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<https://doi.org/10.5109/2564>

出版情報 : ESAKIA. 33, pp.59-86, 1993-03-31. Entomological Laboratory, Faculty of Agriculture, Kyushu University

バージョン :

権利関係 :



Revision of the Genus *Myosides* Roelofs (Coleoptera:Curculionidae)^{1), 2)}

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Abstract. The adelognathous weevils of the genus *Myosides* in the subtribe Ptochina occurs in the Far East representing 12 species. Nine new species are described: *formosanus*, *yonagunianus*, *ishigakianus*, *okinawanus*, *amamianus*, *tokarensis*, *ejimai*, *kiiensis* and *chejuensis*. *Trachyodes marshalli* Heller is newly transferred to this genus.

The genus *Myosides* was established by Roelofs (1873) with a single species *seriehispidus* Roelofs in the tribe Trachyploeini andpyrus was added by Sharp (1896) both from Japan. Present investigation reveals the presence of twelve species in this genus from eastern Asia including *Trachyodes marshalli* Heller (1931), which was described from Taiwan . This genus was transferred from the Trachyploeini to the Otiorhynchini by Kôno (1930) and to the Ptochini sensu Reitter (1913) (= Cyphicerini see Thompson,1977) by the senior author (1962).

Weevils of this genus are collected by sifting litter throughout a year, or often taken from the bushes and the grassy places by beating and sweeping. They are usually covered by a dirty incrustation and can not be identified without treating in a detergent solution in an ultrasonic cleaner in many cases.

Material examined in this paper are mostly collected by Dr. S. Nomura and partly by Messrs. K.

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- 1) Results from the Korea-Japan Co-operative Science Program on "The Evolution and Biogeography of the Insects in the East Asia". No. 14.
 - 2) Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 4, No. 48).

Baba, H. Kojima, H. Makihara, Y. Miyatake, S. Miyakawa, A. Nohira, K. Ogata, H. Sasaji, K. Sawada and S. Uéno. 'To these entomologists the senior author wishes to express his sincere thanks. Korean material was able to collect with kind assistance in various ways by Mr. Jae Myeong Jo, Director general, and Dr. Jong Kuk Kim, of the Forest Research Institute, Mr. Seung Kul Park, Director of Chung-bu Forest Experiment Station, and Prof. Chan Young Lee of Kanweon National University, to whom we want to express our hearty thanks.

Genus *Myosides* Roelofs

Myosides Roelofs, 1873, Ann. Soc. ent. Belg., XVI:164 (Trachyploeides. Type-species: *Myosides seriehispidus* Roelofs, monobasic). – Sharp, 1986, Trans. ent. Soc. Lond., 1896:93. – Kôno, 1930, J. Fac. Agr. Hokkaido Imp. Univ., XXIV(5):221 (Otiorrhynchini; key). – Morimoto, 1962, J. Fac. Agr., Kyushu Univ., 12:52 (Ptochini: Ptochina; key). – Morimoto, 1981, J. Fac. Agr., Kyushu Univ., 25:182.

Derm with dense scales concealing structures. Head and rostrum longitudinally multisulcate, forehead between eyes a little narrower than the base of rostrum. Eyes evenly convex, highest at the middle. Rostrum shorter than broad, continuous to frons in the same plane on dorsum, parallel-sided or expanded laterally at pterygia, then rapidly narrowed for a short distance to sides of epistome; epistome bare, sharply delimited posteriorly by V- or U-shaped carina and with a bare space behind it, posterior wall of the carina with 6-8 pairs of decumbent or curved long setae; pterygia well-marked; antennal scrobes dorsal, open posteriorly. Antennae robust, scape reaching anterior margin of pronotum, funicle 7-segmented, 1st segment robust, about twice as long as broad, 2nd segment a little shorter than 1st, 3rd to 6th segments about as long as broad, moniliferous, 7th segment transverse, club oval. Mandibles with apical tooth blunt, ventral cutting ridge well marked, with a median tooth, each with 3 long and about 5 short setae, the shorter ones $1/2 - 2/3$ the length of the longer ones. Prementum with 3 or 4 pairs of setae, the most lateral pair often indistinct.

Prothorax broader than long, without ocular lobes in usual sense, but the anterior margins not exactly straight and very faintly produced to form ocular lobes at sides by close examination, posterior margin of pronotum truncate, almost as broad as or slightly broader than the anterior margin, median length of prosternum about $2/3$ the length of pronotum, subapical transverse furrow usually distinct at ventral side, procoxae narrowly or not at all separated from the furrow. Scutellum minute or vestigial, concealed by scales if present.

Elytra oval, evenly rounded at sides, broadest at or about $1/3$ from apex, humeri obsolete, striae narrower than intervals, 9th stria complete. Pygidium completely concealed by elytra.

Procoxal cavities broadly contiguous. Mesosternal process narrow, parallel-sided. Metasternum short, distance between meso- and metacoxae as long as 3rd ventrite. Metepisternal suture visible in entire length in scaled or denuded conditions. Venter with first ventrite sinuate at posterior margin, almost as long, behind coxae as second ventrite and as long as 3rd and 4th ventrites taken together.

Legs with femora clavate, each with a small sharp tooth, tibiae almost straight, mucronate, tarsi robust, first segment as long as two followings combined, second segment transverse, third segment

bilobed, much broader than second, claws simple, free.

Male: Seventh tergite truncate at apex, 8th tergite emarginate, 8th sternite with the median membranous part separating sclerotized parts, spiculum gastrale of 9th sternite often stout, curved dorsally at the right side of penis. Tegmen completely ringed, parameres vestigial, manubrium slender, longer than penis, penis tubular, weakly curved, often with indefinite basal margin due to weak sclerotization at ventral side, struts very long, much longer than penis and reaching proven-triculus in mesothorax, internal sac long, often folded Z-shapedly, asperate or with full of spines **in** basal area.

Female: Seventh tergite truncate at apex, 8th tergite emarginate, 8th sternite with long spiculum ventrale. Ovipositor long, with basal membranous part much longer than the apical sclerotized part, without styli, area of vagina long, coiled one and half times in repose, bursa copulatrix small to large, often much longer than whole ovipositor, spermatheca with basal lobe curved at base, lateral lobe short, distal lobe curved right-angular to basal lobe.

Key to **species**

- 1(14) Epistome with its hind angle rounded and lying before or on the level between anterior margin of pterygia, with broader bare space behind epistome.
- Z(7) Antennae with 3rd and 4th segments of funicle a little longer than broad.
- 3(4) Elytra with 2nd, 3rd and 4th intervals of the same width and height at base. Elytra broadest at the middle, then broadly rounded posteriorly in dorsal aspect. Taiwan.
..... ***Myosides formosanus*** sp. nov.
- 4(3) Elytra with 3rd interval much broader than neighboring intervals at base.
- 5(6) Smaller, 3.1-3.4 mm in length, elytra a little narrower, almost straightly narrowed posteriorly from apical 1/3 to round conjoint apices, suberect scales narrower, slightly dilated apically. Taiwan. ***Myosides marshalli*** (Heller)
- 6(5) Larger, 4.0 mm in length, elytra oval, broadly rounded apically in dorsal aspect, suberect scales narrow triangular, about twice the length of apical breadth. Ryukyus (Yonaguni I.).
..... ***Myosides yonagunianus*** sp. nov.
- 7(2) Antennae with 3rd and 4th segments of funicle as long as or a little broader than long.
- 8(9) Antennae with 3d segment of funicle as long as broad and a little longer than the 4th, elytra oval. Ryukyus (Ishigaki & Iriomote Is.). ***Myosides ishigakianus*** sp. nov.
- 9(8) Antennae with 3rd and 4th segments of funicle of the same shape and size.
- 10(11) Elytra oval, broadest at the middle. Ryukyus (Okinawa & Kume Is.).
..... ***Myosides okinawanus*** sp. nov.
- 11(10) Elytra subpyriformed, broadest behind the middle.
- 12(13) Larger, 3.7-3.9 mm in length, elytra evenly and broadly rounded posteriorly. Amami Isls. (Amami Oshima & Tokunoshima Is.). ***Myosides amamianus*** sp. nov.
- 13(12) Smaller, 2.0-3.6 mm in length, elytra rather straightly tapered posteriorly from the broadest point to round conjoint apices. Tokara Isls. (Takara & Nakanoshima Is.).
..... ***Myosides tokarensis*** sp. nov.

- 14(1) Epistome with its hind margin **angulate**, lying behind the level between anteterior margin of pterygia, with narrower bare space behind epistome.
- 15(16) Total body length 4.6 mm, length of pronotum and elytra 4.0 mm, pronotum scarcely broader than long, elytra oblong-oval, 1.45 times as long as broad, rostrum with pterygia well expanded laterally. Danjo-gunto Isls.(Meshima I.). *Myosides ejimai* sp. nov.
- 16(15) Total body length less than 4.0 mm, length of pronotum and elytra less than 3.3 mm, pronotum much wider than long, elytra oval or pyriformed.
- 17(18) Each interval of elytra with a row of decumbent short scales, being shorter than the combined length of two ground scales, elytra subpyriformed, broadest behind the middle. Honshu (Wakayama, Nara & Osaka Prefs.). *Myosides kiiensis* sp. nov.
- 18(17) Each interval of elytra with a row of suberect scales, being longer than combined length of two ground scales.
- 19(20) Elytra pyriformed, rostrum with pterygia well expanded laterally. Honshu, Shikoku, Kyushu. *Myosides pyrus* Sharp
- 20(19) Elytra oval, rostrum with pterygia at most slightly expanded laterally.
- 21(22) Suberect scales on elytra slender and longer, more than 4 times as long as broad, scarcely widened distally. Korea (Chejudo I.). *Myosides chejuensis* sp. nov.
- 22(21) Suberect scales on elytra shorter, distinctly dilated distally, 2.5–3.0 times as long as broad. Honshu, Shikoku, Kyushu, Korea, Russian Far East. *Myosides seriehispidus* Roelofs

Key to species by the male genitalia (*ejimai* and *formosanus* are not included)

- I(4) Spiculum gastrale of 9th sternite almost as thick as manubrium of tegmen, neither dilated nor flattened distally.
- 2(3) Penis with a round apical projection. *Myosidespyrus* Sharp
- 3(2) Penis evenly tapered and broadly rounded at apex. *Myosides chejuensis* sp. nov.
- 4(1) Spiculum gastrale of 9th sternite robust, much thicker than manubrium of tegmen, distinctly dilated and flattened at apex.
- j(6) Penis short, robust, distance between apex and ventral base of strut less than three times as long as maximum thickness in lateral aspect. *Myosides marshalli*(Heller)
- 6(5) Penis slender, distance between apex and ventral base of strut more than 3.3 times as great as thickness in lateral aspect.
- 7(S) Internal sac with three sclerites. *Myosides kiiensis* sp. nov.
- S(7) Internal sac without sclerites behind the base of penis.
- 9(12) Penis with distance between apex and ventral base of strut 3.3–4.9 times as long as thickness.
- 10(11) Penis slenderer, parallel-sided. *Myosides seriehispidus* Roelofs (from Kyushu)
- 11(10) Penis shorter, weakly narrowed basally. *Myosides seriehispidus* Roelofs (from Korea)
- 12(9) Penis with distance between apex and ventral base of strut more than 5.2 times as great as thickness in lateral aspect.
- 13(14) Internal sac with a pair of sclerites at ostium. *Myosides amamianus* sp. nov.
- 14(13) Internal sac without definite sclerites at ostium.

- 15(16) Penis with ventral contour weakly up-turned near apex in lateral aspect.
 ***Myosides tokarensis*** sp. nov.
- 16(15) Penis with ventral contour straight near apex in lateral aspect.
- 17(18) Penis with distance between apex and ventral base of strut 4.8-5.2 times as great as thickness in lateral aspect. ***Myosides okinawanus*** sp. nov.
- 18(17) Penis very long, distance between apex and ventral base of strut more than 5.4 times of the thickness.
- 19(20) Penis with distinct demarcation at the base of struts. ***Myosides yonagunianus*** sp. nov.
- 20(19) Penis without demarcation at the base of struts. ***Myosides ishigakianus*** sp. nov.

Key to species by the female genitalia (*yonagunianus*, *ejimai* and *chejuensis* are not included)

- 1(2) Bursa copulatrix with a pair of small appendant lobes at the base.
 ***Myosides marshalli*** (Heller)
- 2(1) Bursa copulatrix without such appendages.
- 3(6) Bursa copulatrix much shorter than ovipositor, spermatheca with lateral lobes much wider than long.
- 4(5) Spermatheca with distal lobe sharply angulate to basal lobe at inner margin, lateral lobe almost as thick as base of basal lobe. ***Myosidespyrus*** Sharp
- 5(4) Spermatheca with distal lobe narrowly rounded at base to basal lobe at inner margin, lateral lobe broader than the base of basal lobe. ***Myosides kiiensis*** sp. nov.
- 6(3) Bursa copulatrix almost as long as ovipositor.
- 7(10) Spermatheca robust, evenly dilated from the curved point of basal lobe to distal base of lateral lobe.
- 8(9) Spermatheca shortly curved at apex. ***Myosides amamianus*** sp. nov.
- 9(8) Spermatheca curved at apical third of distal lobe. ***Myosides okinawanus*** sp. nov.
- 10(7) Spermatheca with basal lobe slenderer.
- 11(14) Spermatheca smaller, distance between base and apex less than 0.2 mm in straight length.
- 12(13) Spermatheca smallest, distance between base and apex 0.13-0.14 mm in straight length, distal lobe evenly curved. ***Myosides tokarensis*** sp. nov.
- 13(12) Spermatheca with distance between base and apex 0.17-0.18 mm in straight length, distal lobe almost straight. ***Myosides marshalli*** (Heller)
- 14(11) Spermatheca larger, distance between base and apex more than 0.22 mm in straight length.
- 15(16) Spermatheca with distal lobe much thicker than basal lobe. ***Myosides formosanus*** sp. nov.
- 16(15) Spermatheca with distal lobe scarcely thicker than basal lobe.
- 17(18) Spermatheca with distal lobe angulately curved at distal third.
 ***Myosides ishigakianus*** sp. nov.
- 18(17) Spermatheca with distal lobe evenly curved or almost straight.
 ***Myosides seriehispidus*** Roelofs
- 19(20) Spermatheca with distal lobe almost straight. . . . (Specimens from Niigata, Nara, Hachijo I.)
- 20(19) Spermatheca with distal lobe more or less curved.
- 21(22) Spermatheca with distal lobe longer than basal lobe and evenly curved.

-(Specimens from Kyushu)
 22(21) Spermatheca with distal lobe as long as or a little shorter than basal lobe.
 23(24) Spermatheca with distal lobe shorter than basal lobe, just cylindrical at basal half.
(Specimens from Korea)
 24(23) Spermatheca with distal lobe slightly tapered distally.
 (Specimens from Kochi and Ogasawara Isls.)

Myosides formosanus sp. nov.

Dark brown to brown, with dense greyish to brownish grey scaling mottled with darker markings as follows: pronotum with indefinite median brownish stripe, elytra with indefinite basal patch between 3rd stria and shoulder, oblique short subbasal band between fourth interval and side margin, conjoint V-shaped broad band behind the middle, and often with irregular indefinite dark area before apex, greyish band behind dark postmedian band often definite.

Head flat between eyes, with 3 or 4 suberect scales on each side above eyes. Rostrum 4/5 times as long as broad, weakly narrowed from base to middle, then parallel-sided at sides of pterygia; epistome with its hind angle rounded and lying a little before or on the level between anterior margins of pterygia, with broad bare space behind epistome, median carina in bare space indefinite. Antennae with 1st segment of funicle three times as long as broad, 2nd segment slightly less than twice as long as broad, 3rd and 4th segments of the same size, 7/8 times as long as broad, 5th and 6th segments as broad as or a little broader than long, proportion of the length from basal segment of funicle 21: 13: 8: 8: 7: 7: 8.

Prothorax 0.73-0.82 times as long as broad, broadest about the middle, with sparse punctures bearing recumbent scale each. Elytra oval, about 1.2 times as long as broad, broadest at the middle, evenly rounded posteriorly, 3rd interval almost as broad as and on the same plane with 4th interval at base, suberect scales about as long as three ground scales combined, dilated distally.

Total length of body 3.4-4.1 mm, length of pronotum and elytra 2.9-3.4 mm.

Holotype: female (Type No.2771, Kyushu Univ.), Yangmingshan, near Taipei, Taiwan, 25.v.1965, K. Morimoto leg.

Paratypes: 2 females, Urai, Taipei Hs., 27.v.1965, K. Morimoto leg. & 31.v.1976, H. Makihara leg.; 1 female, Pa Lon, Tao Yuan Hs., 3.viii.1986, K. Baba leg.

Distribution: Taiwan.

***Myosides marshalli* (Heller) comb. nov.**

Trachyodes marshalli Heller, 1931, Wien. ent. Zeit., 48:98 (Taiwan: Takao).

Head and pronotum almost the same as *M. formosanus*. Elytra a little narrower, almost straightly narrowed posteriorly from apical 1/3, then rounded at conjoint apices, 3rd interval distinctly broader than neighboring intervals at base and often weakly raised.

Male aedagus with penis shortest among species of this genus examined, distance between apex

and ventral base of strut about 2.7 times as great as maximum thickness. Bursa copulatrix in female with a pair of small appendant lobes just behind gonopore, spermatheca not curved at apex.

Total body length: 3.1-3.4 mm, length of pronotum and elytra 2.4-3.0 mm.

Specimens examined: 5 exs, Fenchihu, Chiai Hs., 24-25.vii.1966, H. Sasaji leg.; 1 ex., Chuchi, Chiai Hs., 21.vii.1966, H. Sasaji leg.; 1 ex., Chiao-Li-Ping, Chiai Hs., 13.iv.1965, S. Uéno leg.; 1 ex., Lushan Wenchuan, Nantou Hs., 27.v.1980, H. Makihara leg.; 1 ex., Baling(Haryoh), Taoyan Hs., 24.vii.1988, S. Nomura leg.; 1 ex., Kuanzruling, Tainan Hs., 6.iv.1965, Y. Miyatake leg.

Distribution: Taiwan.

Note: Short and robust penis in the male and a pair of appendant lobes before gonopore in the females are characteristic to this species.

***Myosides yonagunianus* sp. nov.**

Very close to *M. formosanus*, but differs from it by the following points: Larger, total body length 4.0-4.3 mm, length of pronotum and elytra 3.5-3.6 mm; ratio of length by width of elytra 1.19, elytra with 3rd interval distinctly wider than neighboring intervals and often weakly raised at base. Penis slender, distance between apex and ventral base of strut about 5.4 times as great as thickness, with distinct demarcation between penis and struts.

Holotype: male (Type No. 2772, Kyushu Univ.) and Paratypes: 2 males, Sonai, Yonaguni I., 28.vi.1974, T. Mikage leg.

Distribution: Japan (Ryukyus: Yonaguni I.)

***Myosides ishigakianus* sp. nov.**

Derm dark chestnut brown to black, with dense ash-grey scaling mottled with darker indefinite markings, pronotum without median darker stripe, elytra with vague dark bands at basal third, behind the middle and on declivity, but these bands less definite than the other species or often completely absent, often with dark patch at the base of first interval; seta-like scales on pronotum and elytra erect, a little longer and denser than the preceding species, dark brown, often ash-grey on declivity of elytra.

Head weakly narrowed from base to the middle, then slightly expanded laterally at pterygia, epistome with its hind angle rounded and lying on the level between anterior margins of pterygia, bare space behind pterygia finely punctate, with a weak short median carina. Antennae with 2nd segment of funicle a little shorter than 1st, 3rd segment a little longer than broad, 4th segment as long as broad.

Pronotum 0.70-0.85 times as long as broad, sides slightly rounded, broadest about the middle, anterior and posterior margins of the same width, truncate. Elytra oval, broadest at the middle, evenly rounded thence posteriorly, 3rd interval almost as broad as or slightly broader than and on the same plane as the neighboring intervals at base, erect scales about as long as three ground scales combined, narrow, slightly dilated distally.

Male aedeagus with penis longest among species of the genus, distance between apex and ventral base of strut about 6.6 times as great as thickness. Spermatheca strongly curved at apex.

Total body length: 3.3-4.0 mm, length of pronotum and elytra 2.8-3.3 mm.

Holotype: female (Type No. 2773, Kyushu Univ.), Mt. Banna-dake, Ishigaki I., 18-22.vi.1991, K. Morimoto leg.

Paratypes: 4 exs, same data with holotype; 4 exs, same locality with holotype, 15.viii.1991, K. Ogata leg.; 93 exs, same locality with holotype, 21.iv.1992, K. Kojima leg.; 2 exs, Nakaragawa, Iriomote I., 5.x.1963, Y. Hirashima & K. Morimoto leg.; 1 ex., Kanpire, Iriomote I., 14.iv.1986, S. Nomura leg.

Distribution : Japan (Ryukyus: Ishigaki and Iriomote Is.).

Note: The slender penis is characteristic to this species.

***Myosides okinawanus* sp. nov.**

Very close to *M. yonagunianus* and *ishigakianus*, but differs from them by the following characters: Antennae with funicle from 3rd to 7th segments moniliformed, 3rd to 6th segments of the same shape and size, a little broader than long, elytra oval, 3rd interval of the same width and height with neighboring intervals at base, erect setae on pronotum and elytra short. Penis with distance between apex and ventral base of strut 4.8-5.2 times as great as thickness. Spermatheca with basal lobe thick at the basal part of lateral lobe.

Total body length: 3.1-3.9 mm, length of pronotum and elytra 2.7-3.2 mm.

Holotype: male (Type No. 2774, Kyushu Univ.), Mt. Hedono-utaki, Kunigami-son, Okinawa I., 14.iii.1991, S. Nomura leg.

Paratypes: 8 exs, same data with holotype; 19 exs, Oku, Kunigami, Okinawa I., 14.iii.1991, S. Nomura leg.; 22 exs, Mt. Terukubi, Okinawa I., 15.iii.1985, S. Nomura leg.; 11 exs., Ie-rindo, Okinawa I., 22.iv.1986, 11.x.1988 & 14.iii.1991, S. Nomura leg.; Mt. Nishimedake, Okinawa I., 20 exs., 14.iii.1991, S. Nomura leg., 1 ex., 12.ii.1991, K. Ogata leg.; 3exs., Ookuni-rindo, Okinawa I., 23.iv.1989, K. Kume leg.; Mt. Yonahadake(400m), Okinawa I., 20.x.1987, M. Sakai leg.; 1 ex., Shuri, Okinawa I., 19.viii.1958, T. Hidaka leg., 1 ex., 31.v.1961, O. Nakachi leg.; 1 ex., Sueyoshi Park, Okinawa I., 8.vii.1987, T. Uéno leg.; 6 exs., Darumayama Park, Kumejima I., 28.ix.1989, T. Uéno leg.

Distribution: Japan (Ryukyus: Okinawa and Kumejima Is.).

***Myosides amamianus* sp. nov.**

Scaly color pattern and derm coloration almost the same as *M. okinawanus*. Head and rostrum similar to the next species, rostrum weakly narrowed from the base to the middle, with weak pterygia. Antennae with funicle from 3rd to 6th segments of the same shape and size, slightly broader than long. Elytra subpyriformed, broadest behind the middle, then evenly rounded posteriorly. Penis slender, internal sac with a pair of weak sclerites at ostium, distance between apex and ventral base

of strut 6.4 times as great as thickness. Spermatheca rather robust.

Total body length: 3.7-4.0 mm, length of pronotum and elytra 3.2-3.3 mm.

Holotype: male (Type No. 2775, Kyushu Univ.), Mt. Yuwandake, Amami-Oshima I., 5.v.1987, S. Nomura leg.

Paratypes: 16 exs., 5 & 8.v.1987, S. Nomura leg.; 1 ex., Mt. Yuidake, Amami-Oshima I., 10.viii.1984, S. Nomura leg.; 11 exs., Inokawadake, Tokunoshima I., 2 & 5.v.1988, S. Nomura leg.

Distribution: Japan (Ryukyus: Amami-Oshima and Tokunoshima Is.).

***Myosides tokarensis* sp. nov.**

Dark brown to blackish, with dense earthy brown scaling mottled with darker indefinite bands on elytra, without dark median stripe on pronotum. Rostrum with weak pterygia, epistome narrower and well protruding before the level of pterygia. Antennae with funicle moniliferous from 3rd to 6th segments, as long as broad, 7th segment slightly larger than 6th. Pronotum 0.79-0.88 times as long as broad, slightly rounded at sides. Elytra 1.19-1.33 times as long as broad, subpyriformed, broadest at apical third, then straightly tapered posteriorly to round conjoint apices, 3rd interval as broad as neighboring intervals and not raised at base, suberect scales on elytra as long as three ground scales combined, weakly dilated apically.

Male aedeagus with ventral contour of penis weakly up-turned near apex. Spermatheca smallest in this genus, distal lobe evenly curved.

Total body length: 3.0-3.5 mm, length of pronotum and elytra 2.5-3.0 mm.

Holotype: male (Type No. 2776, Kyushu Univ.), Nakanoshima I., Tokara Is., 2.v.1987, S. Nomura leg.

Paratypes: 18 exs, same data as holotype; 15 exs., Oh-ike, Takarajima I., Tokara Is., 20-25.iii.1992, S. Nomura leg.; 1 ex., Arakizaki, Takarajima I., 22.iii.1992, S. Nomura leg.; 1 ex., Ohma seashore, Takarajima I., Tokara Is., 24.iii.1992, S. Nomura leg.

Distribution: Japan (Tokara Is.: Nakanoshima I. and Takarajima I.).

Note: This species is characteristic by the smaller and subpyriformed general shape, up-turned penis near apex and the smallest spermatheca.

***Myosides ejimai* sp. nov.**

Male. Derm brownish black, legs and antennae brownish, with dense dirty incrustation. Head slightly convex between eyes. Rostrum slightly narrowed from the base to the middle, with weak pterygia, epistome broadly rounded at posterior margin, bare space behind epistome smooth, with a median weak carina. Antennae with proportion of the length(width) from base of funicle 23(13): 19(11): 10(10): 9(10): 8(10): 8(11): 10(12).

Pronotum 0.97 times as long as broad, broadest at the middle, weakly and evenly rounded at sides, slightly convex dorsally, with dense strong punctures,

Elytra oblong-oval, 1.4 times as long as broad, intervals convex, with fine dense punctures, 3rd

interval much broader than 2nd and as broad as 4th at base, suberect scales sparse, narrow, slightly dilated distally, about as long as three ground scales combined.

Venter with 1st and 2nd ventrites broadly bare, smooth and slightly depressed in the middle, first suture obtusely angulate in the middle. Femora with a small tooth. Fore tibiae weakly curved inwards at apex.

Total body length: 4.6 mm, length of pronotum and elytra 4.0 mm.

Holotype: male (Type No. 2777, Kyushu Univ.), Meshima I., Danjo-gunto Is., 25.v.1989, M. Ejima leg.

Distribution: Japan (Danjo-gunto Is.: Meshima I.).

Note: This new species is easily recognized by its largest size in this genus and oblong-oval elytra. Name of this new species is dedicated to the late Mr. M. Ejima, who was a keen entomologist in Nagasaki and made many extensive surveys.

***Myosides kiiensis* sp. nov.**

Derm blackish brown to brown, with dense greyish scaling mottled with dark indefinite markings on pronotum and elytra as fig. 111 or often markings obscure.

Head flat between eyes. Rostrum slightly narrowed from the base to the middle, with weak pterygia, epistome angulate basally, bare space behind epistome V-shaped, smooth. Antennae robust, funicle with the proportion of length(width) from basal segment 18(11): 11(8): 7(8):7(8):7(8):7(8.5):8.5(12).

Pronotum 0.77-0.84 times as long as broad, weakly rounded in the middle, disk with dense punctures. Elytra subpyriformed, broadest behind the middle, decumbent scales shortest in this genus, shorter than two ground scales combined, almost invisible on pronotum and dorsal area of elytra, 3rd interval as broad as 2nd and a little broader than 4th, not raised. Venter with 1st ventrite faintly depressed in the middle in male, almost flat in female. Femora with a small tooth.

Male aedeagus with three sclerite in internal sac, roundly pointed at apex. Bursa copulatrix much shorter than ovipositor. Spermatheca strongly curved, lateral lobe semicircular, broader than base of basal lobe.

Total body length 3.0-4.1 mm, length of pronotum and elytra 2.5-3.3 mm.

Holotype: male (Type No. 2778, Kyushu Univ.), Tsudurafuchi, Shirahama, Nishimuro-gun, Wakayama Pref., v-ix.1978, H. Minato leg.

Paratypes: 6 exs, same data as holotype; 3 exs., Ohshima I., Wakayama Pref., 19.v.1955, S. Uéno leg.; 2 exs., Mt. Nachi, Wakayama Pref., 26.iii.1953, K. Sawada leg.; 1 ex., Mt. Iwawaki, Osaka, 26.iv.1953, K. Sawada leg., lex., Mt. Taterikoojin, Oku-kooya, Nara Pref., 17.vi.1968, M. Goto leg.

Distribution: Japan (Honshu:Wakayama and Nara Prefs.).

Note: The sclerites in the internal sac of penis, short bursa copulatrix and subpyriformed elytra with short decumbent scales are characteristic to this species.

***Myosides pyrus* Sharp**

Myosides pyrus Sharp, 1894, Trans. ent. Soc. London, :93 (Nikko). - Takenouchi, 1981, J. Hokkaido Univ. Educ., (sect. II B) 31:55 (Niigata:Murakami City; Parthenogenetic triploid). - Morimoto, 1984, Coleopt. Jpn in col., IV:275, pl.54, fig.6 (Honshu). - Matoba, 1990, Bull. Wakayama Mus. Nat. Hist., 8:31,32.

Very close to *M. kiiensis*. Rostrum with well expanded pterygia, elytra with suberect scales slender, scarcely dilated distally, more than half as wide as interval. Male genitalia with spiculum gastrale of 9th sternite almost as thick as manubrium of tegmen, neither dilated nor flattened distally, penis with a round apical projection. Bursa copulatrix much shorter than ovipositor.

Total body length 3.2-3.9 mm, length of pronotum and elytra 2.7-3.1 mm.

Specimens examined: 1.57 exs. from the following localities: Niigata Pref.(Mt. Kurohime), Gifu Pref.(Itadori-mura), Nara Pref.(Mt.Ohdaigahara), Osaka Pref.(Minoo-Katasuoji), Okayama Pref.(Ikuma-Niimi), Tottori Pref.(Mt.Daisen), Shimane Pref.(Urahikimikyo), Tokushima Pref., Ehime Pref.(Rakando cave), Kochi Pref.(Mt. Kajigamori, Tosayamada, Ashizuri-misaki, Engyoji, Higashitsuno), Fukuoka Pref.(Yamada-ryokuchi, Keya), Saga Pref.(Mt. Taradake), Ohita Pref.(Mt. Sobo).

Distribution: Japan (Honshu, Shikoku, Kyushu).

Note: The holotype in the Natural History Museum in London was examined by the senior author. This species was reported to be parthenogenetic by Takenouchi on the material from Murakami City in Niigata Pref., but the male is confirmed on the specimens from Mt. Kurohime in Niigata Pref. and Itadorimura in Gifu Pref. This may be an example of the distribution of the parthenogenetic weevils in Japan that the polyploid and parthenogenetic weevils are common in the northernmost species in a genus or population in a species as reported by Takenouchi (1976).

***Myosides chejuensis* sp. nov.**

Myosides sp. Morimoto et Lee, 1992, Esakia, (32):3.

Very close to *M. seriehispidus* and only separable from it by the following characters: Elytra with suberect scales narrower and longer, more than four times as long as broad, very slightly dilated distally; male genitalia with spiculum gastrale of 9th sternite almost as thick as manubrium of tegmen, neither dilated nor flattened distally, penis broadest at ostium, weakly tapered basally, straightly narrowed apically and subtriangularly rounded at apex.

Total body length 3.0-3.5 mm, length of pronotum and elytra 2.5-2.9 mm.

Holotype: male, Oradong, Cheju City, 28.vii.1990, K. Morimoto leg. (in coll. Kyunpook Univ.).

Paratypes: 4 males, same locality as holotype, 27.vi. & 23-28.vii.1990, K. Morimoto leg.

Distribution: Korea (Chejudo I.).

Note: Specimens were collected from a bush of *Humulus japonicus* by beating on the river bank near the athletic stadium together with next species. Their distributions might be disturbed by flood judging from the collecting data of many montane beetles at the bank of downstream. Three males are dissected and confirmed their identity on the structures of the male genitalia.

***Myosides seriehispidus* Roelofs**

Myosides seriehispidus Roelofs, 1873, Ann. Soc. ent. Belg., XVI:165 (Nagasaki). – Sharp, 1896, Trans. ent. Soc. London, 93 (Nagasaki, Miyanoshiba). – Kôno, 1930, J. Fac. Agr. Hokkaido Imp. Univ., XXIV(5):224 (Tokio, Kiushiu). – Morimoto, 1959, Enum. Ins. Mt. Hikosan, II:79 (Mt.Hiko). – Chujo and Morimoto, 1957, Ins. Niigata, II:7 (Kurokawa). – Nakane, 1963, Icon. Ins. Jap. col. nat. ed., II:361, pl.181, fig.1 (Honshu, Kyushu). – Takenouchi, 1972, Jap. J. Genetics, 47:20 (Hakodate, Iwate; parthenogenetic triploid). – Morimoto, 1979, Ins. Niigata (Dr. Baba ed.):31 (Niigata, Sado). – Morimoto, 1981, J. Fac. Agr., Kyushu Univ., 25:182 (Ogasawara:Chichijima I.). – Morimoto and Miyakawa, 1985, *Mushi*, 50:28 (Izu Isls.:Oshima, Toshima, Kozushima, Machijo, Aogashima Is.). – Morimoto, 1984, Coleopt. Jap. in col., IV:275, pl.54, fig.5 (Honshu, Kyushu). – Zherihin and Egorov, 1990, Curc. Far East USSR, 157 (Primorsk). – Matoba, 1990, Bull. Wakayama Mus. nat. Hist., 8:30, 32 (Wakayama).

Rostrum slightly narrowed from the base to the middle, then almost parallel-sided at pterygia, angle of epistome a little less than right angle, with V-shaped bare space behind epistome. Pronotum 0.70-0.79 times as long as broad, broadest at the middle. Elaytra oval, 3rd interval as broad as neighboring intervals, not raised, erect scales distinctly dilated apically, 2.5-3.0 times as long as broad. Tooth of hind femora often smaller and obtuser than the anteriors.

Male aedeagus with robust spiculum gastrale of 9th sternite, penis with distance between apex and ventral base of strut 3.3-4.9 times as great as thickness. Bursa copulatrix almost as long as ovipositor, spermatheca variable.

Total body length 3.3-4.1 mm, length of pronotum and elytra 3.0-3.4 mm.

Specimens examined : 72 exs. from the following localities: Akita Pref.(Sakata), Niigata Pref.(Kurokawa, Sado I., Senami, Moguradani, Mt. Yahiko), Iwate Pref.(Mt.Himekami), Miyagi Pref. (Aoba-jo), Toyarna Pref.(Furusato), Ishikawa Pref.(Hegura I., Mt. Shiritaka), Fukui Pref.(Mt. Muramuni), Saitama Pref.(Ishido-shuku), Chiba Pref.(Tomiura), Izu Isls.(Oshima, Toshima, Kozushima, Hachijo, Aogashima), Ogasawara Isls.(Chichijima), Yamanashi Pref.(Shosenkyo), Nagano Pref.(Neba-mura), Kanagawa Pref.(Hakone), Gifu Pref.(Oogaki), Osaka Pref.(Hiraoka, Senriyama), Nara Pref.(Yoshinoyama), Tottori Pref.(Sugano), Yamaguchi Pref.(Tokusa), Tokushima Pref.(Jinryo), Kochi Pref.(Kuroson, Ino, Kochi, Kashiwajima I.), Fukuoka Pref. (Mt.Hiko, Kitano-machi, Genkai-machi, Joyama, Shikanoshima, Kikakyushu, Mt. Fukuchi, Kumado), Saga Pref.(Kitagata-machi, Imari, Mt. Seira, Hamatama-cho, Karatasu, Mt. Taradake), Nagasaki Pref. (Nomosaki, Mt. Gohara), Kumamoto Pref.(Amakusa, Ueki, Tatsudayama), Kagoshima Pref.(Shiroyama), Korea (KwangNung, Hongchon, ChunChon, Mt. Jili, Cheju City).

Distribution: Japan (Hokkaido, Honshu, Sado I., Izu Isls, Ogasawara Isls., Shikoku, Kyushu), Korea, Russia(Primorsk).

Note: The holotype was examined by the senior author at the British Museum (Natural History) in London. This species was reported as the parthenogenetic triploid in chromosome number by Takenouchi(1972) on the materials from Hakodate and Iwate. The male has not been confirmed on

the materials from northern Japan by the present investigation, but is present in Kyushu and Korea. Korean materials from Mt. Jili and Cheju City are different from Japanese ones in having robust and weakly tapered penis. This species can be separable into 4 groups by the shape of spermatheca as noted in the key. Specific or subspecific revision of this species will be taken after the accumulation of materials from many localities.

REFERENCES

- Chûjô, M. and K. Morimoto, 1957 Curculionid-beetles of Niigata Prefecture, Honshu, collected by Dr. K. Baba. *Insects of Niigata Pref.*, II:24-40.
- Heller, K. M. 1931 H.Sauter's Formosa-Ausbeute (Curculionidae). *Wien. ent. Zeit.*, **48**:96-112.
- Kôno, H. 1930 Kurzrüssler aus dem japanischen Reich. *J.Fac. Agr. Hokkaido Imp. Univ.*, XXIV(5):153-242, 2 Taf.
- Matoba, I. 1990 On the genus *Myosides* from Wakayama Prefecture. *Bull. Wakayama Pref. Mus. Nat. Hist.*, **8**:29-37. (in Japanese)
- Morimoto, K. 1959 Curculionidae. In Chûjô *et al.*, *Enumeratio Insectorum Montis Hikosan*. II. Coleoptera: 78-87.
- Morimoto, K. 1979 Curculionid-beetles of Niigata Prefecture. *Insect Fauna of Niigata Pref.*: 25-47. (Published by Dr. K. Eiaba).
- Morimoto, K. 1981 Curculionidae and Rhynchophoridae (Coleoptera) of the Ogasawara Islands, Part 1. Otiorhynchinae and Cryptorhynchinae (1). *J.Fac. Agr. Kyushu Univ.*, **25**:175-199, 2 pls.
- Morimoto, K. 1984 Curculionidae. Coleoptera of Japan in color. IV: 269-345, pls. 53-68. (Hokusha, Osaka).
- Morimoto K. and S. Miyakawa 1985 Weevil fauna of the Izu Islands, Japan. *Mushi*, **50**:19-85.
- Nakane, T. 1963 Curculionidae. *Iconographia Insectorum Japonicorum colore naturali edita*. 11:359-379, pl.180-190. (Hokuryukan, Tokyo)..
- Roelofs, W. 1873 Curculionides recueillis au Japon par M. G. Lewis. *Ann. Soc. ent. Belg.*, XVI:154-192.
- Sharp, D. 1896 The Rhynchophorous Coleoptera of Japan. Part IV. Otiorhynchidae and Sitonides, and a genus of doubtful position from the Kuril Islands. *Trans. ent. Soc. London*, 1896:81-115.
- Takenouchi, Y. 1972 A chromosome study on two new Japanese parthenogenetic weevils. *Jap. J. Genetics*, **47**:19-22.
- Takenouchi, Y. 1976 On the chromosomes of parthenogenetic Curculionid weevils in Japan. *Proc. Japan Acad.*, **52**: 126-129.
- Takenouchi, Y. A chromosome study on the new parthenogenetic weevil, *Myosidespyrus* Sharp. *J. Hokkaido Univ. Educ.*, (IIB):55-57.
- Zherichin, V.V. and A. B. Egorov 1990 Coleoptera-Curculionidae of Far East USSR. 164 pp. (Akademia Nauka, Vladivostok). (in Russian)

Explanations of Figures 1-113

1-7: *Myosides seriehispidus* (Amakusa)

1: ventral. 2: lateral. 3: antenna. 4: right mandible, ventral. 5: maxilla. 6: fore leg. 7: hind leg.

8-16: Head of *Myosides* spp., dorsal.

8: *marshalli*. 9: *yonagunianus*. 10: *ishigakianus*. 11: *okinawanus*. 12: *tokarensis*. 13: *ejimai*. 14: *kiiensis*. 15: *pyrus*. 16: *seriehispidus*.

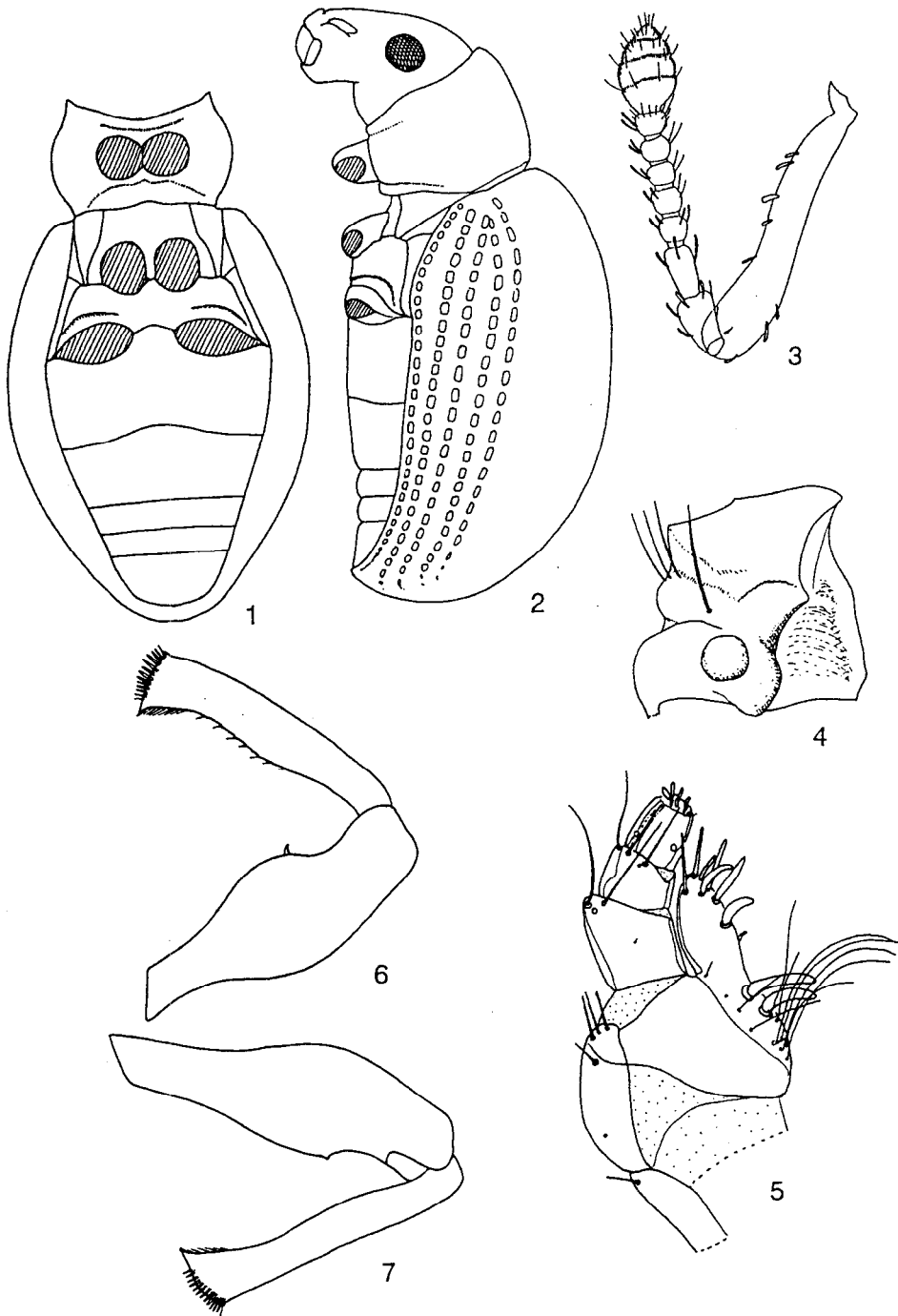
17-66: Male genitalia of *Myosides* spp., aedeagus in lateral view, and penis in dorsal and lateral views. 17-20: *marshalli*. 21-23: *yonagunianus*. 24-26: *ishigakianus*. 27-31: *okinawanus* (Okinawa I.). 32-34: *amamianus*. 35-36: *okinawanus* (Kumejima I.). 37-41: *tokarensis* (37-39: Nakanoshima I.; 40-41: Takarajima I.). 42-44: *kiiensis*. 45-49: *pyrus* (45-47: Mt. Kurohimeyama; Niigata, 48-49: Itadori-mura, Gifu). 50-53: *chejuensis*. 54-66: *seriehispidus* (54-56: Mt. Jili, Korea; 57-58: Cheju City, Korea; 59-61: Nomozaki, Nagasaki; 62-63: Amakusa-Sasanoo, Kumamoto; 64-65: Takeari, Kiatahata-machi, Saga).

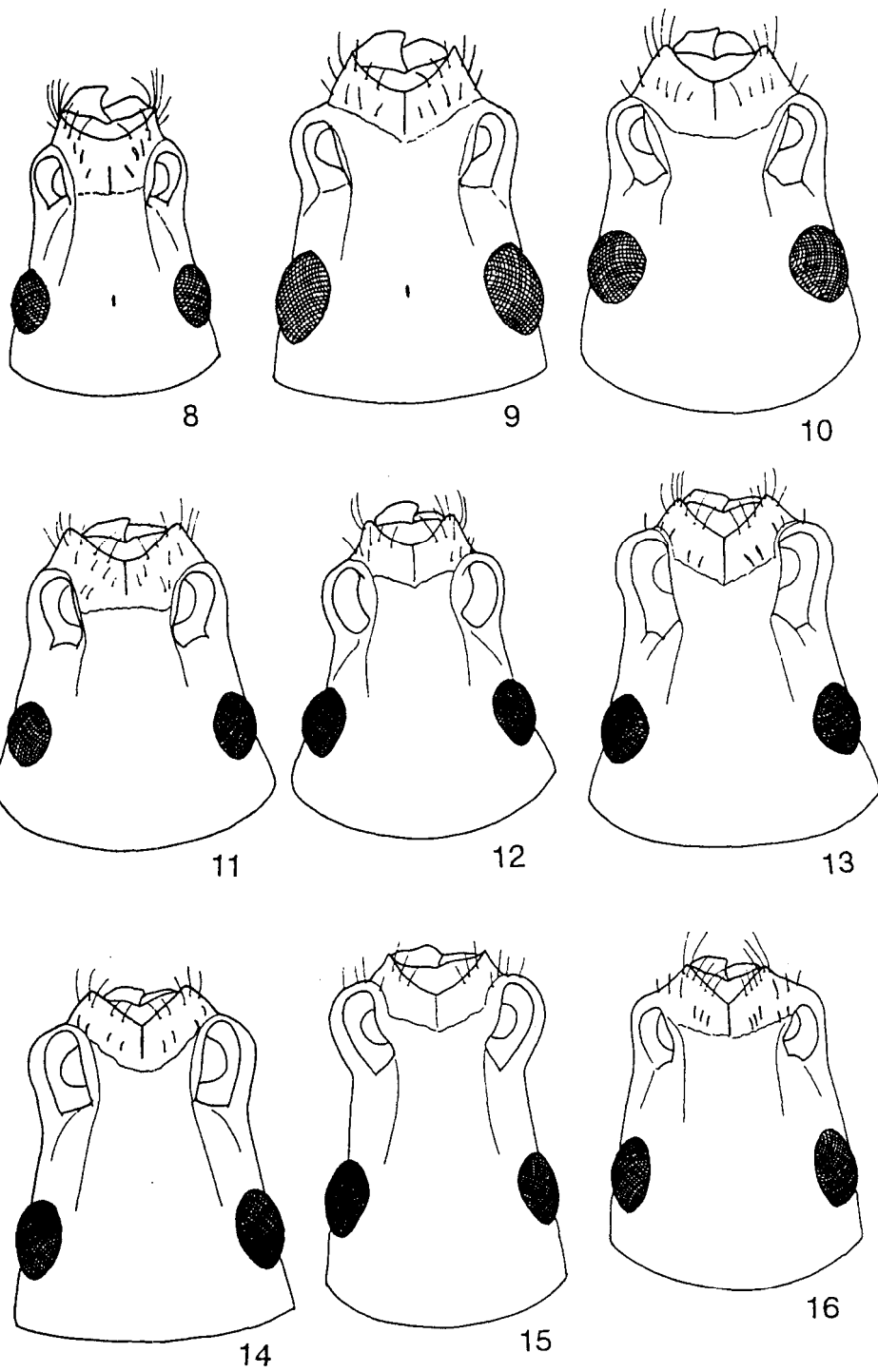
67-98: Female genitalia and spermatheca of *Myosides* spp.

67, 69: *formosanus*. 68, 70-71: *marshalli*. 72: *ishigakianus*. 73, 74: *okinawanus* (73: Okinawa I.; 74: Kumejima I.). 75: *amamianus*. 76-77: *tokarensis* (76: Nakanoshima I.; 77: Takarajima I.). 78: *amamianus*. 79, 81: *kiiensis*. 80, 82: *pyrus*. 83-98: *seriehispidus* (84: Nomozaki, Nagasaki; 85: Shiroyama, Kagoshima; 86: Mt. Hiko, Fukuoka; 87: Sasanoo, Amakusa; 88-89: Takerari, Kitahata-machi, Saga; 90-91: Kuroson, Kochi; 92: Chichijima I., Ogasawara Isls.; 93: Hachijo I.; 94: Kasugayama, Nara; 95-96: Kurokawa, Niigata; 97-98: KwangNung, Korea).

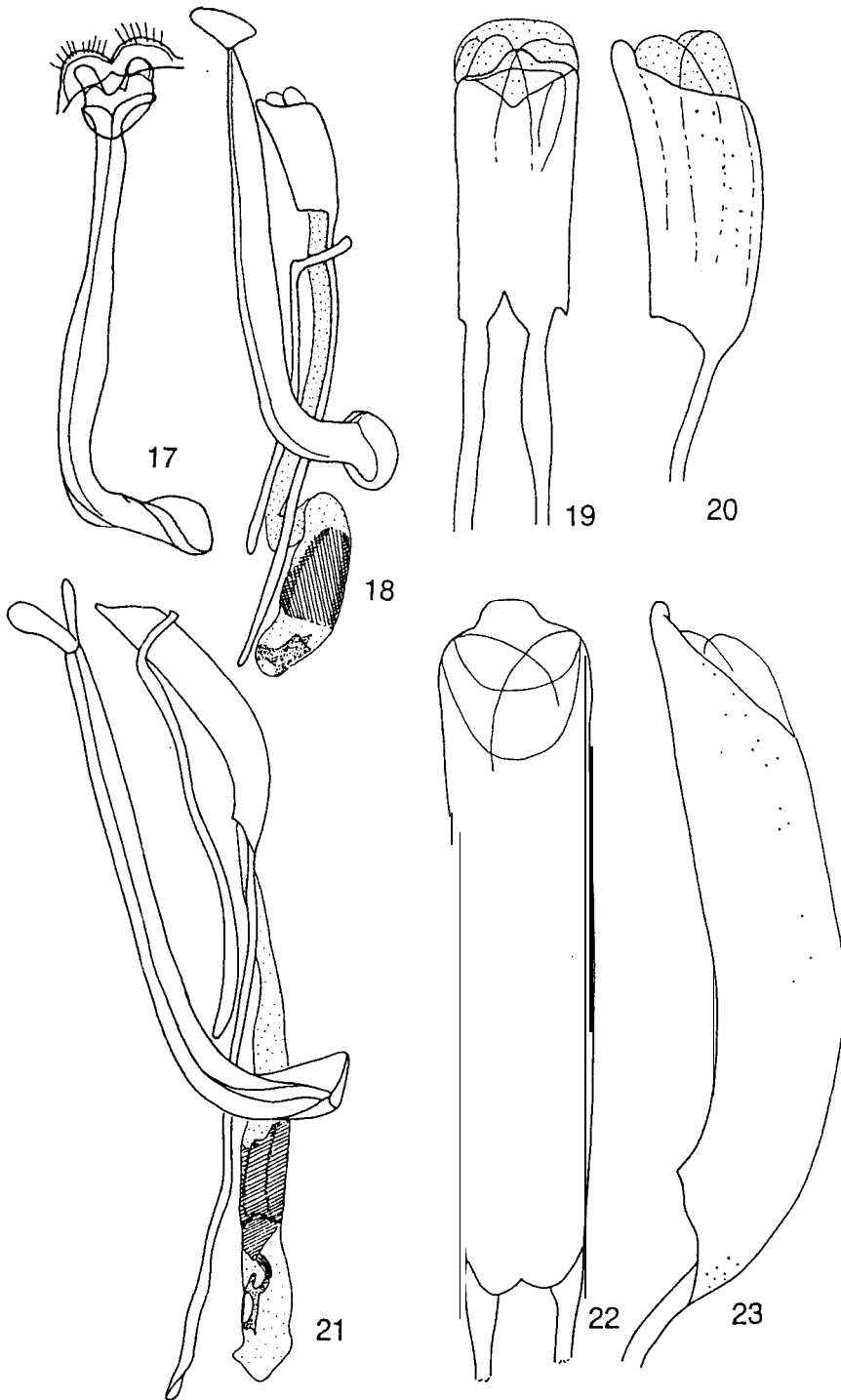
99-113: Dorsal view of *Myosides* spp.

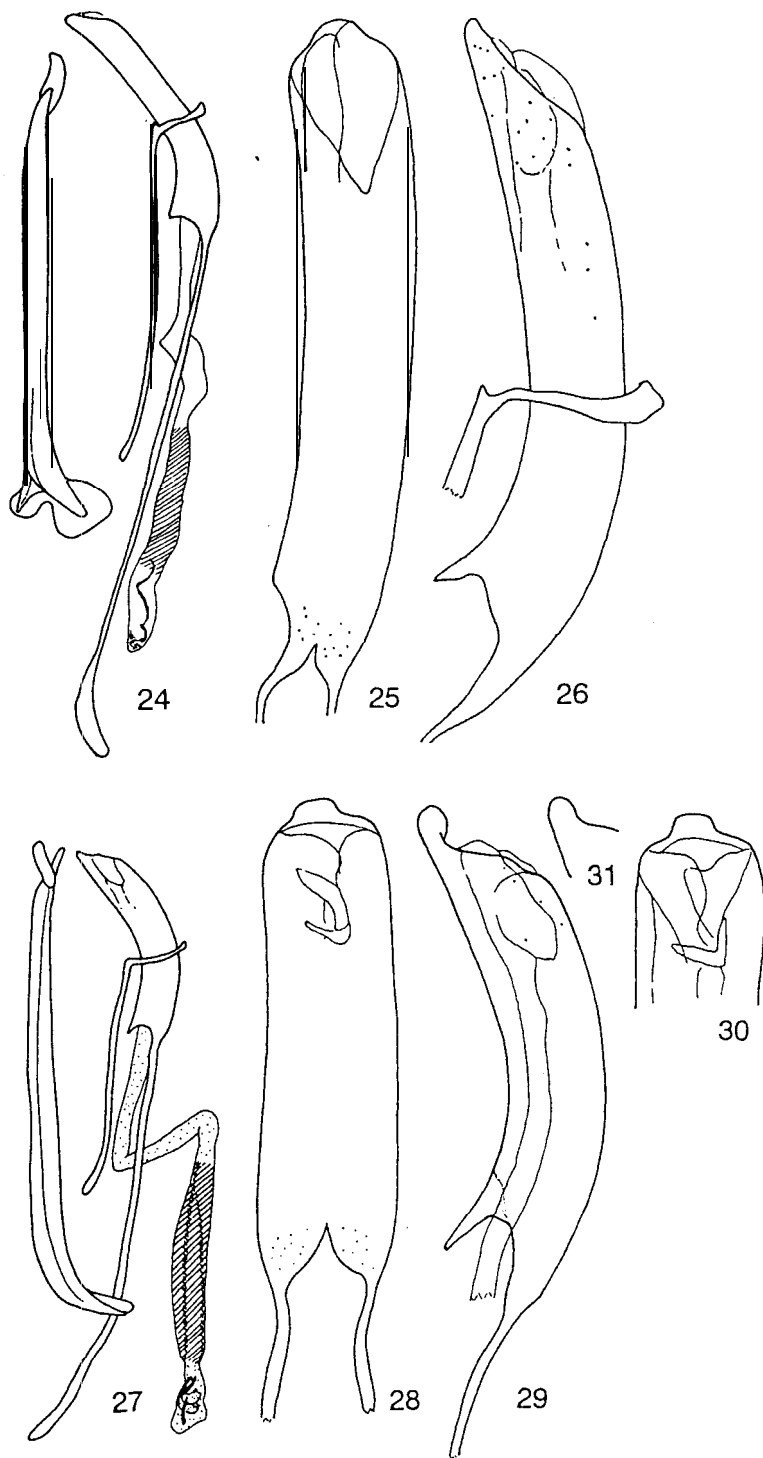
99: *formosanus*. 100: *marshalli*. 101: *yonagunianus*. 102: *ishigakianus*. 103-4: *okinawanus* (103: Okinawa I.; 104: Kumejima I.). 105: *amamianus*. 106-7: *tokarensis* (106: Takarajima I.; 107: Nakanoshima I.). 108: *ejimai*. 109-110: *seriehispidus* (109: Saga; 110: KwangNung, Korea). 111: *kiiensis*. 112: *pyrus*. 113: *chejuensis*.

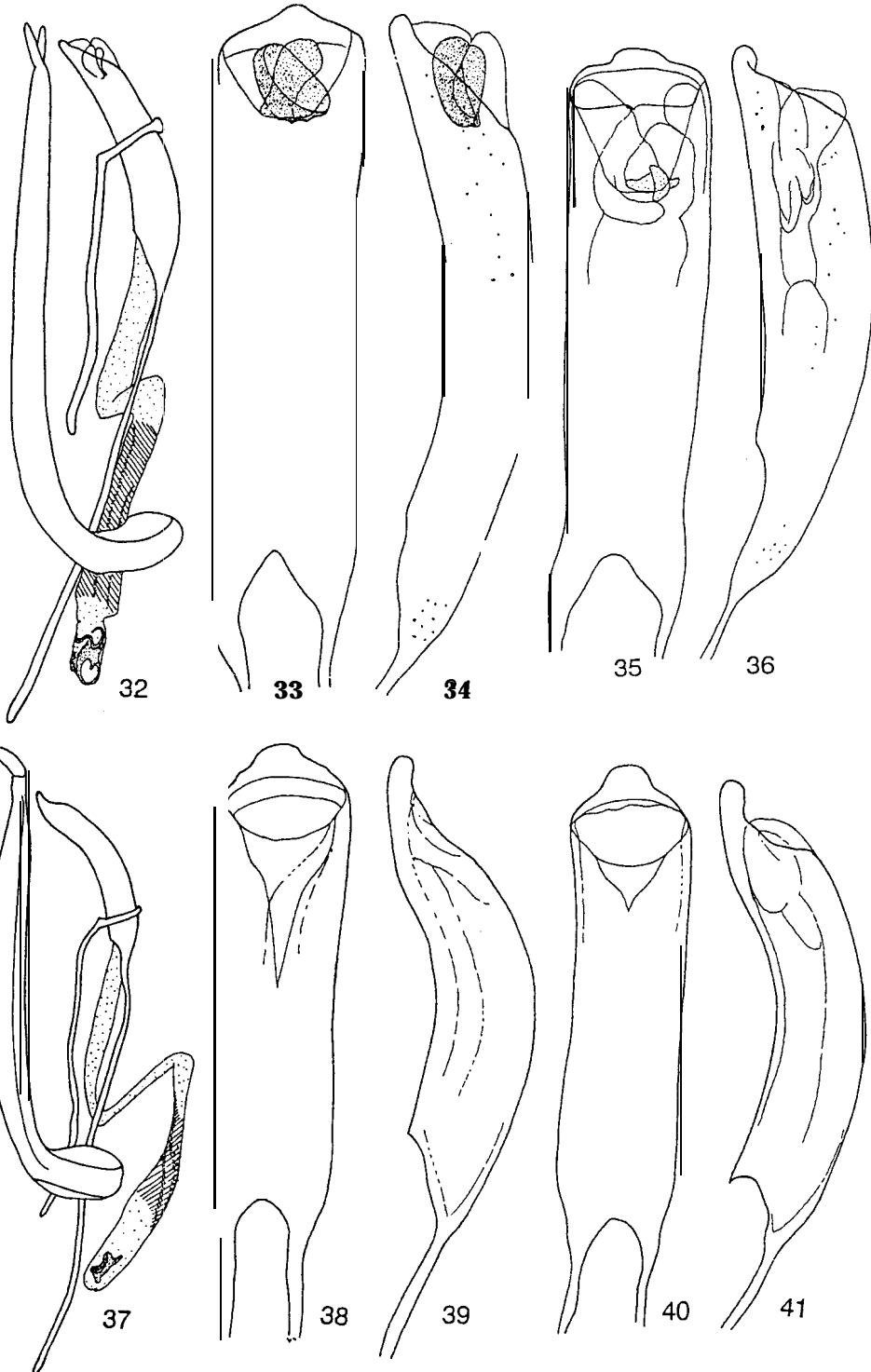


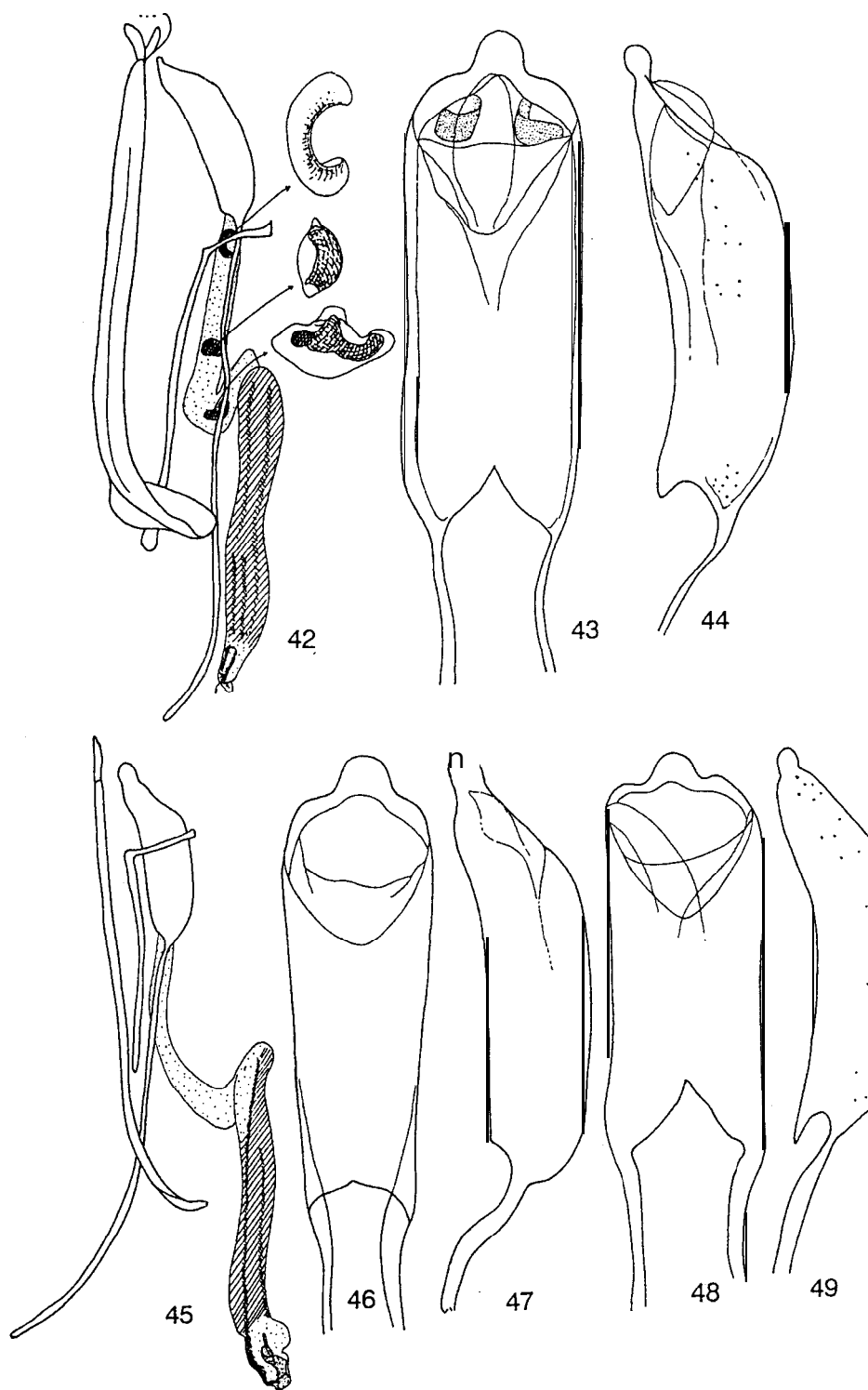


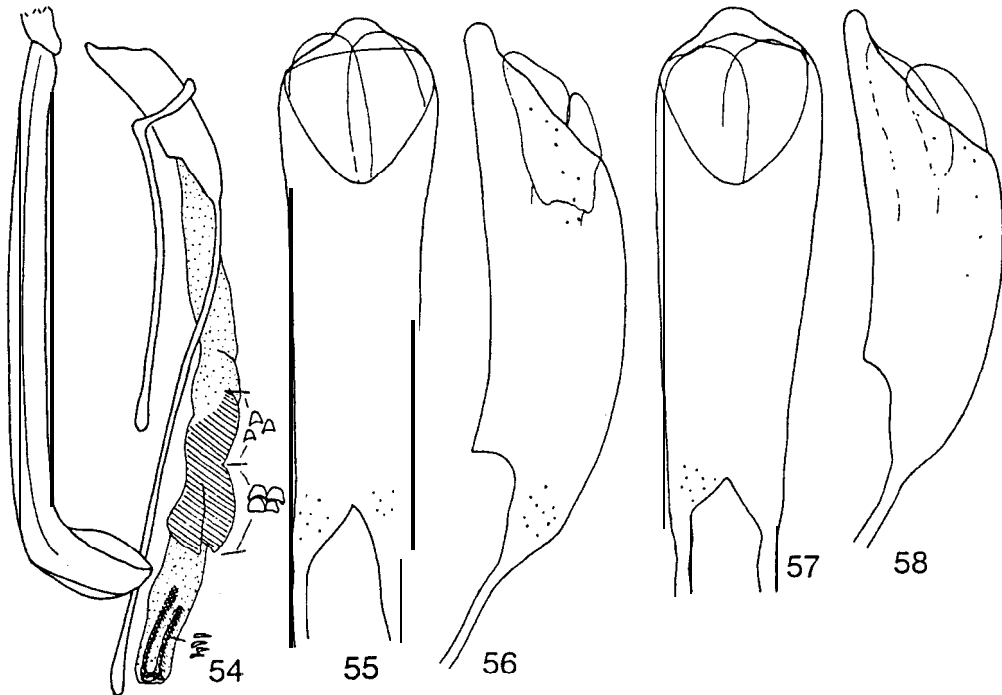
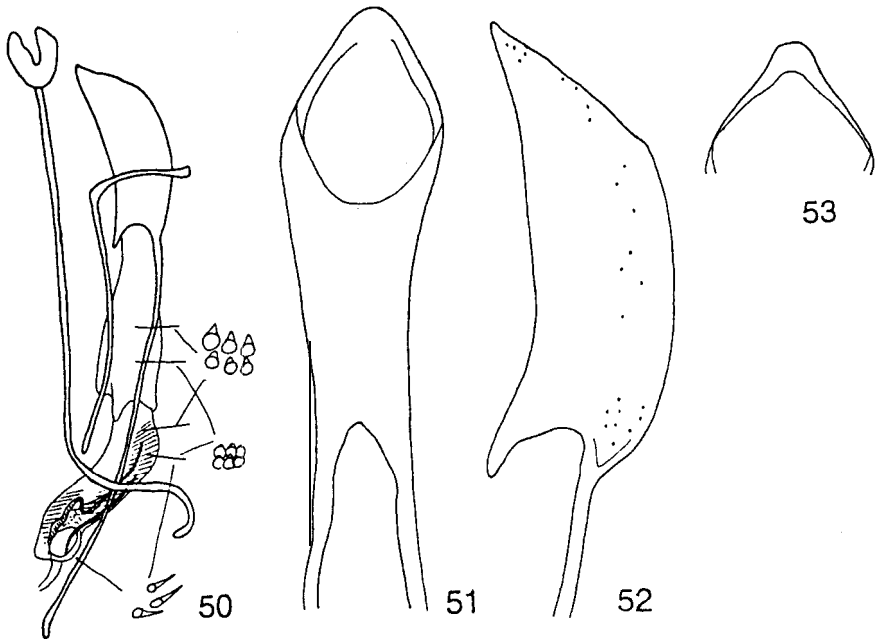
REVISION OF *MYOSIDES*

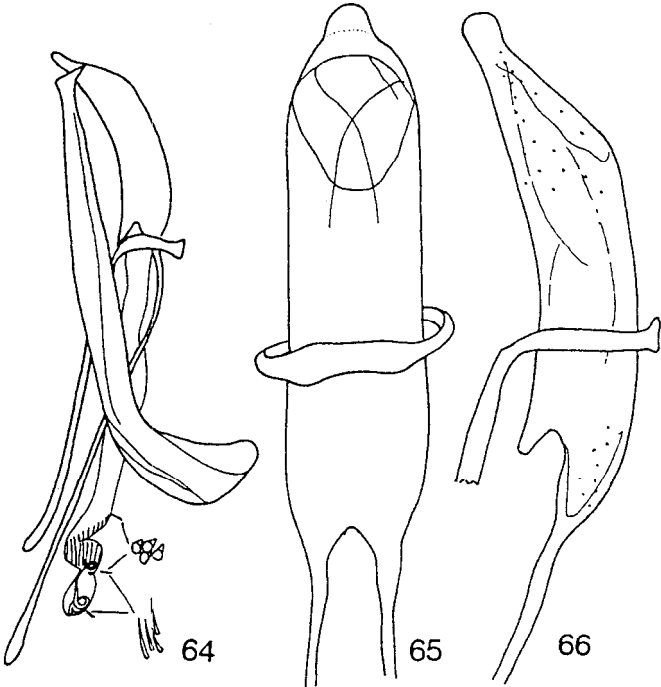
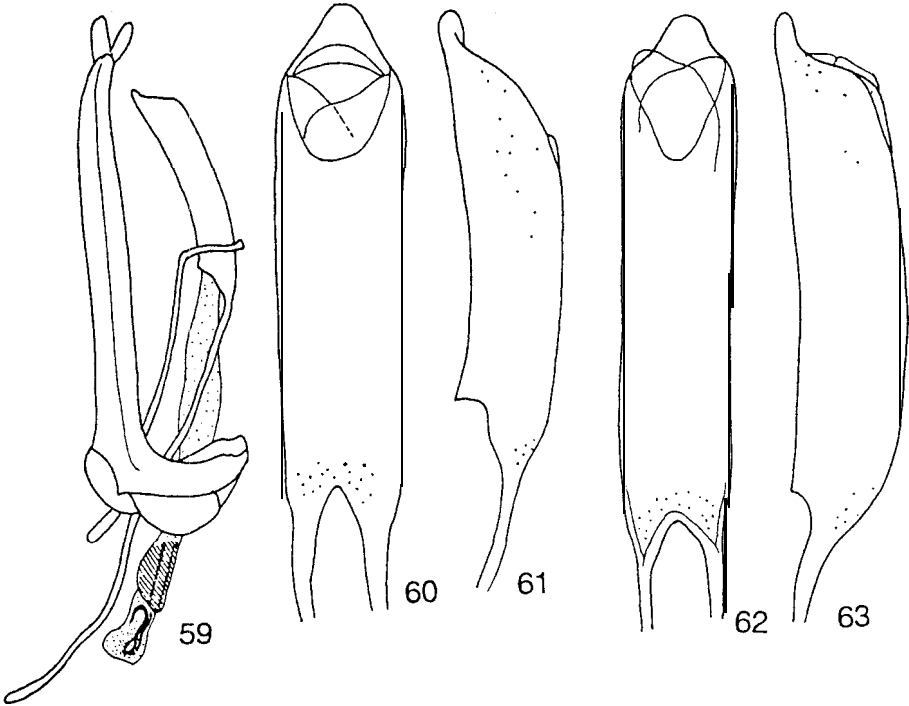




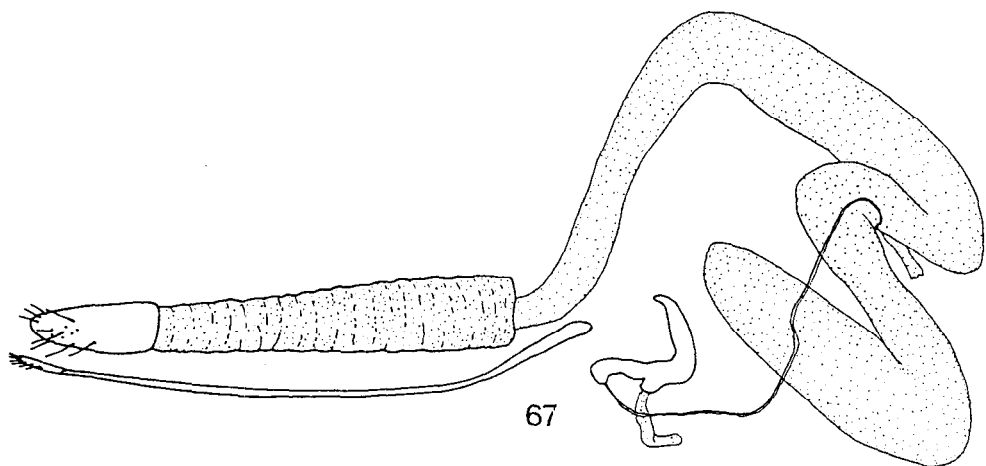




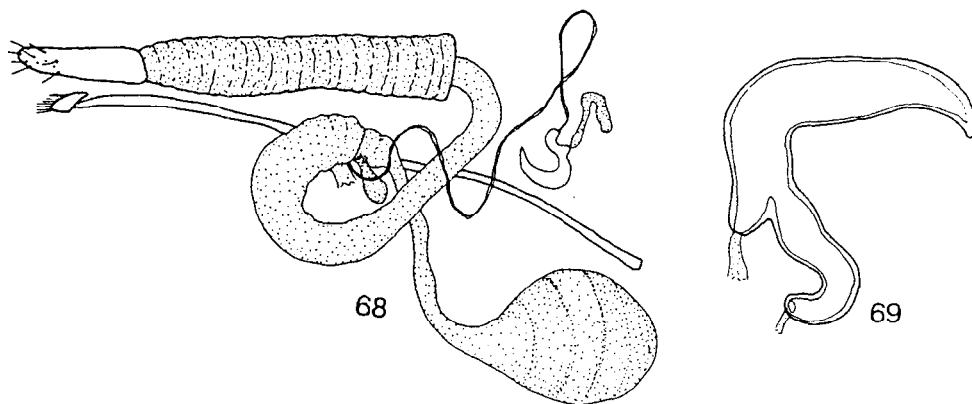




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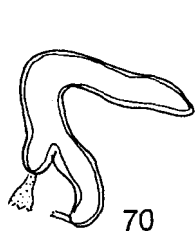


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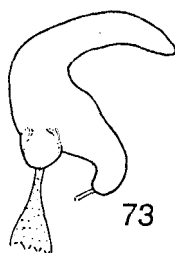
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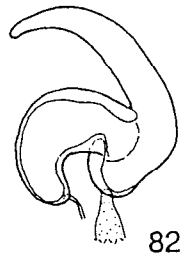
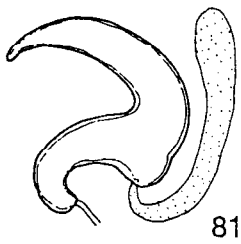
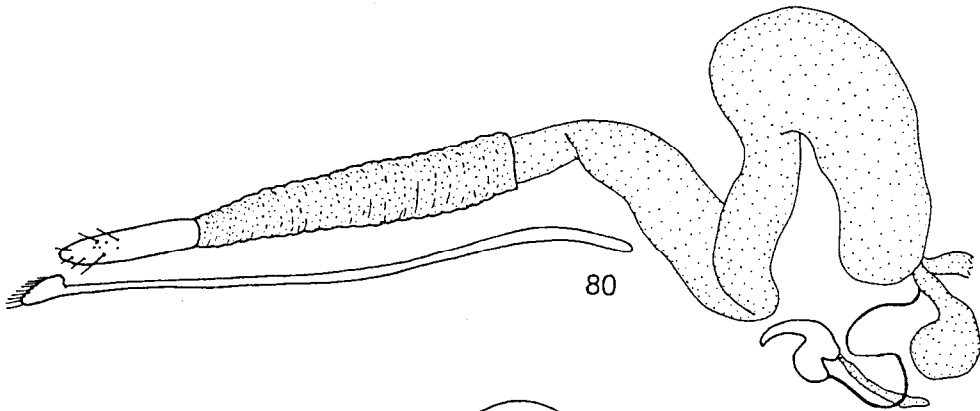
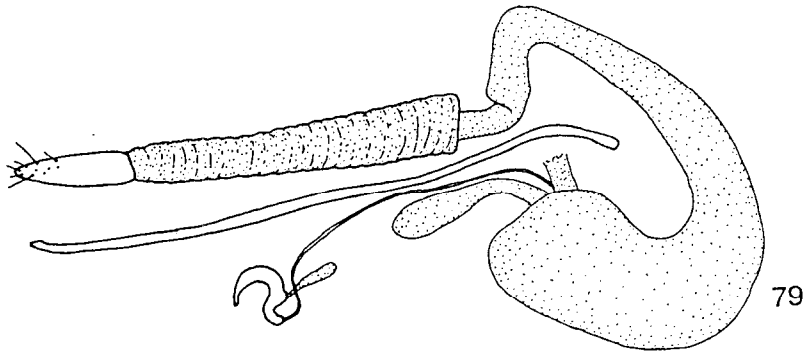
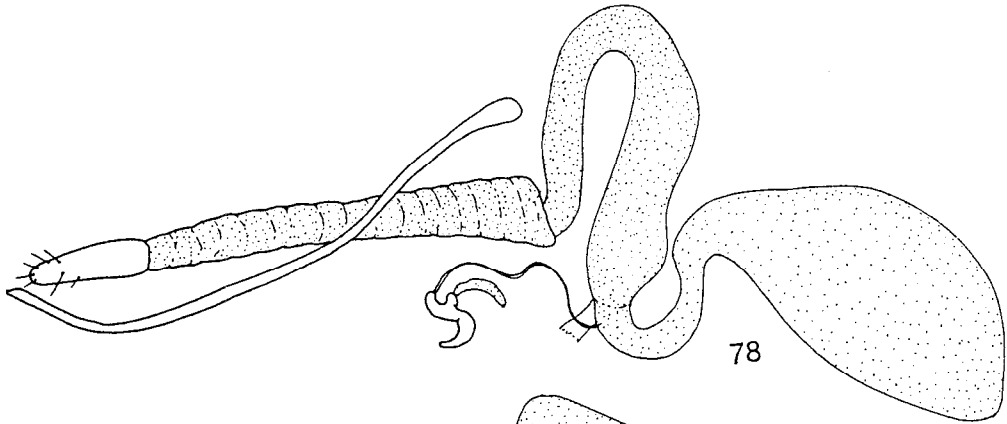
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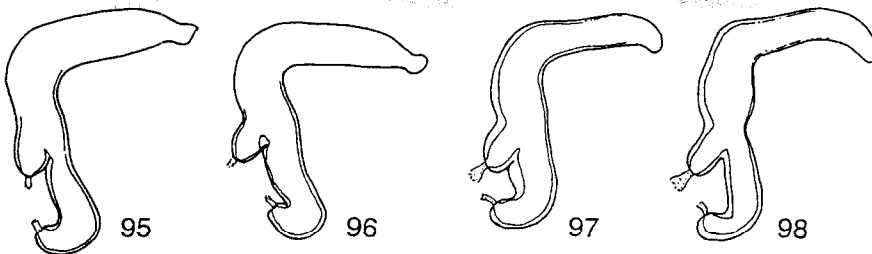
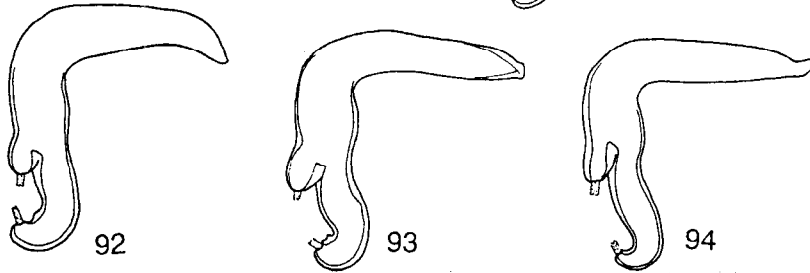
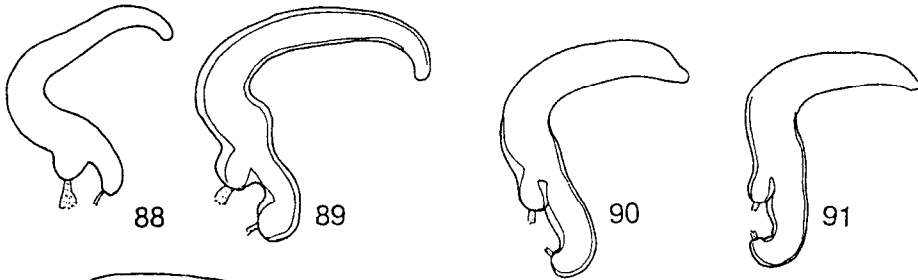
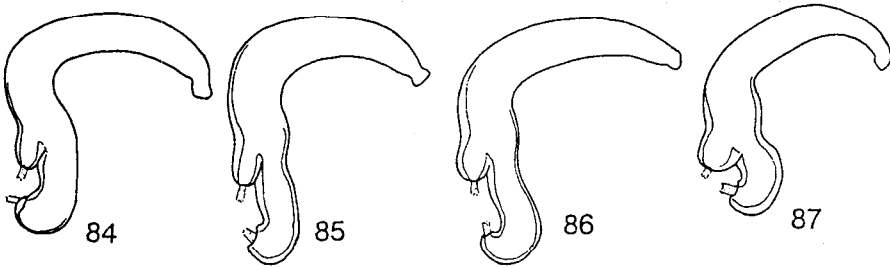
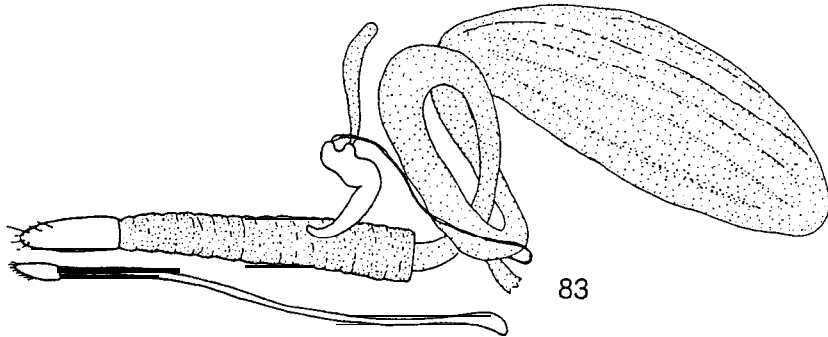


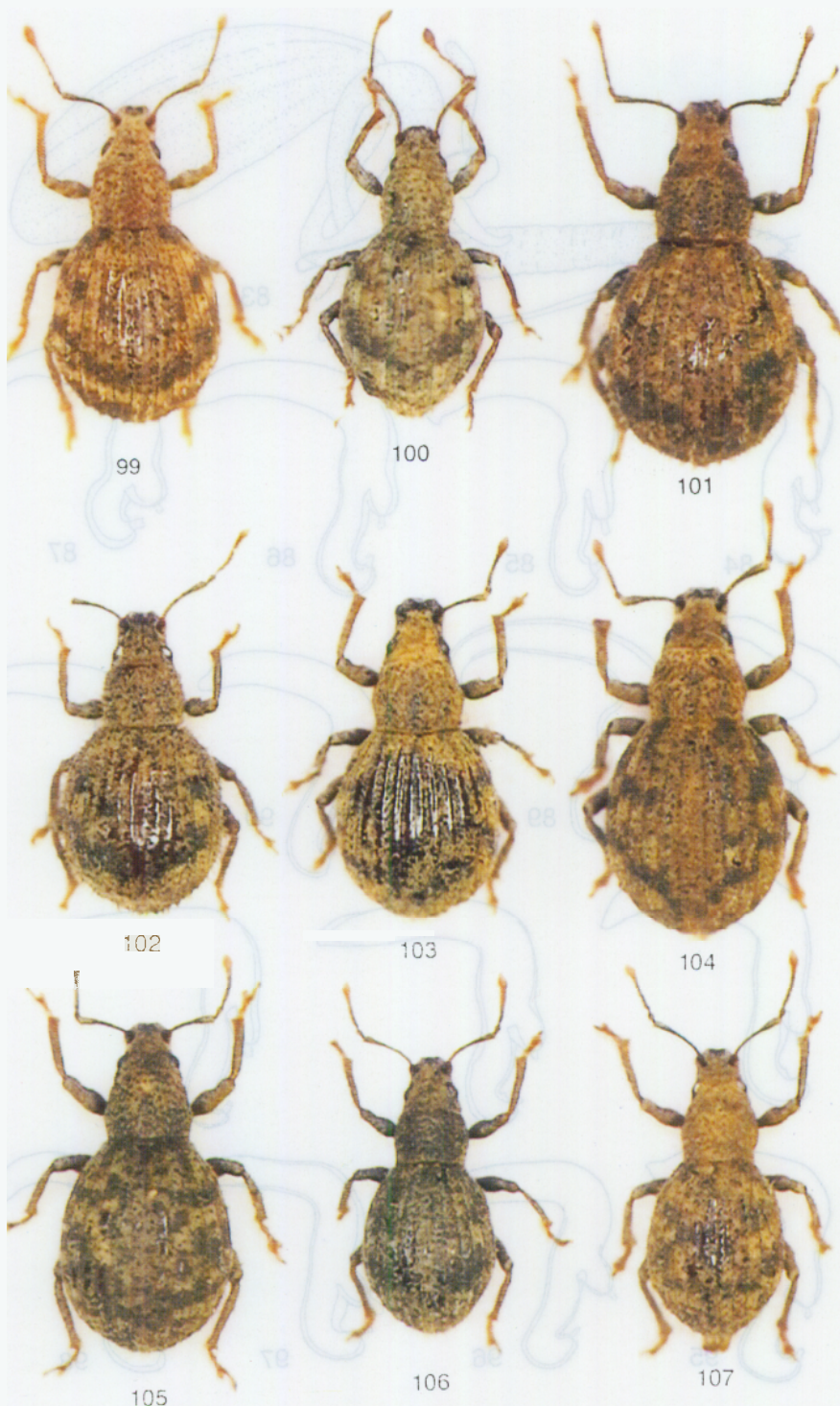
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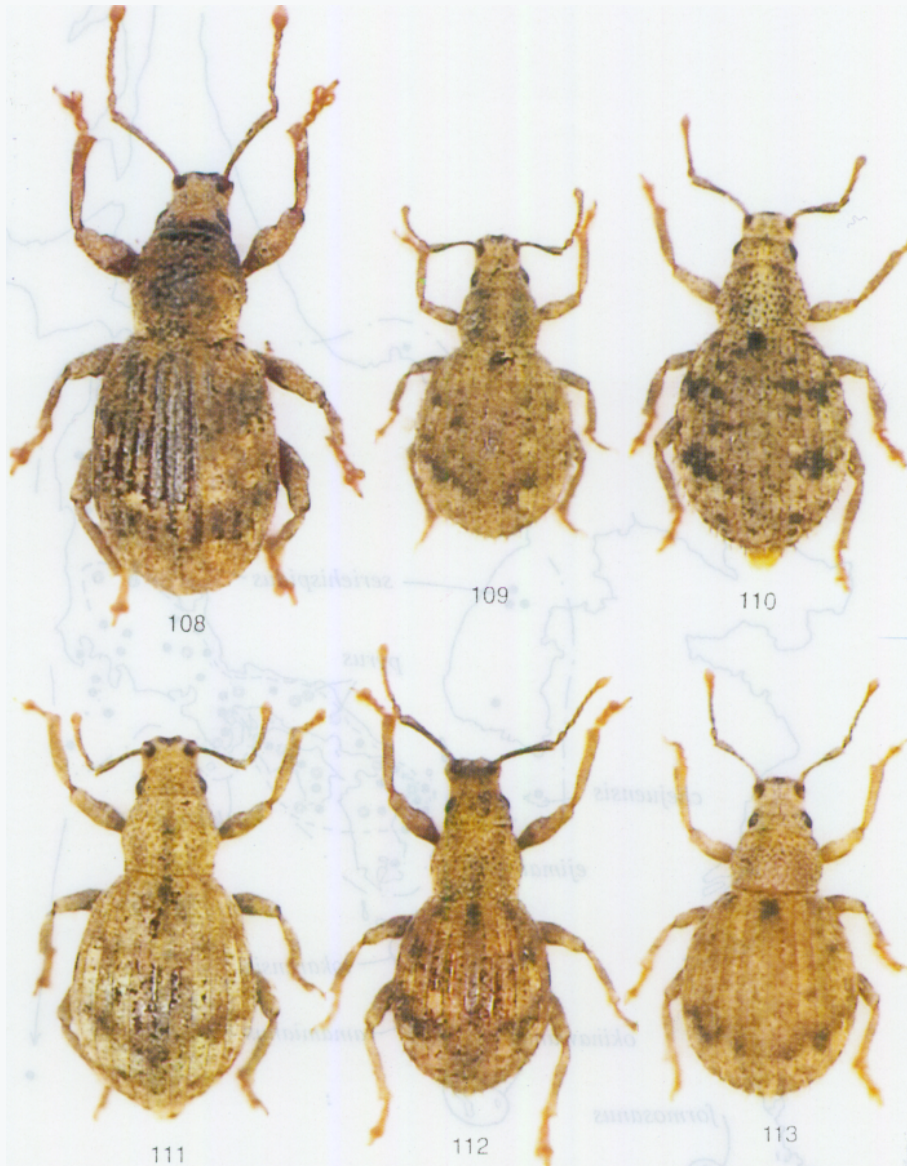


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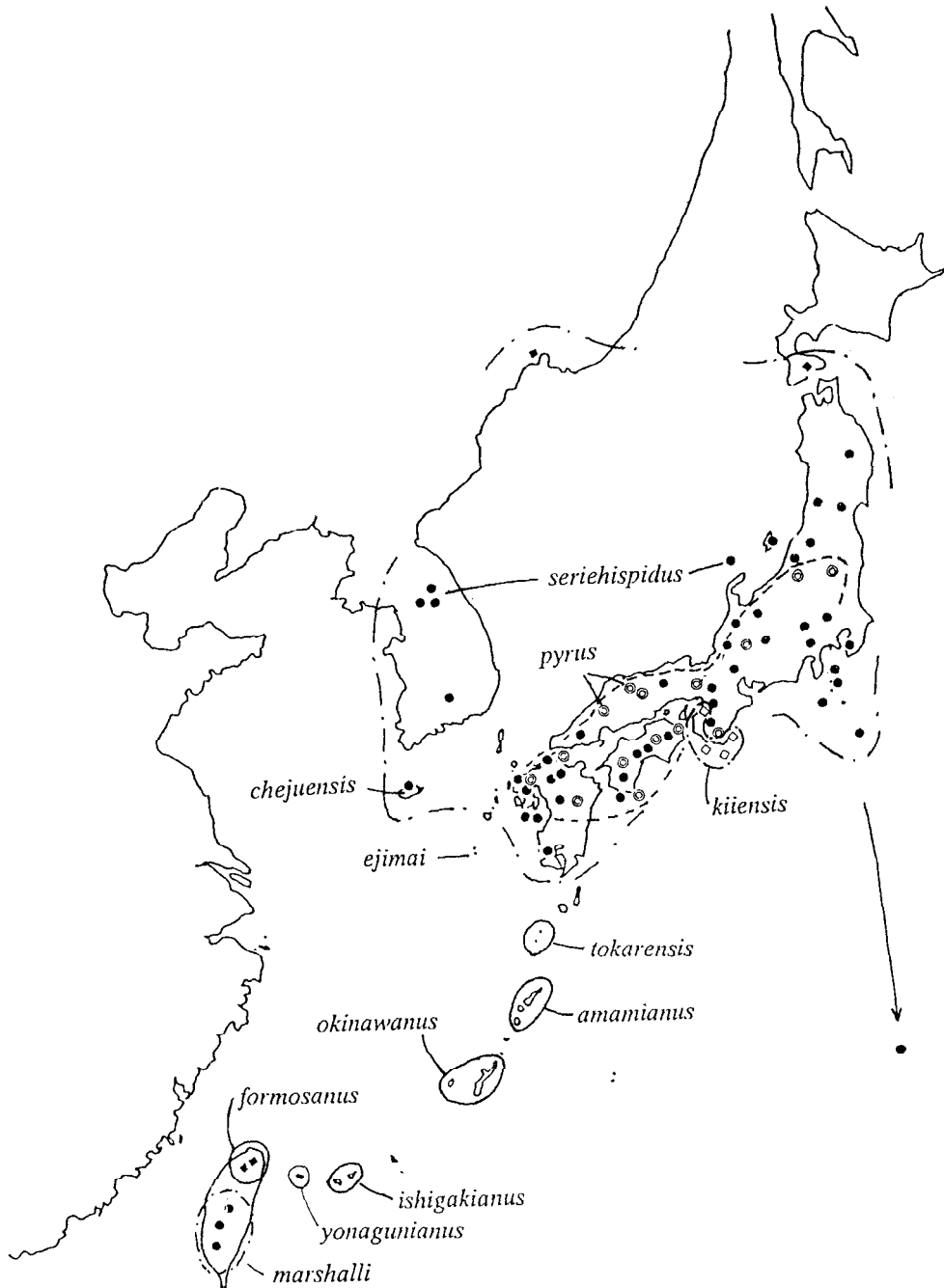


Fig. 114. Distribution of *Myosides* spp.