long as wide, 4th and 5th small, about as long as wide, 6th through 8th also small, but transverse, and gradually increasing apically in width, 9th and 10th with very long ramus, ramus of 9th about 4.3 times, that of 10th about 4.1 times as long as the length of respective segments, 9th a little shorter than 10th, 11th very elongate, recurved, 9 times as long as wide, about equal to 2nd through 10th combined. Last segment of maxillary palpus cuspidal, obliquely truncated at apical margin; last segment of labial palpus triangular. Pronotum transverse, widest at base, about 1.5 times as wide as long; punctures dual, minute punctures moderate in density on whole surface, larger punctures circular, shallow, irregular in density, separated by a distance about one to three diameters at the centre, becoming denser laterally, rather rugose at sides, anterior marginal area of pronotum seemingly glabrous, owing to destitution of larger punctures. Scutellum semi-elliptical, moderate in size. Elytra lustrous, conjointly about 1.2 times as long as wide, subparallel-sided in basal 7/10, then gently narrowed towards apex; each elytron with 11 distinct striae, devoid of scutellary striole, striae 1st and 10th, 2nd and 9th, 3rd and 4th, 5th and 8th, and 6th and 7th forming anastomoses on posterior declivity, 11th (lateralmost) brief but normal in structure, restricted on inflexed side above metasternum; interstices glabrous, nearly flat on disc, slightly elevated at sides; humeral callus protuberant; lateral margin emarginate at middle to receive hind knee in repose.

Prosternum very short, with a median longitudinal carina which extends to the top of short triangular prosternal process. Mesosternum shallowly furrowed medio-longitudinally. Metasternum with anterior inflexed portion concave for reception of middle legs, surrounded by carina, with a hook-like process rather broad; posterior portion of metasternum with medial 2/5 produced like a hump, coarsely punctured, lateral portions beside this hump granulate; medio-longitudinal groove forming a pit at base and deeply furrowed posteriorly. Abdominal sternites granulate, granules predominant on 2nd and 3rd sternites, restricted as a row along basal margin on 4th and 5th, 1st sternite concave for reception of hind legs except for intermetacoxal process which is broad and is furnished with a pair of triangular projections at sides, 2nd through 4th equal in length on mid-line, 4th and 5th conjointly flattened at the centre, 5th uniformly arched apically, provided with a furrow along apical margin. Pro- and mesocoxae contiguous to each other; protibiae slenderer than

other tibiae. Male genitalia complicately formed as shown in Fig. 5.

Female. Easily distinguishable from male by the following features: 11th and ramus of 9th and 10th antennal segments much shorter, ramus of 9th 2.8 times, that of 10th 2.1 times as long as the length of respective segments; 4th and 5th ventrites evenly convex, not flattened as in the male.

Type series. Holotype ♂ (NSMT), allotype (ELEU) and 2 ♀♀ paratypes (ELEU): Mt. Makiling, ca. 450 m alt., Los Baños, Laguna Province, Luzon, emerged on 24. X. 1985 from a *Ganoderma* fungus which has no stem like *G. boninense* PAT. The fungus was collected on 13. IX. 1985 by M. SAKAI.

Notes. This new species is easily distinguishable from all the known species of the genus by having a conical tubercle on frons.

The genus *Stagetomorphus* (s. str.) has previously been recorded from India, Australia, Papuan Subregion, Madagascar and Japan. However, *Stagetomorphus* (s. str.) may essentially be one of the Indo-Malayan elements. In this connection, FORD (1970) stated that some undescribed species occurred in Viet Nam and Thailand; I myself have also examined many specimens taken from Borneo and Thailand.

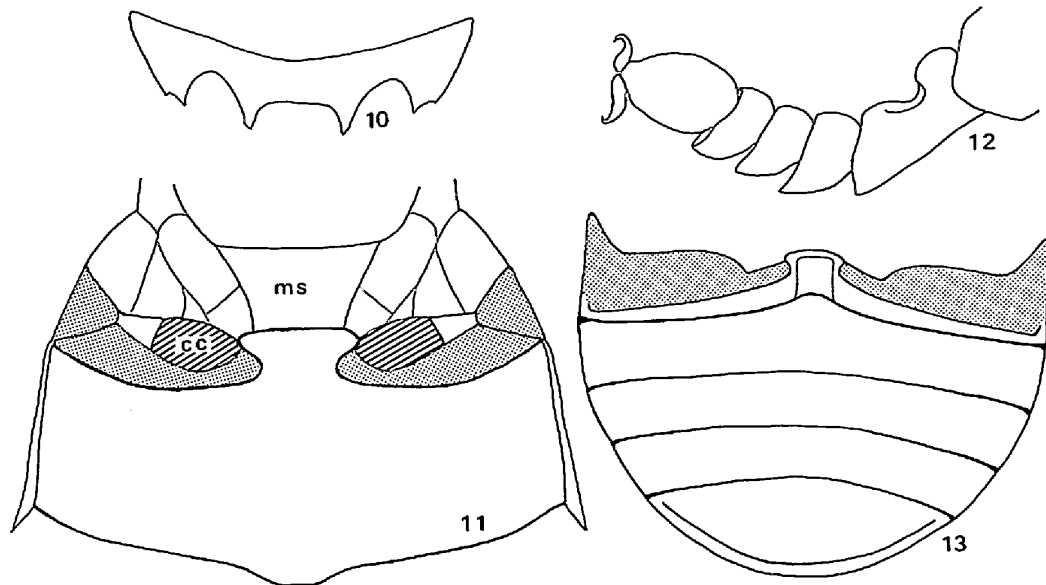
Caenotylistus gen. nov.

Type species: *Caenotylistus palawanensis* sp. nov.

Body oval, very shining, finely and sparsely punctured; pubescence sparse to moderate in density, erect to suberect, partially arranged crosswise as in *Caenocara* THOMSON, 1859.

Head evenly convex above; fronto-clypeal suture distinctly grooved. Eyes large, subcircular, incised for about 1/4 entire diameter of an eye. Antennae 8-segmented, 1st segment robust, 2nd globular, 3rd to 5th small, compactly jointed, 3rd nearly as long as wide, 4th and 5th strongly transverse, 6th to 8th forming a loose club, 6th large, triangularly produced apically, 7th gently but apparently dilated apically, with the apical margin weakly emarginate, 8th elongate-oval; interval between antennal sockets nearly equal to the interocular distance. Last segment of maxillary palpus not thickened, dilated apically, with the apical margin obliquely truncate; last segment of labial palpus subtriangular, more expanded than that of the maxillary one in proportion, with the apical margin emarginate. Under surface of head not excavated for the reception of antennae. Pronotum strongly transverse, sparsely punctured. Scutellum relatively small, semicircular to semi-elliptical. Elytra similar in outline to those of *Byrrhodes* LÉCONTE, 1878, conjointly about 1.2 times as long as wide; sparsely punctured; each elytron with 3 lateral striae, lower 2 striae deeply and distinctly impressed from base to near apex, uppermost stria also distinct, but evanescent in posterior 1/3, interstices between lateral striae not so strongly elevated; humeral callus protuberant, but not so conspicuous as in *Caenocara*.

Prosternum short, concave, with the posterior margin emarginate, but never



Figs. 10–13. *Caenotylistus palawanensis* gen. et sp. nov. — 10, Prosternum; 11, mesosternum and metasternum with their side pieces; 12, front tarsus; 13, abdominal sternites. ms: Mesosternum; cc: mesocoxal cavity. Dotted areas indicate the excavated portions to receive legs.

forming a long bi-corneous process as in *Dorcatoma* HERBST, 1792 and *Mizodorcatoma* HAYASHI, 1955. Mesosternum long, horizontal in front, vertical in posterior half, horizontal portion flat on disc, vertical portion excavated for the reception of antennae in retraction, with the excavation not so deep as in other related genera. Metasternum evenly convex, not flattened at the centre, with the posterior margin slightly and arcuately produced between hind coxae, and devoid of a notch at the middle; intermesocoxal process (anterior lobe) normally formed, truncated anteriorly, strongly constricted behind by tarsal grooves; medio-longitudinal groove absent, only discernible as a pigmented line. Abdominal sternites conjointly evenly convex, 5th sternite the longest, followed by 2nd, then 3rd, 4th the shortest, nearly half the length of 5th, 1st excavated for the reception of hind legs, concealed under hind legs in retraction except for median quadrate plate. Legs stout, pro- and mesocoxae both widely separated; 1st segment of protarsus provided with a tubercle at the base.

Male genitalia (Fig. 14) complicately conformed, similar in shape to those of the *bovistae*-group (sensu ESPAÑOL, 1977) of *Caenocara*, but the structure of median lobe is very different. Female genitalia similar to those of *Caenocara*, with the ovipositor neither sclerotized nor modified into sword-like piece as in *Dorcatoma*, *Mizodorcatoma*, *Byrrhodes*, *Dimorphotheca* and so on.

Secondary sexual dimorphism quite uncertain.

Notes. The name *Caenotylistus* is masculine, and formed by combining *Caeno*- from *Caenocara* with *-tylistus* from *Eutylistus* which is now regarded as a synonym of *Byrrhodes*.

This new genus is very closely related to *Caenocara*, though similar in body shape to *Byrrhodes* at a glance. The new genus is separable from *Caenocara* by a combination of the following features: body oval instead of subglobular; the incision of eye weak, not extending over 1/4 entire diameter of an eye; antennae 8-segmented, penultimate segment of antenna apparently dilated towards the apex, and with weakly emarginate apical margin; interval between antennal insertions nearly equal to the interocular distance; humeral calli of elytra not so conspicuous as in *Caenocara*; posterior margin of metasternum not notched at the middle; 1st tarsal segment much shorter than 2nd to 5th combined, and male genitalia different in structure. In addition to the above features, the difference in their food habits may serve an important diagnosis. The type species of this new genus described in the following lines feeds on hard bracket fungus, whereas, so far as I know, all the species of *Caenocara* feed on puff-balls. From other related genera, this new genus is easily distinguishable by the features of female genitalia, prosternum, mesosternum, antenna and so on, as described above.

Caenotylistus palawanensis sp. nov.

(Figs. 10-18)

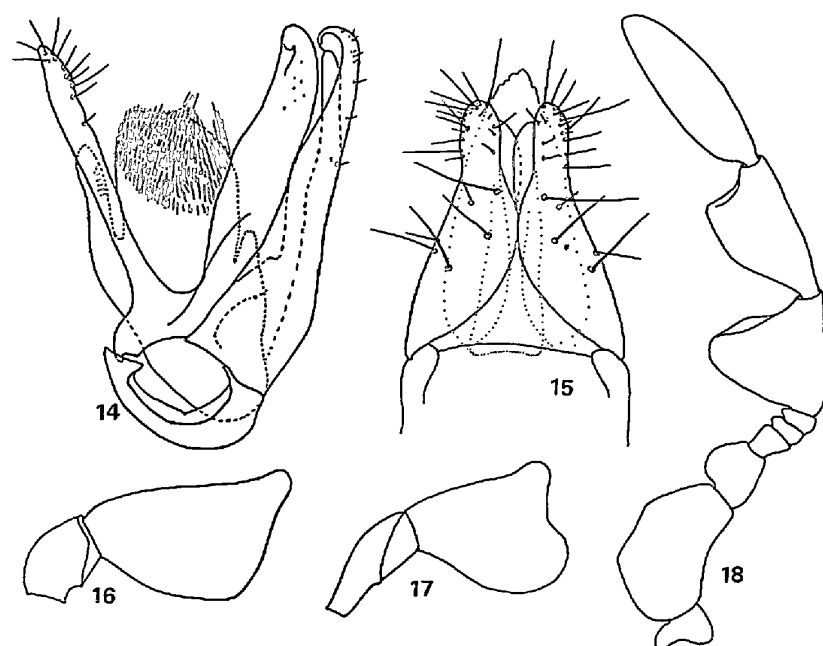
Length. 1.40-1.70 mm; width. 0.96-1.15 mm.

Body oval, well convex above, 1.44 to 1.49 times as long as wide. Colour dark reddish brown to blackish brown; head, pronotum and abdominal sternites usually more diluted with red; antennae except for 1st segment, palpi, tarsi, prosternum and mesosternum with its side pieces yellowish brown to light reddish brown. Pubescence fine, moderate in length, inclined anteriorly on head and pronotum; elytral pubescence erect to suberect, almost directed laterally, partially arranged crosswise, and directed posteriorly near suture.

Head minutely and sparsely punctured. Eyes large, separated by slightly less than their entire diameter, with the incision weak, about 1/4 as long as entire diameter of an eye. Antennae 8-segmented, 6th triangular, about as long as wide, 7th a little longer than 6th, but much narrower, 1.9 times as long as wide, 8th the longest, about 1.3 times as long as 7th. Pronotum shining, sparsely punctured, punctures very fine, uniformly arranged throughout; basal margin bi-sinuate. Elytra well convex above, without depressed area, widest at basal 2/5; punctures fine, sparse, uniform in arrangement except on postscutellar area where the punctures are large and sometimes have obscure margins.

Metasternum moderately to densely punctured, punctures much larger than those on head and pronotum, sparser laterally, but denser than those on dorsum. Abdominal punctures fine. First segment of protarsus with a tubercle at base, as long as 2nd to 4th segments combined; 1st segment of meso- and metatarsi short, nearly equal in length to 2nd and 3rd combined.

Secondary sexual dimorphism quite indistinct even in antennae and eyes.



Figs. 14–18. *Caenotylistus palawanensis* gen. et sp. nov. — 14, Male genitalia; 15, female genitalia; 16, maxillary palpus; 17, labial palpus; 18, male antenna.

Type series. Holotype ♂ (NSMT), allotype (ELEU), and 56 paratypes (NSMT and ELEU): Trident Mine, ca. 500 m alt., the foot of Mt. Victoria Peak, near Narrha, Palawan, emerged during a period from 20. XI. 1985 to 10. II. 1986 from a kind of polyporusfungi which were collected by M. SAKAI on 5. IX. 1985.

This new species was associated with *Striatheca filipinae* described above and a certain species of ciid beetles.

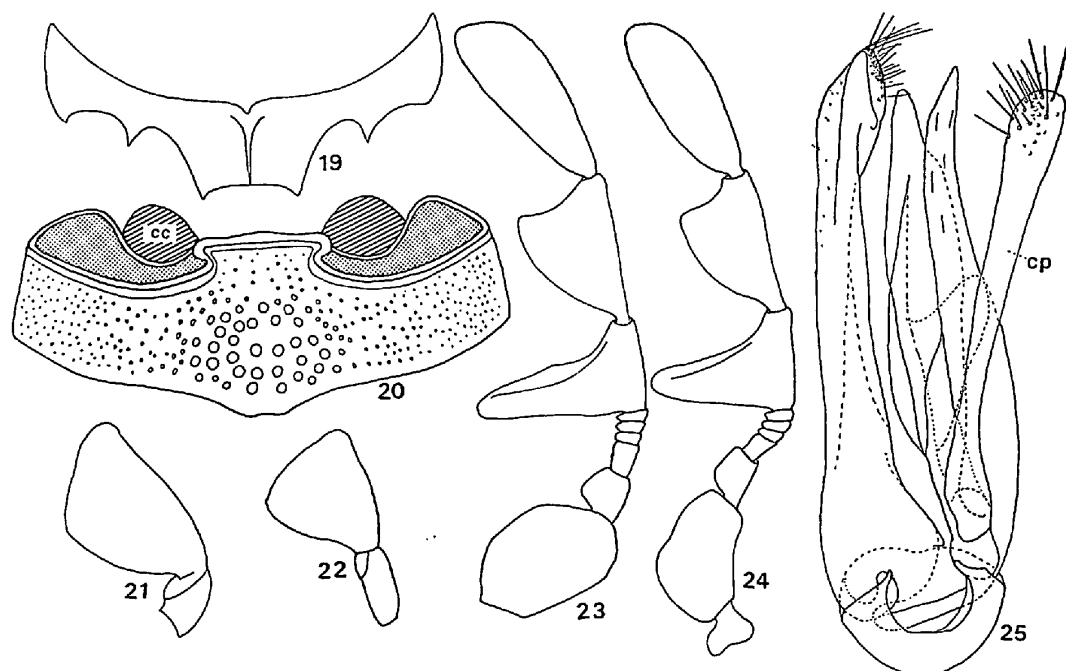
Dimorphotheca ganodermicola sp. nov.

(Figs. 19–25)

Length: 1.20–1.61 mm; width: 0.89–1.15 mm.

Male. Body broad oval, 1.35 to 1.40 times as long as wide. Colour reddish brown to blackish brown, antennae except for 1st segment, palpi, tarsal segments, under surface of head and the recessed portion of thoracic sterna more or less lighter. Pubescence fine, fairly dense on dorsum, moderate in density on venter, mostly anteriorly directed on head; prosternal pubescence recumbent to suberect, directed anteriorly or antero-laterally except at the centre of base where the pubescence is swirled; elytral pubescence erect to suberect, irregular in direction on disc, directed laterally at extreme sides, and inclined posteriorly on sutural area; body with a whitish broad margination caused by hairy sheen under a certain direction of light.

Head evenly convex above, very finely punctured; fronto-clypeal suture distinctly and arcuately grooved, the groove recurved at sides and joining a groove which



Figs. 19–25. *Dimorphotheca ganodermicola* sp. nov. — 19, Prosternum; 20, metasternum; 21, maxillary palpus; 22, labial palpus; 23, male antenna; 24, female antenna; 25, male genitalia. cc: Mesocoxal cavity; cp: clavate piece. Dotted areas indicate the excavated portions to receive middle legs.

extends along the inner margin of eye; clypeus strongly transverse, almost twice as long as wide. Eyes moderate in size, separated by 1.56 times entire diameter of an eye, triangularly notched, the notch extending over half width of an eye as seen from front, and of $\frac{3}{8}$ entire diameter of an eye. Under surface of head slightly depressed between interocular area behind submentum, shagreened on the depression, with a longitudinal carina on gula. Antennae 9-segmented, 1st segment robust, 2nd globular, 3rd elongate, 1.46 times as long as wide, 4th through 6th strongly transverse, 4th about half the length of 3rd, 1.7 times as wide as long, 6th slightly produced inside into a pointed tip, 7th through 9th enlarged, 7th extremely produced inside, nearly twice as wide as long, with the apical margin emarginate for the reception of 8th, 8th about 1.6 times as long as 7th, dilated apically, with the apical margin emarginate, 9th the longest, elongate oval. Last segment of maxillary palpus subtriangular, obliquely truncated at apical margin; last segment of labial palpus more broadly dilated, with the apical margin scarcely arched. Pronotum with punctures dual, becoming denser laterally, smaller punctures very fine, similar in size to those on head, mixed on disc except at sides with larger punctures which have two to three times the diameter of the smaller ones. Scutellum semicircular, pubescent, moderate in size. Elytra evenly convex above, arched at sides, widest at the middle, conjointly about 1.17 times as long as wide; punctures irregular in size, large and shallow punctures with $\frac{2}{3}$ diameter of the length of scutellum predominant at postscutellar area

of elytra, then decreasing in size toward apices and sides, and very fine on deflexed sides; each elytron with two distinct lateral striae which extend from near base to near apex, and are somewhat weakly impressed basally, upper stria a little shorter than the lower; interspace between striae flat at base, elevated behind.

Prosternum medio-longitudinally keeled throughout; anterior margin produced into a triangular process at the middle, and furnished with three very long setae at the tip of the process; posterior margin distinctly emarginate, fringed with long hairs. Mesosternum deeply excavated for the reception of antennae. Metasternum flattened at the centre, devoid of median groove or pit, grooved throughout along posterior ridge of the excavations for middle legs; punctures large and deep at the flattened portion, being much finer at sides and on anterior lobe. Abdominal sternites evenly convex, finely punctured, with a row of fine granules along basal margin of 2nd to 5th sternites; 1st sternite with intermetacoxal plate short, transverse, 2nd slightly shorter than 5th in the length on mid-line, twice as long as 4th, 3rd a little longer than 4th, 5th grooved throughout along apical margin. First segment of protarsus with a faint hump at base, slightly longer than 2nd and 3rd combined. Male genitalia slender, with a clavate piece* branching from the base of paramera.

Female. Secondary sexual dimorphism undefined except for the following, only distinct feature. Seventh segment of antennae less produced inwards than in the male, about 1.5 times as wide as long. The largeness of eyes not clearly different in both sexes.

Type series. Holotype ♂ (NSMT) and allotype (ELEU): Mt. Makiling, 350–450 m in alt., Los Baños, Laguna Province, Luzon, emerged on 6. XI. 1985 from a *Ganoderma* fungus which is allied to *G. boninense*, and was collected by me on 13. IX. 1985. Paratypes: 600 exs. (NSMT and ELEU), emerged on a period from 8. X. to 3. XII. 1985. Other data are as for the holotype.

Notes. This new species somewhat resembles *Dimorphotheca oculata* ESPAÑOL, 1977 from New Caledonia in the features of antennae and the elytral lateral striae, but is easily distinguished from the latter by the small eyes and the male genitalic features. The new species is also separable from *D. polypora* (FORD), 1970 by the features of prosternum, lateral striae of elytra and of the male genitalia.

Dimorphotheca ganodermicola is the fourth species of the genus. Three previously described species are known from New Guinea and its adjacent islands, i.e. the Solomon Islands and the New Britain Islands. I have examined many specimens collected in the Ryukyus, which will be described as new in near future. *Dorcatoma insulana* SCOOT from the Seychelles (transferred later to *Caenocara* by FORD, 1970) is undoubtedly congeneric to *Dimorphotheca*, judging from the detailed original description by SCOTT (1924). I surmise that *Dimorphotheca* is widely distributed to various islands and also in the continental coastal regions of the Indian and Pacific Oceans.

* The term is indicated in Fig. 25.

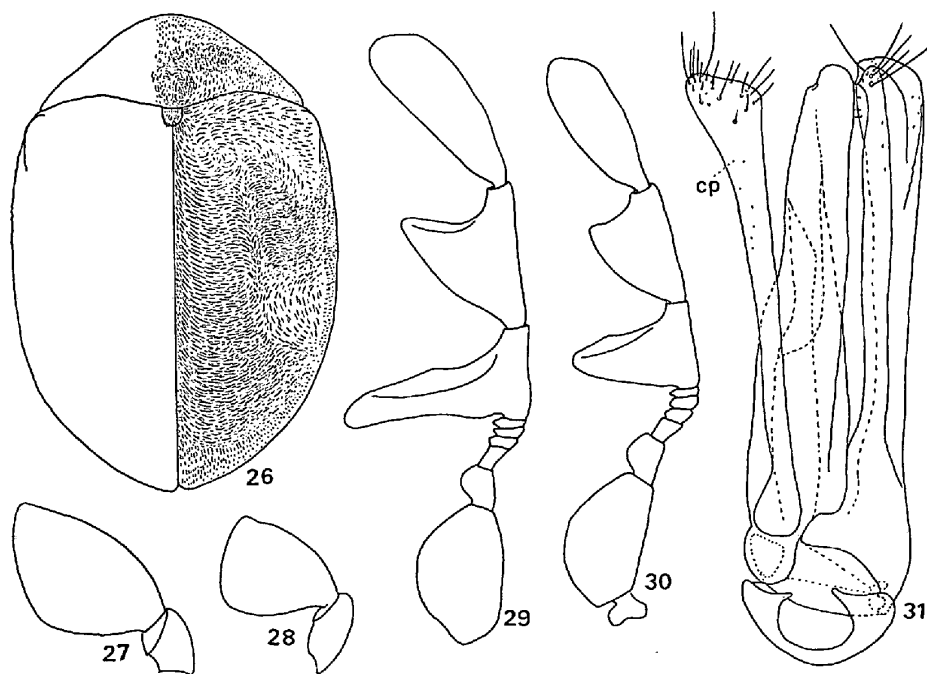
Dimorphotheca luzonica sp. nov.

(Figs. 26-31)

Length: 1.78-1.98 mm, width: 1.18-1.33 mm.

Male. Body oblong oval, 1.5 times as long as wide. Colour dark reddish brown, antennae, palpi, legs reddish brown; head and abdominal sternites diluted with red, elytra the most infuscate, nearly black. Pubescence very dense, relatively short, appressed, swirled on dorsum, directed behind on venter; pubescence on head directed mesially, pronotal and elytral pubescence swirlingly arranged as in Fig. 26, forming dark patterns which are changeable in shape and location under the directions of light. Punctures extremely fine and very dense, almost uniformly arranged on both dorsum and venter except on the centre of metasternum where they are mingled with large punctures.

Head nearly evenly convex, with a small projection over each antennal insertion; fronto-clypeal suture distinctly grooved, slightly arched; clypeus 2.4 times as wide as long; labrum broad triangular. Eyes moderate in size, separated by 1.5 times entire diameter of an eye, fairly deeply incised, with the incision $3/7$ as long as the entire diameter of an eye. Under surface of head shagreened on interocular area, with a faint indication of medio-longitudinal carina on gula. Antennae 9-segmented, 1st segment robust, 2nd swollen inwards, 3rd narrow and elongate, a little longer than 4th and 5th combined, about 1.6 times as long as wide, 4th to 6th strongly trans-



Figs. 26-31. *Dimorphotheca luzonica* sp. nov. — 26, Dorsal aspect of body, showing directions of hairs; 27, maxillary palpus; 28, labial palpus; 29, male antenna; 30, female antenna; 31, male genitalia. cp: Clavate piece.

verse, each segment twice or more as wide as long, slightly produced inwards, especially in 6th, 7th enlarged, about equal in length to 2nd to 6th combined, extremely produced inwards into elongate ramous projection of which the posterior and outer apical margins are sinuate and the inner apical margin is emarginate, 8th a little longer than wide, 1.5 times as long as 7th, with the apical margin deeply emarginate, 9th elongate oval, widest near apex. Last segment of maxillary palpus dilated apically, weakly arcuate at side, with the apical margin obliquely truncated; last segment of labial palpus subtriangular, broader in proportion than that of maxillary palpus. Pronotum strongly transverse, 1.8 times as wide as long, with the basal margin weakly sinuate, and with hind corner definite, somewhat angulate. Scutellum quadrate, with a faint acuminate apex. Elytra conjointly about 1.2 times as long as wide, widest at the middle; each elytron with 2 lateral striae which are not so deep but sharply impressed from near base to near apex; humeral callus roundly protuberant, impunctate on the area.

Prosternum short, concave on disc beside medio-longitudinal laminated carina, provided with 3 extremely long setae at the anterior extremity of the carina; posterior margin weakly emarginate, fringed with fine but long hairs. Metasternum indefinitely flattened at the centre, deeply grooved throughout along postero-marginal carina of the excavated portions for middle legs; medio-longitudinal groove very fine, barely discernible behind anterior lobe; punctation dual, large punctures shallow and sparse, restricted at the centre. Abdominal sternites 2nd to 5th with relative lengths on mid-line as: 25: 15: 14: 30; sutures entire, deepened at sides; apical margin of 5th furrowed throughout. First segment of front tarsus with a small tubercle at base. Male genitalia slender, with clavate piece branching at the base of paramera, obliquely truncated at apex.

Female. Easily separable from the male by the following characteristics of antennae: 6th segment bluntly pointed inwards, not so acute as in the male; club segments more infusate, 7th less produced inwards, about 1.6 times as wide as long, apical emargination of 8th weaker.

Type series.— Holotype: ♂ (NSMT), Mt. Puguis, 1,900–2,000 m alt., Mountain Province, Luzon, 18. VII. 1985, M. SAKAI leg. Allotype (ELEU): same data as for the holotype. Paratypes: 2 ♀♀ (ELEU), emerged on 23. VII. 1985, from a bracket fungus which was collected on 18. VII. 1985. Other data are as for the holotype.

Notes. This new species is somewhat similar to *Dimorphotheca hirsuta* (FORD) known from the Papuan Subregion in having swirled pubescence on elytra, but is very easily separable from *hirsuta* by the following features: body much larger, punctation much denser, 8th antennal segment much longer than 7th and the apical dilation weaker, pronotal pubescence swirled, elytral sutural striae absent, and parameres of male genitalia invertedly attached.

The genus *Dimorphotheca* is very closely related to the Australian genus *Cyphanobium* BROWN, 1983. As was pointed out by ESPAÑOL who is the original describer of *Dimorphotheca*, there is no difference between the two in the structure of

the male genitalia. Only a few diagnostic characters to divide them are as follows: the secondary sexual dimorphism notably appears in the antennae and eyes in *Cyphanobium*, the medio-longitudinal groove of metasternum is wanting in *Dimorphotheca*, and the characteristic coarse punctation on metasternum is wanting in *Cyphanobium*. In my view, these features are not always sufficient to distinguish genera. In the present paper, however, I regard *Dimorphotheca* as a good genus, as I was unable to examine the type species of the two genera.

Acknowledgments

I wish to express my cordial thanks to Dr. H. MORIOKA, chief of the expedition, Dr. M. OWADA, Dr. K. ISHIKAWA, Mr. Y. NISHIKAWA and Mr. M. TOMOKUNI who were the members of the expedition, for their constant support and help in my collecting of Coleoptera throughout the survey. Thanks are also due to Dr. S.-I. UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his kindness in reading the manuscript, and to Assoc. Prof. M. MIYATAKE and Mr. S. HISAMATSU of Ehime University for their constant guidance in various ways to my coleopterological study. I am also deeply indebted to the staff of the National Museum of the Philippines for their accommodating help to carry out our expedition.

References

- ESPAÑOL, E., 1966. Notas sobre anóbidos. 21. Sobre el género "*Stagetomorphus*" PIC. *Eos, Rev. esp. Ent.*, **41**: 551-561.
- 1974. Ditto. 65. Descripción del un nuevo *Stagetomorphus* PIC del Africa oriental. *Misc. Zool., Barcelona*, **3**(4): 1-8.
- 1976. Sobre el género *Cyphanobium* BROUN (Col. Anobiidae, Nota 72). *Publ. Dept. Zool. Univ. Barcelona*, **1**: 29-34.
- 1977. Notas sobre anóbidos. 75. Contribución al conocimiento de las *Caenocara* THOMS. euroasiáticas. *Misc. Zool., Barcelona*, **4**: 175-184.
- 1977. Ditto. 76. Avance al estudio de la sección *Dorcatoma*. *Ibid.*, **4**: 184-215.
- 1978. Sobre els gèneres *Stagetomorphus* PIC i *Striatheca* WHITE (Col. Anobiidae, nota 80). *Bull. Inst. Cat. Hist. nat.*, (Sec. Zool.), (2): 93-95.
- 1982. Sobre algunos Anobiidae (Col.) del Museo Real del Africa Central, Tervuren (Nota 97). *Publ. Dept. Zool. Univ. Bracelona*, **7**: 65-72.
- FORD, E. J., 1970. Some new anobiids (Coleoptera) from the Papuan Subregion. *Pacif. Ins.*, **12**: 117-132.
- PIC, M., 1923. Nouveautés diverses. *Mél. exot. Ent.*, (40): 3-32.
- SAKAI, M., 1979. Studies on the Anobiidae (Coleoptera) from Japan and neighboring countries. II. Four new Japanese species. *Trans. Shikoku ent. Soc.*, **14**: 131-139.
- 1983. Notes on Nepalese Anobiidae (Coleoptera). *Bull. natn. Sci. Mus., Tokyo*, (A), **9**: 19-28.
- SCOTT, H., 1924. Ptinidae and Anobiidae of the Seychelles. *Ann. Mag. nat. Hist.*, (9), **14**: 345-426.
- WHITE, R. E., 1973. A new genus, two new species, and a species key for *Byrrhodes* (Coleoptera: Anobiidae). *Proc. ent. Soc. Wash.*, **75**: 48-54.