RES. BULL. PL. PROT. JAPAN No. 25 : 7~22 (1989)

Studies on Scolytidae and Platypodidae (Coleoptera) Found on Imported Logs at Japanese Ports I

—— Keys to the Subfamilies, Tribes and Genera ——

Shizuo OHNO

Seibu Sub-Branch Station, Nagoya Plant Protection Station

Abstract: Four subfamilies, 23 tribes and 77 genera of Scolytidae, 4 subfamilies, 15 genera of Platypodidae have been found in imported logs at Japanese ports. Keys to the subfamilies, tribes and genera are provided, respectively.
Key words: Insecta, Scolytidae, Platypodidae, Imported logs, Classification

Introduction

Japan is the country importing the largest amount of timbers in the world and numerous species of trees have been imported from various countries or areas in the world, North America, U.S.S.R., Southeast Asia, New Guinea areas, Tropical west Africa, New Zealand, Chile and so on, to Japan.

A large number of species of scolytid and platypodid beetles were collected from imported logs (a few species in seeds) at Japanese ports at the time when the logs have been inspected.

However, positive identification of these beetles is quite difficult.

This report was written, in order to help identify these beetles, by providing keys to the taxa, namely 4 subfamilies, 23 tribes and 77 genera of Scolytidae and 4 subfamilies and 15 genera of Platypodidae which have been found at the import plant inspection.

Family Scolytidae

Key to the Subfamilies

1. Lateral margin of protibia unarmed except for a single incurved spinelike process at outer apical angle; elytra slightly or not declivous behind, abdomen ascending abruptly behind to meet them; basal and lateral margins of pronotum marginated; eye entire ..... Scolytinae (Tribe Scolytini)
— Lateral margin of protibia armed by several toothlike processes, none of which curve toward the inner process; elytra declivous behind (not declivous in *Scolytomimus*); basal and lateral margins of pronotum and eyes variable 2
2. Pronotum with sides strongly emarginated on posterior half, pronotal disc of female with a conspicuous elliptical pore on before center; protibia tuberculate on posterior face; anterior coxae widely separated; eye entire; antennal funicle 6-segmented, club unmarked by sutures ..... Scolytoplatypinae (Tribe Scolytoplatypodini)

— Pronotum not emarginated on posterior half (constricted in *Streptocranus*), pronotal disc without pores in both sexes; protibiae, coxae, eyes, antennal funicle and clubs variable 3

3. Each basal margin of elytra procurved and armed by a series of marginal crenulations (continuous elevated line in *Liparthrum* and *Bothrosternoides*); pronotum weakly if at all declivous on anterior half, usually unarmed, if armed then asperities less abundant; head usually visible from above; protibiae usually wider .....Hylesininae

— Basal margins of elytra straight, usually smooth, rounded, rarely with a fine raised line; pronotum weakly to strongly declivous on anterior half and surface usually armed by many asperities or granules (unarmed in Crypturgini and some Dryocoetini); head usually not visible from above; protibiae usually narrower .....Ipinae

Subfamily Scolytinae
Tribe Scolytini

One genus *Scolytus* GEOFFROY, found on imported logs from U.S.S.R., Europe, Taiwan and Norh America.

Subfamily Hylesininae
Key to the Tribes

1. Lateral margin of pronotum marginated on more than basal half; outer apical angle of protibia with one prominent spine or bifid process; anterior coxae widely separated 2

— Lateral margin of pronotum acute to rounded, never marginated; outer apical angle of protibia armed by several teeth of about equal size (except with bifid process in Bothrosternini); anterior coxae contiguous to widely separated..... 4

2. Eye completely divided into two parts; scutellum visible, usually elongate; antennal funicle 7-segmented, club with multi sutures; outer apical angle of protibia with one prominent spine .....Sphaerotrypini

— Eye entire; scutellum not visible; antennal funicle 5-or 7-segmented, club either with or without sutures 3

3. Antennal funicle 7-segmented, club obscure, procurved suture indicated; outer apical angle of protibia with one major, recurved spine; basal margins of elytra crenulate .....Diamerini

— Antennal funicle 5-segmented, club without sutures; outer apical angle of protibia with a bifid process; basal margins of elytra not crenulate, with continuous elevated line; from Malaya peninsula and Borneo....Tribe unknown, Genus *Bothrosternoides* SCHEDL[1)]

4. Antennal club deeply divided into three units; anterior coxae moderately separated; eye entire; anterolateral areas of pronotum armed by asperities .....Phloeotribini

— Antennal club connate, not deeply divided into three units; anterior coxae, eyes and pronotum variable 5

1) Peculiar genus, probably not belong to known tribes.

5. Eye entire to shallowly emarginate (except deeply emarginate in *Liparthrum*): pronotum either armed or not; anterior coxae contiguous to widely separated; antennal club varying from flattened to conical 6

— Eye deeply emarginate to divided into two parts; pronotum never armed; anterior coxae contiguous (narrowly separated in Phloeosini); antennal club flattened 10

6. Outer apical angle of protibia with a curved bifid process; pronotum longitudinally strigose, unarmed; anterior coxae widely separated; antennal club compressed, funicle 6-segmented ..... Bothrosternini

— Outer apical margin of protibia armed by several teeth of about equal size; pronotum not longitudinally strigose 7

7. Anterolateral areas of pronotum unarmed by asperities (armed by fine asperities in *Hylurgopinus*); antennal club conical (except flattened in *Dendroctonus*); anterior coxae contiguous to narrowly separated 8

— Anterolateral areas of pronotum armed by asperities (unarmed in *Liparthrum*); antennal club flattened to subconical; anterior coxae narrowly to widely separated (contiguous in *Chaetophloeus*) 9

8. Lateral prosternal area sharply elevated from coxa to anterior margin; antennal funicle 7-segmented, first segment of club long, about half of its total length .. Hylastini

— Lateral prosternal area without elevated ridge; antennal funicle 5- to 7-segmented, first segment of club short, less than half of its total length (except in *Hylurgus*)..... ..... Tomicini

9. Antennal club flattened, funicle 3- to 5-segmented; scutellum either visible or not; crenulations at bases of elytra usually restricted to area between suture and interstriae 5; 3rd tarsal segment slender ..... Hypoborini

— Antennal club compressed or subconical, funicle 7-segmented; scutellum visible; crenulations at bases of elytra more widely distributed, extending laterally beyond interstriae 5; 3rd tarsal segment stout, bilobed (not stout in *Hapalogenius*) ..... Hylesinini

10. Scutellum not visible; anterior coxae contiguous; antennal club either with or without sutures ..... Polygraphini

— Scutellum visible; anterior coxae contiguous or narrowly separated; antennal club marked by sutures 11

11. Antennal funicle 5-segmented, club elongate oval, with subtransverse or oblique sutures; anterior coxae narrowly separated ..... Phloeosini

— Antennal funicle 6-segmented, club oval, with procurved sutures; anterior coxae contiguous ..... Phrixosomini

Tribe Hylastini

Key to the Genera

1. Tarsal segment 3 broad, bilobed; pronotum usually constricted anteriorly; from U.S.S.R., Europe, Taiwan and North America ..... *Hylurgops* LECONTE

— Tarsal segment 3 narrow, emarginate; pronotum not noticeably constricted anteriorly; from U.S.S.R., Europe, New Zealand, Chile and North America .. *Hylastes* ERICHSON

Tribe Hylesinini
Key to the Genera

1. Antennal club short, without distinct sutures; pronotum transversely quadrate, not constricted in front and with a narrow transverse impression on anterior area; mostly largest body, about 10 mm long; from Southeast Asia, New Guinea areas and Africa ..... *Dactylipalpus* CHAPUIS

— Antennal club oval or elongate, marked by sutures; pronotum constricted in front, without a transverse impression; body less than 4.0 mm long 2

2. Antennal club flattend, with sutures weakly procurved; pronotum asperate over entire surface; from Africa ..... *Hapalogenius* HAGEDORN

— Antennal club subconical, with sutures transverse; pronotum usually asperate on anterolateral areas 3

3 Eye entire (except one species); antennal club usually with three sutures; costal margin of elytra ascending toward apex; from Southeast Asia, New Guinea areas, U.S.S.R. and North America ..... *Hylesinus* FABRICIUS

— Eye shallowly emarginate; antennal club with six sutures; costal margin of elytra descending toward apex; from North America ..... *Alniphagus* SWAINE

Tribe Tomicini
Key to the Genera

1. Antennal funicle 6-or 7-segmented, club conical or subconical 2

— Antennal funicle 5-segmented, club compressed or subconical 6

2. Antennal funicle 6-segmented; anterior coxae very narrowly separated, almost contiguous 3

— Antennal funicle 7-segmented; anterior coxae narrowly, but distinctly separated 4

3. First segment of antennal club long, about half of its total length; elytra densely pubescent on posterior third; from Siberia, New Zealand and Chile.. *Hylurgus* LATREILLE

— First segment of antennal club short, about one-fourth of its total lenght; elytra not densely pubescent on posterior third; from U.S.S.R., Europe, Taiwan and Indo-China ..... *Tomicus* LATREILLE

4. First segment of antennal club short, about one-fourth of its total length; lateral areas of pronotum finely asperate; from North America ..... *Hylurgopinus* SWAINE

— First segment of antennal club long, about one-third of its total length; lateral areas of pronotum smooth 5

5. Vestiture scalelike; surface of pronotum smooth; crenulations of elytral bases well developed; from North America ..... *Pseudohylesinus* SWAINE

— Vestiture hairlike; surface of pronotum finely reticulate; crenulations of elytral bases poorly devoloped; from New Zealand ..... *Pachycotes* SHARP

6. Anterior coxae contiguous; antennal club nearly circular to transversely oval, thickened at base, sutures sinuate; anterior margin of pronotum recurved; from U.S.S.R. and North America ..... *Dendroctonus* ERICHSON

— Anterior coxae widely separated; antennal club subconical, sutures transverse; anterior margin of pronotum not recurved; from U.S.S.R. and North America ..... *Xylechinus* CHAPUIS

Tribe Diamerini

One genus *Diamerus* ERICHSON, found on imported logs from Southeast Asia and New Guinea areas.

Tribe Sphaerotrypini

One genus *Sphaerotrypes* BLANDFORD, found on imported logs from Southeast Asia and Africa.

Tribe Phrixosomini

One genus *Phrixosoma* BLANDFORD, found on imported logs from Africa.

Tribe Bothrosternini

One genus *Pagiocerus* EICHHOFF, found in imported corn from Peru.

Tribe Phloeotribini

One genus *Phloeotribus* LATREILLE, found on imported logs from U.S.S.R. and North America.

Tribe Phloeosini

One genus *Phloeosinus* CHAPUIS, found on imported logs from Southeast Asia, New Guinea areas and North America.

Tribe Hypoborini

Key to the Genera

1. Vestiture hairlike; pronotum smooth, unarmed; eye deeply emarginate; scutellum visible, small; anterior coxae narrowly separated; antennal funicle 4-segmented; from Sumatra and Borneo ..... *Liparthrum* WOLLASTON

— Vestiture scalelike; pronotum armed by asperities; eye entire or shallowly emarginate; scutellum not visible; anterior coxae either contiguous or narrowly separated; antennal funicle 3- or 5-segmented 2

2. Anterior coxae narrowly separated; antennal funicle 3-segmented, scape with very long hairs on near apex; eye entire; pronotum coarsely asperate on middle area; elytral disc armed by stout spines; from Africa ..... *Styracoptinus* WOOD

— Anterior coxae contiguous; antennal funicle 5-segmented, scape without special pubescence; eye shallowly emarginate; pronotum armed by a few inconspicuous asperities on anterolateral areas; elytral disc without teeth or spines; from North America ..... *Chaetophloeus* LECONTE

Tribe Polygraphini
Key to the Genera

1. Antennal club solid, unmarked by sutures; eye deeply emarginate to divided into two parts 2
— Antennal club marked by sutures; eye emarginate, never divided 3
2. Body large, about 7.0 mm long; antennal funicle 5-segmented; strial rows of elytra clearly indicated by rows of small, rather shallow punctures; from Borneo ..... *Spongotarsus* HAGEDORN
— Body smaller, less than 3.5 mm long; antennal funicle 5- or 6-segmented; elytral punctures very small, confused, strial rows usually not evident; from U.S.S.R., Southeast Asia, Africa and North America ..... *Polygraphus* ERICHSON
3. Antennal club asymmetrical, strongly flattened, with partial oblique septum on one side; tarsal segment 3 rather broad, bilobed; antennal funicle 6-segmented; from Africa ..... *Chortastus* SCHAUFUSS
— Antennal club symmetrical, with three subtransverse sutures; tarsal segment 3 slender; antennal funicle 5-or 6-segmented 4
4. Antennal funicle 5-segmented, club flattened; frons of female not deeply concave; from U.S.S.R. and Noth America ..... *Carphoborus* EICHHOFF
— Antennal funicle 6-segmented, club subconical; frons of female broadly, deeply excavated; from Malaya peninsula and Sarawak ..... *Bothinodroctonus* SCHEDL

Subfamily Ipinae
Key to the Tribes

1. Metepisternum largely covered by elytra, visible only in front; antennal club strongly flattened with sutures on both faces, those on posterior face not strongly displaced apically; antennal funicle 2- to 5-segmented ..... Corthylini
— Metepisternum visible to posterior extremity or if not visible (some Cryphalini) then elytral ground vestiture abundant, scalelike; antennal club varying from flat to obliquely truncate, funicle 2- to 6-segmented 2
2. Antennal funicle 6-segmented, club flattened; lateral margins of pronotum marginated 3
— Antennal funicle 2- to 6-segmented (6-segmented only in *Tiarophorus*), club variable; lateral margins of pronotum not marginated (marginated in *Tiarophorus*) 4
3. Eye divided or deeply emarginate; protibia with outer apical angle inconspicuous, armed by several small teeth; abdomen more strongly ascending toward apex; anterior coxae very narrowly separated ..... Xyloctonini
— Eye entire; protibia with prominent outer apical process recurved; abdomen horizontal; anterior coxae rather widely separated ..... Ctenophorini
4. Eye completely divided; antennal funicle 4-segmented, club pubescent to base, without sutures ..... Xyloterini
—. Eye entire to deeply emarginate, never divided 5
5. Antennal funicle 2- or 3-segmented, club flat or subconical; pronotum feebly de-

clivous on anterior area, unarmed, punctured over entire surface; body shorter than 2.0 mm ..... Crypturgini

— Antennal funicle 3- to 6-segmented, club variable; anterior area of pronotum usually distinctly declivous and armed by asperities or granules (unarmed in *Tiarophorus* and some *Poecilips*) 6

6. Antennal club flattened, never obliquely truncate, sutures, when present, visible on both faces, those on posterior face not strongly displaced apically; pronotum with comparatively few, rather coarse, not uniform sized, isolated asperities on anterior area and anterior margin variously armed; costal margin of elytra slightly to moderately ascending from base of declivity to apex ..... Cryphalini

— Antennal club obliquely truncate or thickened basally, sutures, if visible, strongly displaced apically on posterior face (not clear in *Chiloxylon*); anterior area of pronotum armed by numerous, small, even sized asperities or granules and anterior margin armed or not; costal margin of elytra descending or ascending only slightly posteriorly (except *Eccoptopterus*) 7

7. Metatibia broad, strongly dilated to middle, then rather gradually narrowed toward apex, outer margin armed by row of small teeth of equal size and shape; anterior margin of pronotum often armed; male pronotum highly modified ..... Xyleborini

— Metatibia slender, abruptly narrowed apically, outer margin armed by several rather coarser teeth; anterior margin of pronotum never armed; sexes of similar size and body form (except male dwarfed and deformed in some Dryocoetini) 8

8. Antennal funicle alway 5-segmented; elytral declivity sulcate to excavated, lateral margins and sometimes lower margin variously armed by teeth, spines or plate-like processes ..... Ipini

— Antennal funicle 3- to 6-segmented; elytral declivity usually flattened to convex, unarmed by teeth or spines, or unusual sculpture (except armed by teeth in *Tiarophorus*) ..... Dryocoetini

Tribe Ctenophorini

One genus *Scolytodes* FERRARI, found on imported logs from Columbia.

Tribe Xyloctonini

One genus *Scolytomimus* BLANDFORD, found on imported logs from Southeast Asia and New Guinea areas.

Tribe Cryphalini

Key to the Genera

1. Antennal club nearly circular, without distinct sutures 2

— Antennal club nearly oval, with at least suture 1 clearly indicated by septum or by rows of setae 4

2. Eye emarginate; costal margins of elytra strongly ascending posteriorly; antennal funicle 3-segmented, pedicle at least twice as wide as long, club large; lateral areas of pronotum rounded, without a fine, raised line; from Philippines and Thailand .....

..... *Erioschidias* SCHEDL

— Eye entire; costal margins of elytra ascending only slightly posteriorly; antennal funicle 3- or 4-segmented, pedicle about as long as wide, club normal size; lateral areas of pronotum with or without a fine, raised line 3

3. Lateral areas of pronotum without a fine, raised line; antennal funicle 4-segmented; from Africa ..... *Cryphalophilus* SCHEDL

— Lateral areas of pronotum with a fine, raised line; antennal funicle 3-segmented; from Taiwan and Philippines ..... *Ptilopodius* HOPKINS

4. Antennal club with only suture 1 marked by a partial oblique septum; antennal funicle 4-segmented; from Ceylon ..... *Scolytogenes* EICHHOFF

— Antennal club with two or three sutures clearly marked by setae; antennal funicle varying from 3- to 5-segmented 5

5. Sutures of antennal club weakly to strongly procurved, club without septum; antennal funicle 3- or 5-segmented 6

— Sutures of antennal club not procurved, straight, sinuate or recurved, club with or without septum; antennal funicle 4- or 5-segmented 8

6. Lateral areas of pronotum without a fine, raised line; eye usually entire; costal margins of elytra ascending only slightly posteriorly; sutures of antennal club usually strongly, rather narrowly procurved, first suture reaching middle of club; antennal funicle 3-segmented; from Thailand, Burma, Borneo and Celebes ..... *Euptilius* SCHEDL

— Lateral areas of pronotum acute, with a fine, raised line; eye emarginate; costal margins of elytra distinctly ascending posteriorly; sutures of antennal club weakly to moderately procurved, first suture not reaching middle of club; antennal funicle 3-or 5-segmented 7

7. Antennal funicle 3-segmented; from New Guinea areas .... *Margadillius* HOPKINS

— Antennal funicle 5-segmented; from Southeast Asia and New Guinea areas ..... *Hypocryphalus* HOPKINS

8. Antennal club slender, pointed at tip, with sutures straight, not septate; antennal funicle 5-segmented; from U.S.S.R ..... *Trypophloeus* FAIRMAIRE

— Antennal club oval, rounded at tip, with sutures straight, sinuate or recurved and either with or without septum; antennal funicle 4-or 5-segmented 9

9. Sutures of antennal club not septate; body usually stout; male and female equal in size and appearance; antennal funicle alway 4-segmented; from U.S.S.R. and Southeast Asia and New Guinea areas ..... *Cryphalus* ERICHSON

— First suture of antennal club partly septate; body usually slender; male dwarfed, much smaller than female, with eyes abnormally small; antennal funicle 5-segmented or rerely 4-segmented; from almost circumtropical and subtropical ..... *Hypothenemus* WESTWOOD

Tribe Crypturgini

Key to the Genera

1. Antennal funicle 2-segmented, club flattened, with one obscure suture indicated at tip; from U.S.S.R., Europe, Taiwan and North America ..... *Crypturgus* ERICHSON

— Antennal funicle 3-segmented, club subconical, with three sutures indicated; from North America ..... *Dolurgus* EICHHOFF

Tribe Xyloterini
Key to the Genera

1. Posterior face of protibia tuberculate; male frons deeply excavated; anterior margin of pronotum unarmed and straight to weakly recurved in male; from U.S.S.R., Europe and North America ..... *Trypodendron* STEPHENS
— Posterior face of protibia not tuberculate, smooth; frons not excavated in both sexes; anterior margin of pronotum rounded and armed in both sexes; from North America ..... *Xyloterinus* SWAINE

Tribe Dryocoetini
Key to the Genera

1. Antennal funicle 6-segmented, club nearly glabrous on both faces; pronotum smooth, punctured over entire surface, lateral margin marginated on basal two-thirds; declivity armed by teeth in male; from Africa ..... *Tiarophorus* SCHREINER
— Antennal funicle 3- to 5-segmented; club marked by sutures; pronotum asperate at least on anterior area, lateral margins never marginated; declivity unarmed by teeth in both sexes 2
2. Antennal club oval, compressed, with three subtransverse sutures on both faces; eye entire; antennal funicle 4-segmented; from Sumatra ..... *Chiloxylon* SCHEDL
— Antennal club nearly circular, compressed to obliquely truncate, with sutures of posterior face, if visible, procurved and usually limited to apical half; eye emarginate; antennal funicle 3- to 5-segmented 3
3. Antennal club obliquely subtruncate, with basal corneous portion large, occupying more than half of total length, sutures of club transverse or recurved; antennal funicle 5-segmented; from U.S.S.R., Europe, Taiwan and North America ..... *Dryocoetes* EICHHOFF
— Antennal club with basal corneous portion varying from small to large, if large, then sutures distinctly procurved; antennal funicle 3- to 5-segmented 4
4. Sutures of antannal club transverse or sinuate, not procurved; pronotum more convex; antennal funicle 5-segmented 5
— Sutures of antennal club procurved, or if transverse (a few Poecilips), then pronotum not strongly convex; pronotum less convex 6
5. Pronotum armed by coarse and small asperities intermixed, coarser asperate area not extending to laterally; antennal club with sutures strongly displaced apically on posterior face; from Southeast Asia ..... *Dryocoetiops* SCHEDL
— Pronotum armed by even sized asperities, asperate area extending laterally; antennal club with two sutures visible on apical half of posterior face; from Southeast Asia and New Guinea areas ..... *Ozopemon* HAGEDORN
6. Antennal club with feebly procurved, sinuate or transverse sutures; costal margin of elytra slightly ascending from base of declivity to apex; frons usually weakly to strongly aciculate, not densely pubescent in both sexes; antennal funicle 5-segmented 7

— Antennal club with distinctly procurved sutures; costal margin of elytra not ascending toward apex (except ascending in *Ozodendron*); frons not aciculate, densely pubescent in female 8

7. Basal and lateral margins of pronotum rounded (a few species with a fine, raised line); from Southeast Asia, New Guinea areas and Africa ..... *Poecilips* SCHAUFUSS

— Basal and lateral margins of pronotum with a fine, raised line; from South America, Africa and Canary Is. ..... *Coccotrypes* EICHHOFF

8. Protibia slender, feebly dilated distally, subtruncate at apex; pronotum weakly depressed on behind summit; elytral vestiture more abundant; antennal funicle 5-segmented; from Iran ..... *Taphrorychus* EICHHOFF

— Protibia broad, wider apically; posterior half of pronotum flat or convex, not depressed; elytral vestiture less abundant 9

9. Pronotum as wide as long or wider than long, with asperities usually extending near base; antennal funicle 5-segmented; from Philippines, Borneo, Moluccas and New Guinea ..... *Ozodendron* SCHEDL

— Pronotum longer than wide, distinctly punctate on posterior half 10

10. Antennal funicle 4- or 5-segmented; from Southeast Asia and New Guinea areas ..... *Cyrtogenius* STROHMEYER

— Antennal funicle 3-segmented; from Borneo and New Britain ..... *Eidophelus* EICHHOFF[2)]

Tribe Ipini

Key to the Genera

1. Prosternal intercoxal piece short, obtuse; lower margin of declivity rounded; female frons deeply, rather narrowly excavated; antennal club compressed, with a procurved suture on apical third of posterior face and transeverse or bisinuate sutures on anterior face; from U.S.S.R., Europe and North America ..... *Pityogenes* BEDEL

— Prosternal intercoxal piece long and acutely tapered; lower margin of declivity either acutely elevated or rounded; female frons not deeply excavated; antennal club varying from flat to obliquely truncate 2

2. Lower margin of declivity rounded; antennal club obliquely truncate, without sutures on posterior face; from North America ..... *Pityokteines* FUCHS

— Lower margin of declivity with an acutely elevated transverse ridge separating declivital excavation from apical margin or sometimes variously armed by teeth, spines, plate-like processes 3

3. Antennal club flattened, without sutures on posterior face; all declivital teeth on summit of lateral margin and its teeth not reduced in female; eye small, finely faceted; from U.S.S.R., Europe, Southeast Asia, North and Central America ..... *Ips* DEGEER

— Antennal club compressed to obliquely truncate, with sutures on both faces; declivital teeth either on summit or not on summit of lateral margin and its teeth feebly to strongly reduced in female; eye of normal size or abnormally large 4

2) Original description in Hopkins (1915) antennal funicle 4-segmented.

4. Third (lowest) teeth in male not on lateral margin of elytral declivity, displaced mesally; eye moderately large, not coarsely faceted; sutures of antennal club either recurved or procurved; from U.S.S.R., Southeast Asia, Europe, Chile and North America ..... *Orthotomicus* FERRARI

— All teeth in male on lateral margin of elytral declivity; eye abnormally large, coarsely faceted; sutures of antennal club alway procurved; from Southeast Asia and New Guinea areas ..... *Acanthotomicus* BLANDFORD

Tribe Xyleborini

Key to the Genera

1. Entire tarsus more strongly compressed; costal margin of elytra distinctly ascending posteriorly; scutellum not visible; from Southeast Asia and New Guinea areas ..... *Eccoptopterus* MOTSCHULSKY

— Entire tarsus not compressed, cylindrical; costal margin of elytra descending or ascending only slightly posteriorly; scutellum either visible or not 2

2. Protibia armed by granules, tubercles or asperities on posterior face (smooth in a few *Arixyleborus*); antennal funicle 5-segmented 3

— Posterior face of protibia smooth, unarmed; antennal funicle 4- or 5-segmented.... 6

3. Scutellum visible, flat; antennal club nearly circular, flattened or obliquely truncate 4

— Scutellum not visible; antennal club rather broad, not obliquely truncate..... 5

4. Antennal club obliquely truncate, basal corneous area large its distal margin recurved; pronotum mat, usually finely reticulate on posterior half; elytra rounded behind; from Southeast Asia and New Guinea areas ..... *Arixyleborus* HOPKINS

— Antennal club flattened, basal area small, weakly corneous, its distal margin procurved; pronotum smooth, shining on posterior half; elytra obliquely truncate behind; declivity excavated, its margin acute; from Africa ..... *Premnobius* EICHHOFF

5. Basal area of antennal club weakly corneous, with sutures procurved; pronotum longer than wide, with sides straight; body slender, strongly attenuate behind; from Southeast Asia ..... *Cryptoxyleborus* SCHEDL

— Basal area of antennal club strongly corneous, with sutures bisinuate; pronotum wider than long, with sides angulately produced at behind middle; body stout, more broadly rounded behind; from Philippines and Borneo ..... *Schedlia* BROWNE

6. Antennal funicle 4- rarely 5-segmented, club obliquely truncate, without sutures on posterior face; scutellum not visible; elytra truncate behind, declivity subvertical, its face and sometimes lower margin ordinarily with unusual sculpture and ornamentation; from Southeast Asia and New Guinea ..... *Webbia* HOPKINS

— Antennal funicle 5-segmented, club varying from flat to obliquely truncate; scutellum usually visible; elytra variously sculptured behind 7

7. Anterior coxae widely separated; body very stout, 1.9-2.3 times as long as wide; elytral declivity convex, its face smooth or granulate, without tubercles or teeth; from Southeast Asia, New Guinea areas, Africa and North America .... *Xylosandrus* REITTER

— Anterior coxae contiguous; body variable 8

8. Sides of pronotum abruptly constricted at posterior third, thence expanded anteriorly, apex broadly rounded and anterior margin with transverse median extension; elytra with conspicuous postero-lateral processes; from Borneo and New Guinea ..... *Streptocranus* SCHEDL

— Sides of pronotum not constricted and usually not expanded anteriorly; elytra variously sculptured; from almost throughout the world ..... *Xyleborus* EICHHOFF

Tribe Corthylini
Key to the Genera

1. Antennal funicle 5-segmented, club usually smaller; pubescence usually more abundant 2

— Antennal funicle 2- or 5-segmented, club much larger; pubescence usually less abundant 4

2. Sutures of antennal club not septate; from North America, in cones ..... *Conophthorus* HOPKINS

— Suture 1 and 2 of antennal club partly septate 3

3. Pronotum without a transverse impression behind summit, transition from asperate to punctured areas gradual, lateral and basal margins not marginated; from Brazil ..... *Spermophthorus* da COSTA LIMA

— Pronotum with a distinct transverse impression behind summit, transition from asperate to punctured area more abrupt, lateral and basal margins marginated; from U. S.S.R., Africa and North America ..... *Pityophthorus* EICHHOFF

4. Antennal funicle 2-segmented, club asymmetrical; posterior face of protibia coarsely tuberculate; from North America ..... *Monarthrum* KIRSCH

— Antennal funicle 5-segmented, club symmetrical; posterior face of protibia either smooth or armed by a few minute granules 5

5. Sutures of antennal club straight to moderately procurved, segment 1 not noticeably reduced in size; elytral declivity convex; from Central and North America ..... *Gnathotrichus* EICHHOFF

— Sutures of antennal club moderately to strongly procurved, segment 1 distinctly smaller; elytral declivity flattened; from Chile ..... *Gnathotrupes* SCHEDL

Subfamily Scolytoplatypinae
Tribe Scolytoplatypodini

One genus *Scolytoplatypus* SCHAUFUSS, found on imported logs from Taiwan and Borneo.

Family Platypodidae

Key to the Subfamilies

1. Antennal funicle 2-segmented, club compressed, basal area corneous, its distal margin reaching apical third of club; pronotum without median sulcus; eye large, oval, not

strongly rounded ..... Platytarsilinae[3)]

— Antennal funicle 4-segmented; antennal club entirely pubescent or not; pronotum usually with median sulcus (without in *Spathidicerus*); eyes circular or elongate 2

2. Anterior coxae more widely separated; eye circular, strongly rounded; outer face of protibia armed by many teeth, sometimes with transverse carinae in both sexes ..... Diaporinae

— Anterior coxae contiguous to narrowly separated; outer face of protibia, at least in male armed by a variable number of transverse carinae (except one species of *Spathidicerus*) 3

3. Eye more elongate, flattened; basal area of antennal club corneous ..... Periommatinae

— Eye circular, strongly rounded; antennal club entirely pubescent, corneous area usually not evident 4

4. Outer face of protibia transversely carinate in male, in female carinae reduced and at least partly replaced by granules; femoral grooves of pronotum angulate at anterior extremity and gently rounded behind; pronotum without special pores or patch of punctures in both sexes ..... Crossotarsinae

— Outer face of protibia similar in both sexes, armed by a variable number of transverse carinae; femoral grooves of pronotum distinct or not; pronotum either with or without special pores or patch of punctures ..... Platypodinae

Subfamily Crossotarsinae

One genus *Crossotarsus* CHAPUIS, found on imported logs from Southeast Asia and New Guinea areas.

Subfamily Platypodinae

Key to the Genera

1. Femoral grooves of pronotum very broad and shallow, not angulate at either extremity 2

— Femoral grooves of pronotum angulate at posterior extremity, sometimes also in front 4

2. Elytra abruptly declivous behind, declivity short, steep, apical margin not rounded and with apical processes in male; from Borneo ..... *Dendroplatypus* BROWNE

— Elytra gently declivous behind, apical margin broadly rounded and without apical processes in both sexes 3

3. Antennal scape broad, subtriangular; frons not deeply concave in both sexes; from Africa ..... *Cylindropalpus* STROHMEYER

— Antennal scape not broad, cylindrical; frons of female deeply concave; from Africa ..... *Chaetastus* NUNBERG

4. Femoral grooves of pronotum angulate at anterior extremity; elytra, at least in male, longitudinally horizontal and without a distinct vertical apical rim; from Southeast

3) Platytarsilinae including 3 genera, those antennal funicle consisting 2- to 4-segments.

Asia and New Guinea areas ..... *Baiocis* BROWNE

— Femoral grooves of pronotum angulate at posterior extremity (rarely indistinct), sometimes also angulate in front but never only angulate in front; elytra declivous behind or longitudinally horizontal 5

5. Elytra of male usually at least weakly declivous toward apex, rarely longitudinally horizontal and then provided with a vertical apical rim 6

— Elytra, at least in male, longitudinally horizontal (weakly declivous behind in *Mesoplatypus*) and without a distinct vertical apical rim 7

6. Frons of female broadly, deeply concave; antennal club large, feebly asymmetrical; from Borneo ..... *Treptoplatypus* SCHEDL

— Frons of female usually flattened, never deeply concave; antennal club variable; from almost throughout the world (except frigid zones) ..... *Platypus* HERBST

7. Abdominal sternites of male, at least 2nd, 3rd and 4th vertical, 2nd, conspicuously large; from Africa ..... *Doliopygus* SCHEDL

— The 2nd, 3rd and 4th abdominal sternites of male ascending, not vertical, 2nd, normal size 8

8. Abdominal sternites of male variously armed by teeth or spines; frons without grooves in both sexes; from Africa ..... *Mesoplatypus* STROHMEYER

— Abdominal sternites unarmed in both sexes; frons of female with a groove in each of antero-lateral angles; from Africa ..... *Triozastus* SCHEDL

Subfamily Periommatinae
Key to the Genera

1. Femoral grooves of pronotum angulate at posterior extremity and gently rounded front; basal corneous area of antennal club large, its distal margin reaching middle of club; pronotum with median sulcus; outer face of protibia with several transverse carinae; from Africa ..... *Periommatus* CHAPUIS

— Femoral grooves of pronotum very broad and shallow, not angulate at either extremity; basal corneous area of antennal club small, not reaching middle of club; pronotum without median sulcus; outer face of protibia either without or with a few transverse carinae; from Borneo and New Guinea areas ..... *Spathidicerus* CHAPUIS

Subfamily Diaporinae
Key to the Genera

1. Antennae inserted within lateral borders of front and somewhat below eyes in both sexes; lower frons of female sometimes with brush of long hairs; from Southeast Asia, New Guinea areas and Africa ..... *Diapus* CHAPUIS

— Antennae inserted within near upper margin of eyes in female; upper frons of female alway adorned with dense brush of long hairs; from Southeast Asia and New Guinea ..... *Genyocerus* STROHMEYER

Subfamily Platytarsilinae

One genus *Platytarsulus* SCHEDL, found on imported logs from Philippines, Sumatra and

Borneo.

Literature cited

BRIGHT, D.E. Jr. (1968) Review of the tribe Xyleborini in America north of Mexico. Canadian Ent. 100 : 1288-1323.

BRIGHT, D.E. Jr. (1976) The bark beetles of Canada and Alaska, Coleoptera : Scolytidae. Res. Br., Canada Dept. Agric. Pub. 1576 : 1-241.

BROWNE, F.G. (1961) Taxonomic notes on Platypodidae. Ann. Mag. Nat. Hist. (13) 4 : 641-656.

BROWNE, F.G. (1972) Some oriental Scolytidae and Platypodidae. Oriental Insects 6(1) : 19-32.

HOPKINS, A.D. (1915) Classification of the Cryphalinae with descriptions of new genera and species. U.S.Dept. Agric. Rept. 99 : 1-75.

NOBUCHI, A. (1971) Key to the subfamilies, tribes and genera of Japan. Bull. Gov. For. Exp. Sta. 238 : 149-164.

NOBUCHI, A. (1978) Ambrosia beetles found in imported tropical timbers from Southeast Asia and others. Bull. For. & For. Prod. Res. Inst. 301 : 1-46.

SCHEDL, K.E. (1969) Bark-beetles and pin-hole borers intercepted from imported logs in Japanese port III. Kontyu 37(2) : 202-219.

SCHEDL, K.E. (1970) Bark-beetles and pin-hole borers intercepted from imported logs in Japanese port IV. Kontyu 38(4) : 358-370.

SCHEDL, K.E. (1972) Monographie der Familie Platypodidae. Den Haag, 322 p.

WOOD, S.L. (1954) A revision of North American Cryphalini. Univ. Kansas Sci. Bull. 36 : 959-1089.

WOOD, S.L. (1960) Insect of Micronesia, Coleoptera : Platypodidae and Scolytidae. Ins. of Micronesia, B.P.Bishop Mus. 18 : 1-73.

WOOD, S.L. (1978) A reclassification of the subfamilies and tribes of Scolytidae (Coleoptera). Ann. Soc. Ent. France 14 : 95-122.

WOOD, S.L. (1982) The bark and ambrosia beetles of North and Central America (Coleoptera ; Scolytidae), a taxonomic monograph. Gre. Bas. Nat. Mem. 6 : 1-1359.

摘　　要

輸入木材から発見されたキクイムシ科及びナガキクイムシ科の研究　第1報 亜科，族，属の検索表

大　野　静　男
名古屋植物防疫所西部出張所

我が国は世界で最大の木材輸入国で，北アメリカ，ソ連，東南アジア，ニューギニアとその周辺地域，熱帯西アフリカ，ニュージーランド及びチリーなどから多種類の木材を多量に輸入している。

これら輸入木材の植物検疫で発見される害虫の種類は膨大な数に上っているが，中でもキクイムシ科，ナガキクイムシ科に属する害虫が個体数，種類ともに圧倒的に多い。

本報は，これらキクイムシ科とナガキクイムシ科について，同定の参考資料とするため，長年にわたる植物検疫で発見採集されたキクイムシ科4亜科23族77属及びナガキクイムシ科4亜科15属について，キクイムシ科では亜科，族，属，ナガキクイムシ科では，亜科，属の検索表を作成した。

キクイムシ科の亜科，族，属及びナガキクイムシ科の亜科，属の分類方法は，手許の標本のデータを検討して，従来から多くの専門家が用いている方法によったが，キクイムシ科のCryphalini族，Dryocoetini族及びXyleborini族などに所属する属の取扱いは難しく，専門家の間でも意見が分れており，今後大いに研究されなければならない。また，*Bothrosternoides* 属は検討した結果既知の族に含めることができなかったほか，*Eidophelus* 属の取扱いは今後検討を要する。