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Some Japanese genera and species of the tribe Euliini (Lepidoptera, Tortricidae)

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Summary

Two Asiatic Euliini genera, *Drachmobola* MEYRICK and *Protopterna* MEYRICK are characterised, and two are described : *Dicanticinta* gen.n. (for *Tortrix diticinctana* WALSINGHAM) and *Minutargyrotoza* gen.n. (for *Capua minuta* WALSINGHAM). All their known species are discussed or mentioned, and one is described : *Protopterna eremia* sp.n. A preliminary note on the tribe Euliini and some data on its non-Palaearctic genera are given.

Résumé

Identification de deux genres asiatiques d'Euliini : *Drachmobola* MEYRICK et *Protopterna* MEYRICK, et description de deux genres nouveaux de cette tribu : *Dicanticinta* gen.n. (pour *Tortrix diticinctana* WALSINGHAM) et *Minutargyrotoza* gen.n. (pour *Capua minuta* WALSINGHAM). Toutes les espèces connues de ces genres sont présentées ou mentionées, et une nouvelle espèces est décrite : *Protopterna eremia* sp.n. Note préliminaire sur la tribu Euliini, avec quelques renseignements sur ses genres non paléarctiques.

Introduction

OBRAZTSOV (1965) placed the genera *Drachmobola* MEYRICK and *Protopterna* MEYRICK in the tribe Cnephasiini. COMMON (1963) included at least two Australian genera in that tribe and redescribed *Drachmobola strigulata* MEYRICK. DIAKONOFF (1975) transferred *Drachmobola* to the Epitymbiini, describing in it one unrelated species. KUZNETSOV & STEKOLNIKOV (1977) erected in the Cochylini a new subtribe Euliina to comprise two genera, viz., *Eulia* HÜBNER and *Pseudargyrotoza* OBRAZTSOV. RAZOWSKI (1987) in the revision of the

Palaearctic genera of the Tortricidae retained in Euliina only the type-genus and located *Pseudargyrotoza* in the so called primitive Archipini. Now the authors realise that some more Old World genera are to be included in that taxon. These are *Drachmobola, Protopterna, Pternozyga* MEYRICK, *Astrosa* DIAKONOFF, *Dicanticinta* gen.n. and *Minutargyrotoza* gen.n., as well as at least one Australian genus, *Taeniarchis* MEYRICK. Several further genera of that region and from the Oriental region may prove contribal, but require examination.

In this paper we follow the original concept of Euliina, but treat it after POWELL (1986) as a distinct tribe. POWELL included in the Euliini numerous Neotropical genera, but the characters proposed by him to define that tribe seem insufficient ; similarly those used by RAZOWSKI (1981) for the Polish fauna. A more detailed study by the second author is now pending. The Old World genera are characterised by the absence of cornuti, lack of bulla seminalis, occasional presence of the accessory bursa and the presence of a scobinate signum. The costa of the valva is, as in Cnephasiini or Ceracini, fully developed and the musculature is probably always plesiomorphic, i.e. with a complete set of dorsal muscles (m2, m4). The caulis is minute, often submedian, the pulvinus shows a tendency to atrophy.

Dicanticinta gen.n.

Type species : *Tortrix diticinctana* WALSINGHAM, 1900

Wing venation as in *Pseudargyrotoza* OBRAZTSOV, figured and described by YASUDA (1972) and it can only be added that the median sc stem is well developed and the chorda extends from beyond middle between bases r1 - r2 to base of r5.

MALE GENITALIA : Tegumen high, uncus strong, without ventral brush, gnathos with terminal plate, socius with ill-defined pulvinus, hair of disc rather scarce, not reaching base ; sacculus with free end ; transtilla expanding medio-dorsally ; juxta strongly protruding distally ; aedeagus simple ; attachment between juxta and aedeagus posterior.

FEMALE GENITALIA : Sterigma with distinct lateral lobes connected to apophyses ; colliculum developed ; ductus seminalis dorso-lateral, posterior to ductus of accessory bursa ; signum absent.

COMMENTS : This monobasic genus is known from Japan and China (the Chinese data needs verification). Its bionomy is little known (see *diticinctana*). The supposed autapomorphies are the structure of the

juxta, the position and shape of its attachment to the aedeagus, the structure of the transtilla, especially its laterally flattened dorsal process and the shape of the sterigma and colliculum. It is probably close to *Pseudargyrotoza* as the shape of the valva shows. The occurrence of a small group of minute spines in the dorso-basal part of the valva is a probable synapomorphy with *Drachmobola*. The presence of the accessory bursa is not important as most probably it is of plesiomorphic importance and occurs in some other tortricine genera.

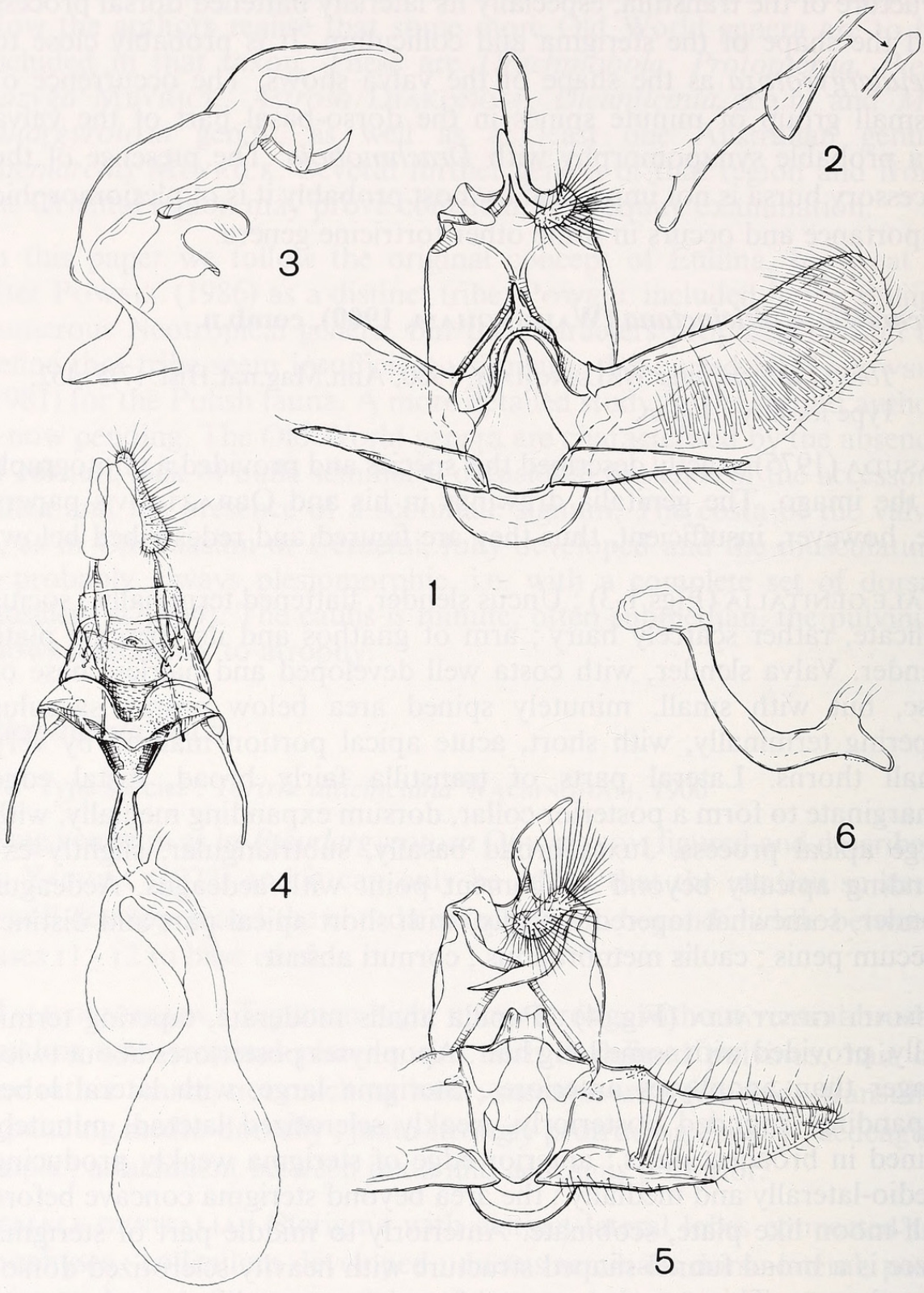
***Dicanticinta diticinctana* (WALSINGHAM, 1900), comb.n.**

Tortrix diticinctana WALSINGHAM, 1900, Ann.Mag.nat.Hist. (7)5 :452.
Type locality : Japan.

YASUDA (1975) exactly described this species and provided a photograph of the imago. The genitalia drawings in his and OBRAZTSOV's papers are, however, insufficient, thus they are figured and redescribed below.

MALE GENITALIA (Figs 1-3) : Uncus slender, flattened terminally ; socius delicate, rather scarcely hairy ; arm of gnathos and its terminal plate slender. Valva slender, with costa well developed and hairless base of disc, but with small, minutely spined area below costa ; sacculus tapering terminally, with short, acute apical portion marked by very small thorns. Lateral parts of transtilla fairly broad, distal edge emarginate to form a posterior collar, dorsum expanding medially, with large apical process. Juxta broad basally, subtriangular, slightly expanding apically beyond attachment point with aedeagus. Aedeagus slender, somewhat tapered apically, with short apical part and distinct coecum penis ; caulis membranous ; cornuti absent.

FEMALE GENITALIA (Fig. 4) : Papilla analis moderate, tapering terminally, provided with some long hair. Apophyses posteriores about twice longer than apophyses anteriores. Sterigma large, with lateral lobes expanding, rounded posteriorly, weakly sclerotized laterad, minutely spined in broadest parts ; anterior edge of sterigma weakly producing medio-laterally and medially ; the area beyond sterigma concave before half-moon like plate, scobinate. Anteriorly to middle part of sterigma there is a broad funnel-shaped structure with heavily sclerotized dorso-lateral parts. This may be a part of sterigma or colliculum, however, anteriorly to it there is a membranous bulb and a little stronger sclerotized tube, which certainly may be treated as colliculum. Ductus bursae not longer than corpus bursae ; accessory bursa originating dorso-laterally, just before oppositely situated ductus seminalis.



Figs 1-6 : 1-3. *Dicanticinta diticinctana* (WALS.), male genitalia. Ussui Pass, Gunma Pref., Honsyu ; 4. *Dicanticinta diticinctana* (WALS.), female genitalia. Futatsuyama, Shibeha Kusiro, Hokkaido ; 5,6. *Drachmobola periastra* (MEYR.), male genitalia. Yamato, Kasugayama, Honsyu.

BIONOMY : YASUDA (1975) records its occurrence between the 25.VI. and 18.VII. which is confirmed by further material. Its foodplant is according to the first author *Syringa reticulata* HARA (Oleaceae).

DISTRIBUTION : In the above mentioned paper it was recorded from Honsyu and Kyusyu ; one specimen from the Kawabe collection is from Hokkaido (Futatsuyama). The literature data (OBRAZTSOV, 1955) from China are probable, unfortunately not verified because of the lack of material.

Drachmobola MEYRICK, 1907

Drachmobola MEYRICK, 1907, J.Bombay nat.Hist.Soc. 17 :978. Type species : *Drachmobola periastra* MEYRICK, 1907, by monotypy.

The first author (YASUDA, 1972) redescribed and illustrated the venation of this genus. The redescription is completed by the following data. The male genitalia show the following synapomorphies with the preceding genus : Similar structure of valva with scarcely hairy disc and pulvinus situated submedially, and the presence of a group of minute spines in the dorso-anterior area of the valva. Its probable autapomorphy is the structure of the aedeagus which is upcurved and has a dorsal collar-like sclerite protecting the opening for the ductus ejaculatorius. Female genitalia and bionomy remain unknown.

COMMENTS : COMMON (1963) redescribed *Drachmobola* on the basis of the Australian *D. strigulata* MEYRICK, but this species is not included in our diagnosis as the male genitalia illustrated by COMMON differ from those of the type species. Its female genitalia resemble those in *Dicanticinta diticinctana* (WALSINGHAM). On the basis of the present study we suppose this genus is close to the preceding one in having one synapomorphy (area of minute spines on the valva).

DISTRIBUTION : India : Khasi Hills (type locality of *periastra*) and Japan : Honsyu.

Drachmobola periastra MEYRICK, 1907

Drachmobola periastra MEYRICK, 1907, J.Bombay nat.Hist.Soc. 17 :978. Type locality : Khasi Hills (India).

Illustrated by CLARKE (1958) and YASUDA (1972, 1975). To complete the preceding data the following description of the male genitalia (Figs 5,6) is given. Uncus rather delicate, tapering apically, broadest submedially ; socius fairly broad, setose and hairy ; terminal plate of gnathos long, acutely pointed. Distal portion of valva tapering apically ;

costa broad anteriorly, convex postbasally ; sacculus heavily sclerotized, with ventral edge fairly straight, tapering apically, without free termination ; pulvinus small, submedian, marked with group of long hair-like scales. Median part of transtilla broad, flat, concave apically ; lateral parts broad. Juxta simple, plate-shaped, dorsal corners produced. Aedeagus strongly curved upwards, with minute dorsal tooth apically ; coecum penis well developed ; caulis just beyond base of coecum penis, cornuti absent.

Protopterna Meyrick, 1908

> *Protopterna* Meyrick, 1908, J.Bombay nat.Hist.Soc., 18 :621. Type species : *P. chalybias* Meyrick, 1908, by monotypy.

Clarke (1958) illustrated the two Oriental genera *Pternozyga* Meyrick and *Protopterna* Meyrick, which show some external similarities. Obraztsov (1965) discussed the first of them basing his redescription mainly on *Capua minuta* Walsingham which distinctly differs from the type species of that genus (see p.184). The two genera differ in venation, as in the type species of *Protopterna* the forewing veins r4 - r5 are separate and in *Pternozyga* they are long-stalked (cf. Clarke, 1958). The female genitalia are also distinct (the male of the latter remains unknown).

Similar female genitalia are also found in *Astrosa* Diakonoff (*A. leucoema* Diakonoff from India and Key Is.). Besides the type species, two other species were described in *Pternozyga*, viz., *P. argodoxa* Meyrick from India and *P. anisoptera* Diakonoff from Java. In *Protopterna* we place the two species discussed below and retain *P. citrophanes* Meyrick, the genitalia of which remain unknown, which was described in it. The genus is characterised by the following supposed autapomorphies : Gnathos arm with a long lateral process and a minutely spined prominence situated at its base, and large postbasal prominence of the disc. The synapomorphies with the following new genus (*Minutargyrotoza*) are the presence of a funnel like sclerite developed between juxta and valva, and the structure of the sacculus. However, the position of that sclerite in the two genera is different ; in *Protopterna* it is more ventral and lateral. The structure of the aedeagus in comparison with the following genus is more generalised, as the presence of the coecum penis shows.

The female genitalia show some characters common to generalised Tortricinae, but the structure attached to the sterigma (part of it ?) may prove of apomorphic importance. Other characters as described for *P. eremia*.

Protopterna is certainly related to the two preceding genera as one can judge from the structure of the valva, vinculum and signum. To resolve their systematic positions, the genitalia of *Pternozyga, Protopterna* and *Astrosa* require reexamination on new material (old genitalia slides are often difficult to interpret).

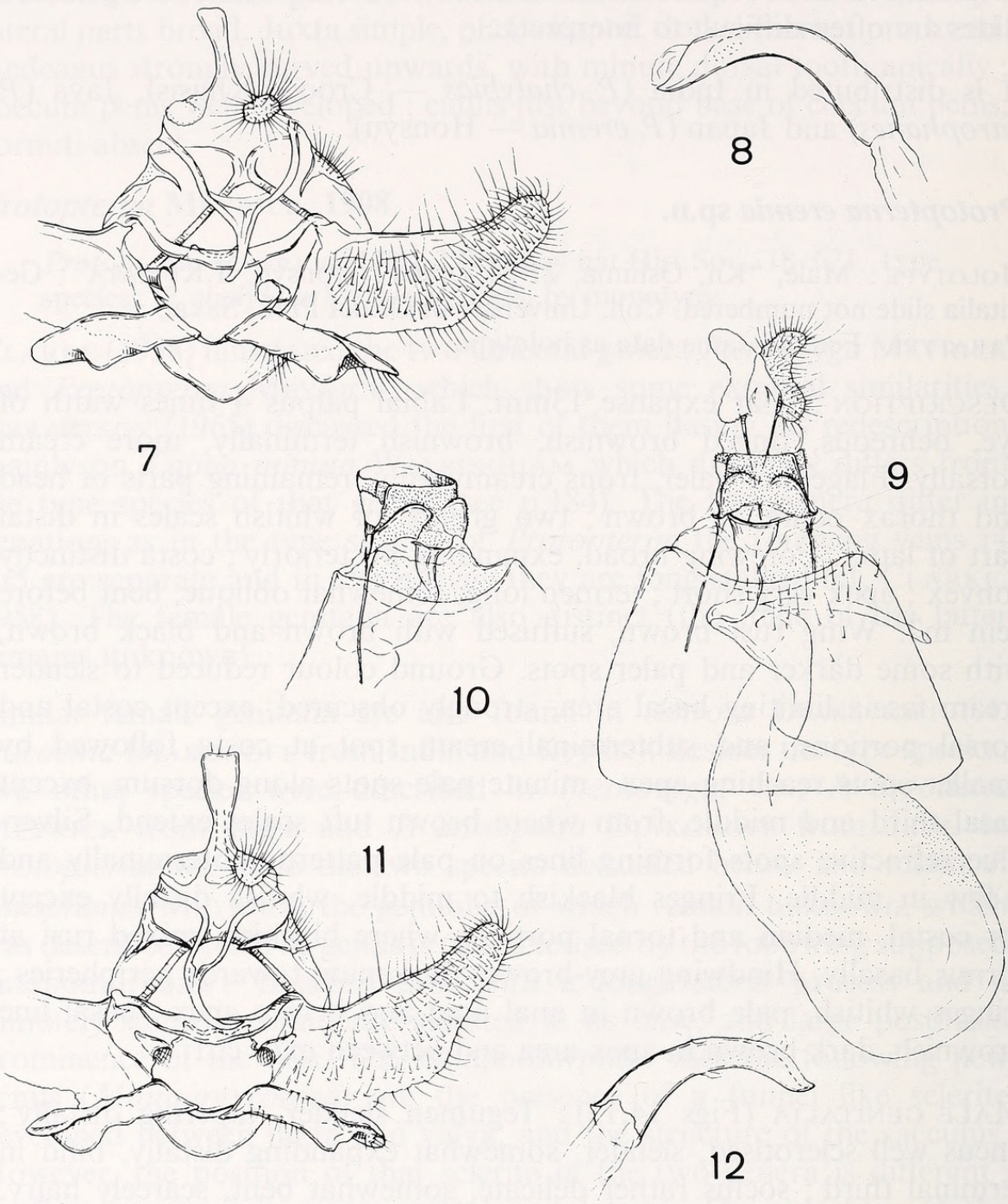
It is distributed in India (*P. chalybias* — Crood, Khasis), Java (*P. citrophanes*) and Japan (*P. eremia* — Honsyu).

***Protopterna eremia* sp.n.**

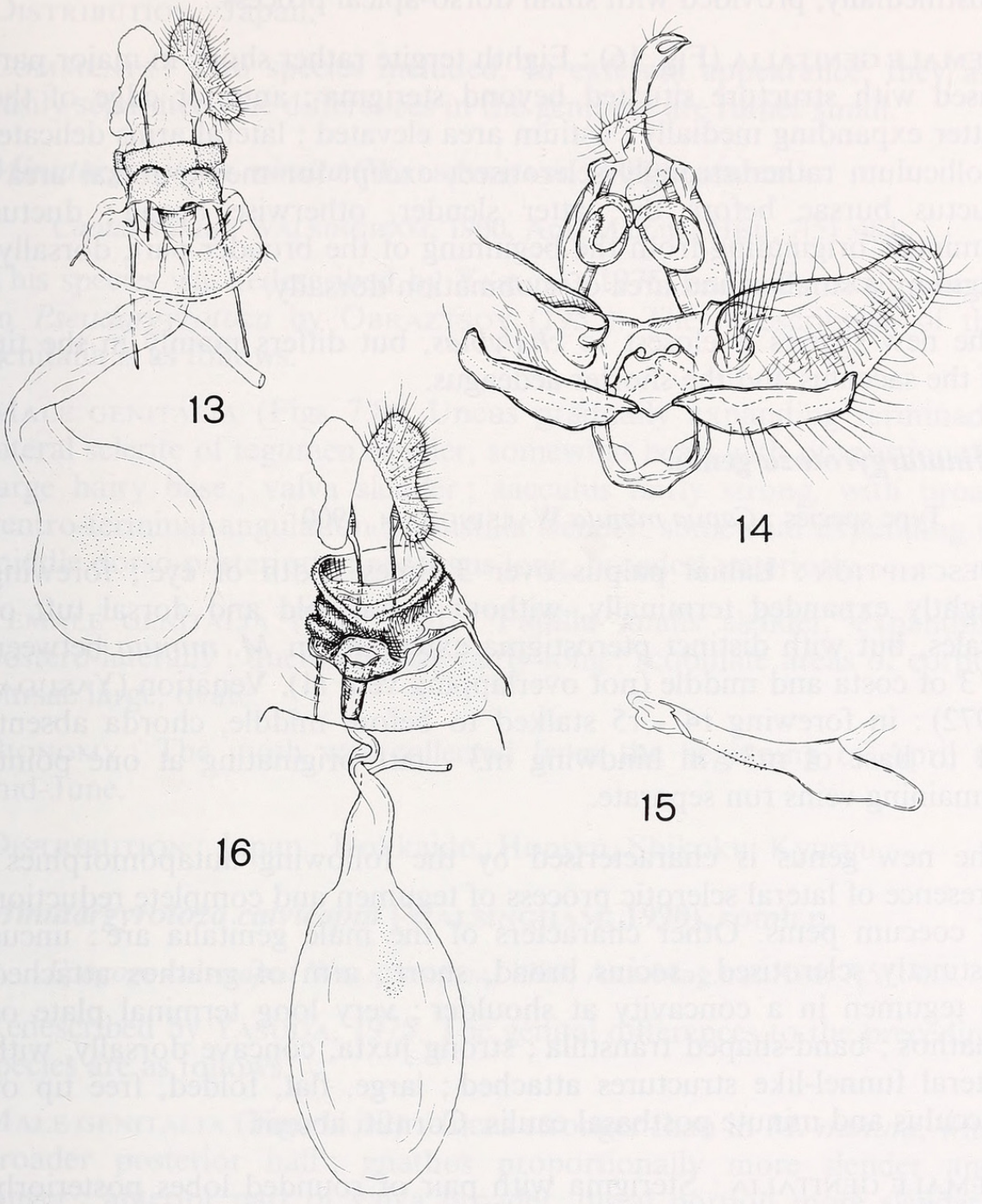
HOLOTYPE : Male, "Kii, Oshima, 21-24.V.1964 ; Honsyu, T.KUMATA" ; Genitalia slide not numbered. Coll. University of Osaka Pref., Sakai.
PARATYPE : Female, same data as holotype.

DESCRIPTION : Alar expanse 13mm. Labial palpus 4 times width of eye, ochreous, tinged brownish, brownish terminally, more cream dorsally. Flagellum paler, frons creamy grey, remaining parts of head and thorax ochreous brown ; two groups of whitish scales in distal part of latter. Forewing broad, expanding posteriorly ; costa distinctly convex ; apex very short ; termen long, somewhat oblique, bent before vein m2. Wing rust brown, suffused with brown and black brown, with some darker and paler spots. Ground colour reduced to slender cream fascia limiting basal area, strongly obscured, except costal and dorsal portions, and subterminal cream spot at costa followed by smaller spots reaching apex ; minute pale spots along dorsum, except basal third and middle, from where brown tuft scales extend. Silver-blue refractive spots forming lines on pale pattern subterminally and a few in middle. Fringes blackish to middle, whitish distally except for costal, median and tornal portions where blackish, mixed rust at tornus basally. Hindwing grey-brown, darkening towards peripheries ; fringes whitish, pale brown in anal area and before apex ; basal line brownish, dark brown in apex area and between m2 - cu1.

MALE GENITALIA (Figs 14,15) : Tegumen slender, tapering distally ; uncus well sclerotised, slender, somewhat expanding distally, bifid in terminal third ; socius rather delicate, somewhat bent, scarcely hairy. Arm of gnathos slender, with inwardly curved outer process and elongate, spined prominence at its base ; terminal plate of gnathos vestigial ; apex of vinculum somewhat produced. Valva distinctly tapering beyond sacculus, with costa gently convex postbasally ; postbasal area of disc strongly produced, sclerotised, long hairy ; sacculus very strong, tapering distally, with short free termination. Transtilla plate-shaped, with delicate distal thickening posteriorly ; juxta



Figs 7-12 : 7,8. *Minutargyrotoza calvicaput* (WALS.), male genitalia. Kosojihara, Nagano Pref., Honsyu ; 9,10. *Minutargyrotoza calvicaput* (WALS.), female genitalia. 11,12. *Minutargyrotoza minuta* (WALS.), male genitalia. Kiyosato, Yamanashi, Honsyu.



Figs 13-16 : 13. *Minutargyrotoza minuta* (WALS.), female genitalia. Tsuhaidaru, Niigata Pref., Honsyu ; 14,15. *Protopterna eremia* sp.n., holotype, male genitalia ; 16. *Protopterna eremia* sp.n., paratype, female genitalia.

small, provided with small lateral prominences dorsally ; sclerotised funnel-like structures situated in membrane, close to juxta. Aedeagus broadest beyond coecum penis, minutely spined in ventral part postmedially, provided with small dorso-apical process.

FEMALE GENITALIA (Fig. 16) : Eighth tergite rather short, in major part fused with structure situated beyond sterigma ; anterior edge of the latter expanding medially ; ostium area elevated ; lateral arms delicate. Colliculum rather strongly sclerotised, except for medio-dorsal area ; ductus bursae before the latter slender, otherwise broad ; ductus seminalis originating from the beginning of the broader part, dorsally. Signum, a small round area of scobination dorsally.

The new species is closest to *chalybias*, but differs mainly in the tip of the sacculus and the shorter aedeagus.

Minutargyrotoza gen.n.

Type species : *Capua minuta* WALSINGHAM, 1900

DESCRIPTION : Labial palpus over 3 times width of eye ; forewing slightly expanded terminally, without costal fold and dorsal tuft of scales, but with distinct pterostigma extending in *M. minuta* between 1/3 of costa and middle (not overlapping vein r1). Venation (YASUDA, 1972) : in forewing r4 - r5 stalked to before middle, chorda absent, M to base of m3 ; in hindwing m3 - cu1 originating at one point, remaining veins run separate.

The new genus is characterised by the following autapomorphies : Presence of lateral sclerotic process of tegumen and complete reduction of coecum penis. Other characters of the male genitalia are : uncus distinctly sclerotised ; socius broad, short ; arm of gnathos attached to tegumen in a concavity at shoulder ; very long terminal plate of gnathos ; band-shaped transtilla ; strong juxta, concave dorsally, with lateral funnel-like structures attached ; large, flat, folded, free tip of sacculus and minute postbasal caulis. Cornuti absent.

FEMALE GENITALIA : Sterigma with pair of rounded lobes posteriorly and indistinct anterior border fused with minutely spined surface reaching posterior edge of subgenital sternite ; colliculum weakly differentiated, with asymmetric sclerite ; ductus seminalis subterminal, situated dorsally ; two, ventral and dorsal, elliptical areas of scobination present in corpus bursae ; membrane between sterigma and subgenital sternite densely spined ; distal edge of subgenital sternite folded, posterior part of sternite shortly hairy.

BIONOMY : Little known. YASUDA (1975) mentions *Ligustrum tschonoskii* DECAISNE (Oleaceae) as the foodplant of *M. calvicaput*. The species are probably univoltine.

DISTRIBUTION : Japan.

COMMENTS : Two species included. In external appearance, they are easily separated, the differences in the genitalia are rather small.

***Minutargyrotoza minuta* (WALSINGHAM, 1900), comb.n.**

Capua minuta WALSINGHAM, 1900, Ann.Mag.nat.Hist., 7(5) :484.

This species was redescribed by YASUDA (1975) and incorrectly placed in *Pseudargyrotoza* by OBRAZTSOV (1955). The redescription of the genitalia is as follows.

MALE GENITALIA (Figs 7,8). Uncus gradually expanding terminad ; lateral sclerite of tegumen slender, somewhat bent, with proportionally large hairy base ; valva slender ; sacculus fairly strong, with broad ventro-terminal angulation ; transtilla slender, somewhat expanding in middle dorso-posteriorly ; aedeagus long, broadest anteriorly.

FEMALE GENITALIA (Figs 9,10) : Papilla analis slender, expanding postero-laterally ; ductus bursae fairly long ; scobinate areas of corpus bursae large, ovate.

BIONOMY : The moth was collected from the beginning of April to mid-June.

DISTRIBUTION : Japan : Hokkaido, Honsyu, Shikoku, Kyusyu.

***Minutargyrotoza calvicaput* (WALSINGHAM, 1990), comb.n.**

Epagoge calvicaput WALSINGHAM, 1900, Ann.Mag.nat.Hist. 7(5) :485.

Redescribed by YASUDA, 1975. The genital differences to the preceding species are as follows.

MALE GENITALIA (Figs 11,12). Uncus stronger than in *M. minuta*, with broader posterior half ; gnathos proportionally more slender and longer : anterior part of valva broader, distal portion more slender ; sacculus more slender with weaker angulation ; transtilla broader ; aedeagus much shorter, more uniformly curved, gradually tapering distally.

FEMALE GENITALIA (Fig. 13) : Ductus bursae somewhat shorter than in preceding species ; corpus bursae less elongate ; both scobinate areas constituting the signum smaller, rounded.

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