FURTHER RECORDS AND DESCRIPTIONS OF THE SPECIES OF BACTRA STEPHENS (LEPIDOPTERA, TORTRICIDAE)

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The present paper contains descriptions of several new species of the genus *Bactra* Stephens from the tropics of the Old and New World, while stray notes and noteworthy records on known species are added. Records on Australian species are excluded, pending an opportunity for a revision of the entire *Bactra* fauna of that continent — with the exception of two species which are recorded in order to rectify some synonymies.

In total one allied genus, ten species, three subspecies and one forma are described as new, while records on 42 already known species are presented.

Since the genital characters of *Bactra* species are of such paramount importance it was deemed necessary to present elaborate figures of the genitalia of the two sexes, besides the usual technically indispensable descriptions or redescriptions of the species. At the other hand photographic illustrations of the entire insects usually are disappointing, the markings being very much the same. Therefore I abstained from including such photographs, with one exception: that of the type species of the new genus, *Protobactra diachorda* (Meyrick).

In the Palaearctic and Aethiopian regions the character of speciation in the three principal subgenera of *Bactra,* viz. *Bactra, Chiloides* Butler and *Nannobactra* Diakonoff, is quite different, as has already been elaborated in my previous reviews of the genus. The South American fauna follows basically the same pattern. The species of the subgenus *Bactra,* however, are more differentiated than their relatives of the Old World and are therefore easier to discriminate. The subgenus *Chiloides* is equally rich in well-defined species in South America as it is in Asia and Africa. Finally, subgenus *Nannobactra* appears to be enigmatic all over the world (with the exception of a few species). The obviously distinct species from remote localities show a disappointing similarity of genital structure which is especially true for the females. This makes their classification problematic and discrimination of species sometimes extremely difficult. Females often cannot be named at all.

It is to be hoped that future study will provide for more means of identification. At present additional data, as, e.g., biology, food plants, etc. lack often completely, while material available sometimes is very limited.

The author is greatly indebted to staffs of various museums who permitted him to study their collections or sent the desired material along to the Leiden Museum for further study. In the first place to Mr. J. D. Bradley, at that time at the British Museum (Natural History): during several visits to that Museum Meyrick's types have been consulted, many specimens chiefly from India, which have remained unnamed in the former Meyrick Collection, have been named, and stray specimens originating from the Lord Rothschild Collection (from interesting and remote localities; previously remaining untouched for many years in the Tring Museum, but recently transferred to the British Museum in London), have been also named (B. M.). He is also grateful to Mr. D. S. Fletcher of the same Museum for valuable information. Furthermore, his thanks are due to Dr. J. F. Gates Clarke, Head Curator, Division of Entomology, U.S. National Museum of the Smithsonian Institution, Washington, D.C. (U.S.N.M.); Dr. J. G. Franclemont, Department of Entomology, Cornell University, Ithaca, N.Y. (C.U.M.); Dr. A. B. Klots and Dr. F. H. Rindge, American Museum of Natural History, New York, N.Y. (A.M.N.H.); Mr. M. J. Falkovich, Zoological Institute of the Academy of Sciences of the U.S.S.R., Leningrad (L.Z.M.); Dr. F. Kasy, Vienna Museum, Austria (V.M.); Dr. L. Vári, Transvaal Museum, Pretoria, South Africa (T.M.); Mr. Ian F. B. Common, Commonwealth Scientific & Industrial Research Organisation, Canberra, Australia (C.S.I.R.O.); Prof. Dr. H. Sachtleben, Deutsches Entomologisches Institut, Berlin-Friedrichshagen, Germany (D.E.I.); and Prof. Dr. M. von Schantz, for sending material of the Helsingfors Museum, Finland (H.M.).

A few records on the material in the Leiden Museum (L.M.) are added. A few duplicates of some species haven been gratefully retained for this collection.

Protobactra gen. nov.

With the external characters of *Bactra* Stephens, but with the male genitalia possessing a well-developed, curved and strong transtilla. Consequently the base of tegumen is more robust, being connected with transtilla closely, and the entire tegumen is broadly triangular. Uncus as in *Bactra,* socius more elongate. Valva resembling that in subgenus *Bactra,* but stronger spined, with a process of the outer edge at the place of valvula (as in subgenus *Chiloides* Butler); a transverse submembraneous thickening behind

this process, running across disc of valva may be homologous with a valvula, so that one can imagine how a valvula might have developed out of a type of valva as in subgenus *Bactra*. Sacculus as in that subgenus, but aciculate area extended, and there is a single huge spike. Aedeagus and juxta as in subgenus *Bactra*.

Type species, *Bactra diachorda* Meyrick, 1932.

An interesting and somewhat surprising form, immediately related to *Bactra*, but quite distinct by the presence of a transtilla. Probably forming a connection between *Bactra* and *Endothenia* Stephens at one side and the Laspeyresiini at the other.

Protobactra diachorda (Meyrick) (fig. 1, pl. 1)

Bactra diachorda Meyrick, 1932, Exot. Microl. **4**: 308 (♂, Brazil). — Clarke, 1955, Meyrick's Types **1**: 114.

Distribution. Brazil.

The unique male specimen has the appearance of a *Bactra* with the "*nigrovittana*" type of markings. The male genitalia have been sufficiently described above, and are depicted in fig. 1. The right valva in this figure is severed and presented in lateral aspect, to show clearly the median prominence of the disc of valva (future valvula?). In the lower figure the same right valva is presented in fully internal aspect, and is slightly more enlarged. The left valva is seen in a position intermediate between the two other positions.

Material studied. Brazil, Jaraguá, Sta. Catharina (Fr. Hofmann), 1 ♂, holotype, gen. no. 4491. Unique. (V.M.)

Bactra (Bactra) seria Meyrick (fig. 2, 4)

Bactra seria Meyrick, 1917, Trans. Ent. Soc. Lond. **1917**: 24 (♂, Peru). — Clarke, 1955, Meyrick's Types **1**: 285. — 1958, l.c. **3**: 315, pl. 156 fig. 2-2b (lectotype ♂ selected, genitalia figured).

Distribution. Peru.

A large, robust species, with characteristic markings. It may be redescribed thus.

♂ 17-21 mm. Head, palpus and thorax pale ochreous. Palpus rather long, median segment white at base; with long scales, roughly projecting along upper and lower edges and at top, so as to conceal the short, obtuse terminal segment entirely from lateral view. Abdomen pale ochreous, dorsum infuscated, anal tuft pale ochreous.

Fore wing sublanceolate, pointed and dilated, costa curved, apex pointed and long, termen long, oblique, straight above, rounded beneath. Whitish-ochreous, on lower half slightly suffused with light fuscous-tawny, narrow brown lines along all veins, also the two parting veins in cell; lower of these thickened and becoming deep brown posteriorly; fuscous roundish suffusion

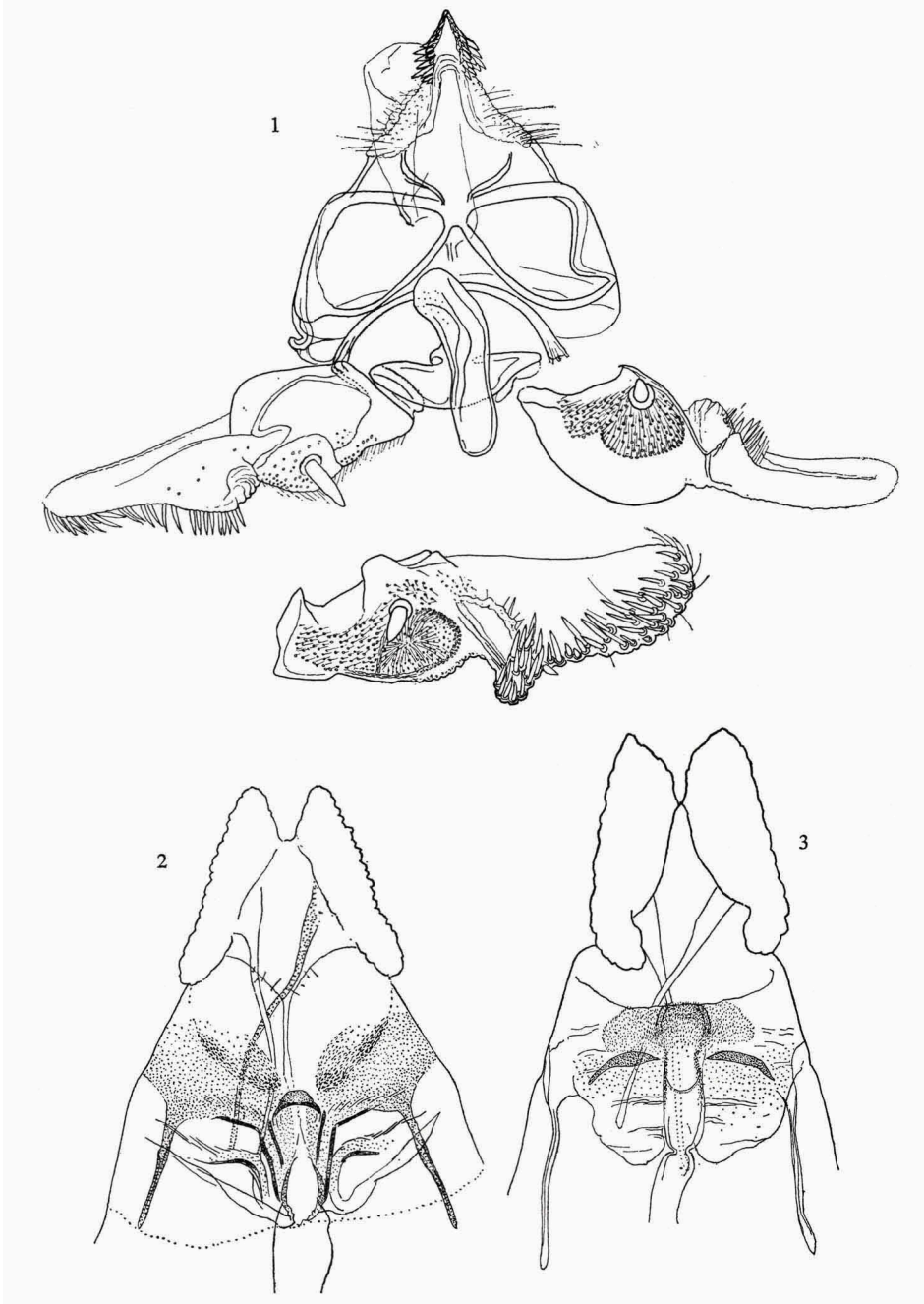

Fig. 1. *Protobactra diachorda* (Meyrick), ♂, holotype, genitalia (4491); right, valva in exactly lateral aspect; below, the same valva slightly more magnified, in internal aspect. Fig. 2. *Bactra (B). seria* Meyrick, ♀, neallotype, genitalia (4678). Fig. 3. The same of *B. (B.) clarkei* sp.n., ♀, allotype (4913).

on lower angle of cell, along dorsal edge and before termen, the latter suffusion more or less triangular, with top directed basad, upper angle reaching apex and tinged deeper fuscous-brown; interneural spaces partly streaked with paler brownish or suffused with tawny; these streaks above cell tending to fall apart in series of minute dark elongate marks. (In specimen no. 3610 fuscous suffusion replaced by irregular but well-defined dark fuscous-brown spots arranged thus: a longitudinal mark on lower angle of cell, with a small strigula on lower parting vein; a similar spot on lower edge of cell beyond base and a suffusion below this; a small mark along base of vein 2; an oblique row of dots between veins 11 and 12). Cilia dark fuscous, with a whitish-ochreous base, a dark, suffused subbasal line and a narrow subapical line, cilia in apex entirely dark fuscous, in tornus whitish-ochreous.

Hind wing fuscous, becoming ochreous-fuscous towards dorsum, with a bronze gloss. Cilia whitish-ochreous, along termen and apex with a fuscous subbasal line.

Male genitalia. Tegumen and vinculum unusually large as compared with valvae. Uncus somewhat resembling that in *B. lanceolana*. Valva moderate, cucullus subtriangular, with a rounded top, constriction above sacculus being very distinct. Sacculus swollen, inner surface forming a deep cavity open ventrally, filled with dense long hairs which conceal 3-4 very large spikes along posterior edge of cavity. Aedeagus moderate, lower half of apical portion membraneous and not easy to trace.

♀ 13-20 mm. Neallotype, ♀ (gen. no. 4678), 20 mm, designated herewith, is in all respects similar to the male as redescribed above. Two females are rather smaller than the average size, 13 and 14 mm, and are pale, with markings pale and less distinct, hind wings paler (perhaps bleached?).

Female genitalia. Sterigma moderately sclerotized but of a complicated shape. Ostium bursae, a simple, large opening, flanked by small crescentic sclerites which in their turn are supported by two pairs of slender, dark folds, outer long and angulate, inner short, adjacent to a well-defined cap-like structure above ostium (second pair of folds and cap are elements of lamella postvaginalis); laterally of these structures there is a pair of strongly curved folds; genital sternite sclerotized and crowned by a pair of oval subverrucose fields. Anapophyses short, postapophyses long.

An interesting development of the subgenus *Bactra* not related to representatives of other faunas, except to the following new species.

Material studied. Peru, "Agualani (R.), V. 1905 (E. Meyrick det., in Meyrick Coll.)", 1 ♂, gen. no. 3248. [Cordilleras de] Carabaya, 9000 ft., VIII.1905 (G. R. Ockenden), 7 ♂, gen. nos. 3610, 3611, 4679, 4689, 4712, 4723, 4744, 4768. Oconeque, Carabaya, 7000 ft., dry s[eason], VII.1904 (G.

Ockenden), 1 ♂, gen. no. 4772. (?) Brazil, Prov. Entre Rios, Soledad, close to frontier of Uruguay, XI. 1902, I and VIII. 1905 (Miss E. A. Britton), gen. nos. ♂, 4770, ♀, 4677, 4678, 4725, 4726, 4800. (Rothschild Bequest, B.M.)

Peru, Cusco, Machu Picchu, 2385 m, 4.II.1959 (J. F. G. Clarke), 1 ♂, 16 mm, gen. no. 5099. Brazil, Nova Teutonia, VI.1948 (F. Plaumann), 1 ♀, gen. no. 5381. Bolivia, Cochabamba, Incachaca (J. Steinbach), 1 ♀, gen. no. 4880. (U.S.N.M.)

In total 12 ♂, 6 ♀.

Bactra (Bactra) clarkei spec. nov. (fig. 3, 5)

♂ 15.5-16 mm. Head and thorax pale tawny-ochreous. Antenna moderately thickened; dark fuscous with a whitish-ochreous apex. Palpus moderate, triangularly dilated, upper edge roughish, lower smooth; terminal segment almost entirely concealed externally, internally exposed, subobtuse; pale tawny-ochreous, median segment with a well-defined brownish band from below middle of posterior edge to apex (sometimes this band extended or narrow). Abdomen pale tawny.

Fore wing oblong, not dilated, costa gently curved throughout, more so at extremities, termen moderately convex, oblique. Pale tawny-ochreous with a slight gloss, moderately strigulated and spotted with light fulvous-tawny, other markings limited, dark fuscous. Costal strigulae short and slender, along basal $^2/_5$ and again towards apex, dot-like; elsewhere these strigulae moderately long, suffused with fulvous-tawny; a rather narrow median longitudinal complete streak, moderately dilated along its median third, sometimes almost linear along its basal third; dark fuscous and tawny, upper edge well-defined, rectangularly bent on end of cell; except the above mentioned sparse fulvous spots and strigulae scattered over the wing, there is some ill-defined strigulation along veins posteriorly; especially distinct are narrow tawny lines: along posterior half of upper edge of cell and along vein 2, respectively; termen with a series of almost confluent dark marginal dots, which are distant along dorsum. Cilia pale tawny-ochreous, with a serrulate median dark fuscous line, lower half of cilia infuscated, tips dotted with dark fuscous (in some paratypes cilia barred with dark fuscous).

Hind wing dark bronze-fuscous, paler towards costa and dorsum, extreme dorsum whitish. Cilia glossy pale ochreous, a subbasal suffused fuscous band.

Male genitalia resembling those of *B. seria*. Uncus with a longer hook, lateral spines becoming longer basad. Valva shorter, sacculus relatively smaller, its base strongly sclerotized and angular, the punctulate area (which in *B. seria* is covered with long and dense hairs) less densely haired, the stout

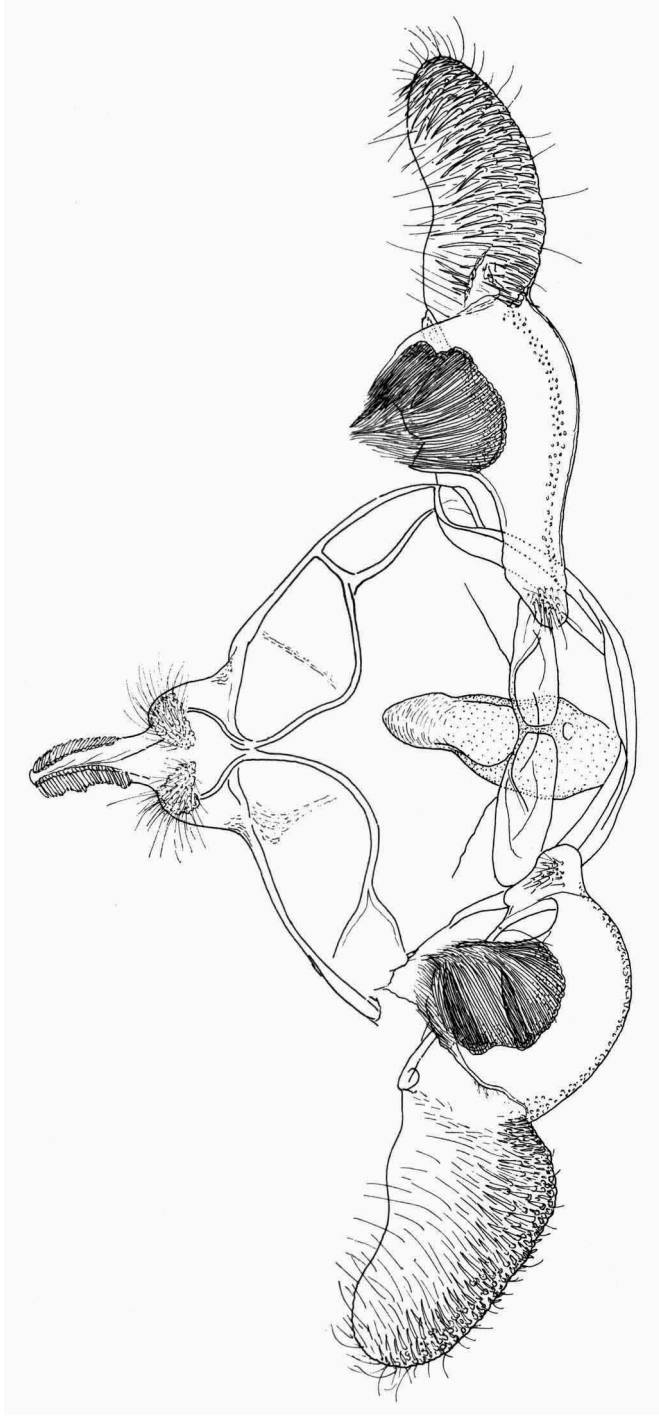

Fig. 4. *Bactra (B.) seria* Meyrick, ♂, genitalia (324δ).

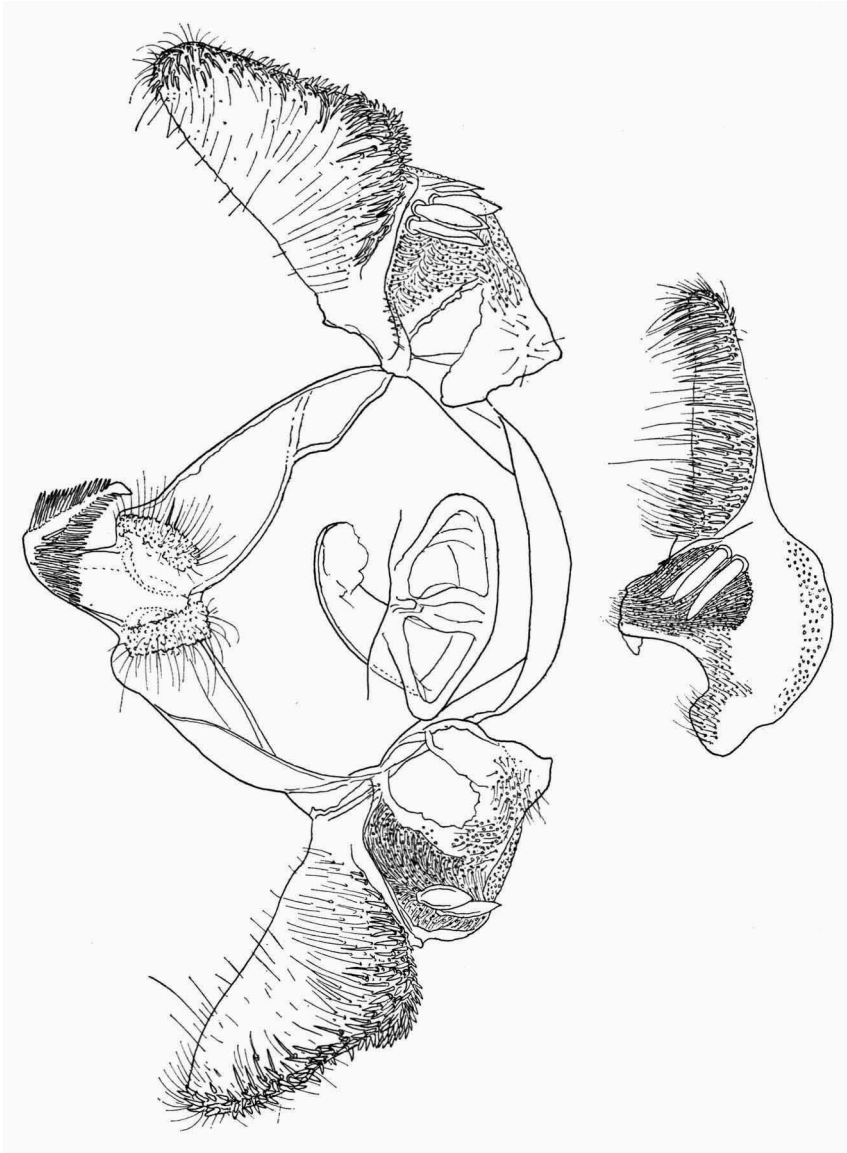

Fig. 5. *Bactra (B.) clarkei* sp.n., ♂, holotype, genitalia (4915); below, right valva in lateral aspect.

spines are exposed (in *B. seria* concealed by hairs), their number variable (2-4); cucullus more pointed, triangular.

♀ 18.5 mm. Antenna normal, pale ochreous. Fore wing slightly broader, almost devoid of markings. Light ochreous-tawny, rather suffused with lilac-greyish or fuscous. Median stripe rather light tawny, little contrasting, broader, extending from $^1/_3$ to above dorsum, upper edge well-defined, with the same characteristic small angulation on end of cell, lower edge ill-defined. Cilia unicolorous glossy light fulvous-tawny. Hind wing fulvous-tawny with a golden gloss, paler towards costa. Cilia as in male, but paler.

Female genitalia. Ostium bursae situated at the upper edge of the lamella antevaginalis (in *B. seria* at the lower edge); a cap-shaped structure of the lamella postvaginalis absent, this lamella aciculate throughout, etc. (cf. fig. 2 and 3).

South America, British Guiana, Vrijheidslust, larva in stem of sedge (*Cyperus* sp.) (H. W. B. Moore), 1 ♂, holotype, gen. no. 4915, 1 ♀, allotype, gen. no. 4913, 3 ♂ paratypes, gen. nos. 4914 and "4 Oct. 1922, 0-18", made by A. Busck, with a note by J. F. G. Clarke: "near *seria* Meyr., lacks 1 spine on harpe, is darker in color". (U.S.N.M.)

A rather uniform series, with the characteristic median streak and the dark hind wings which, however, in two male paratypes have the same colour as in the female allotype.

Judging from the genitalia, indeed nearly allied to *B. seria* Meyrick, but superficially quite different, smaller, darker coloured, with a median stripe.

Dedicated to Dr. J. F. Gates Clarke, Head Curator, Division of Insects, U.S. National Museum, Smithsonian Institution, Washington, D.C.

Bactra (Bactra) adoceta spec. nov. (fig. 6)

♂ 19-20 mm. Head pale ochreous-tawny. Palpus pale ochreous-tawny, middle of internal edge blackish, a median transverse band and upper angle of tip dusted with fuscous. Abdomen fuscous.

Fore wing oblong, gradually but gently dilated, broadest at $^5/_6$, costa gently curved anteriorly, straight posteriorly, apex obtusely pointed, termen straight above, rounded below, little oblique. Pale ochreous-fuscous, rather suffused with pale lilac-grey, with a faint purplish hue, sparsely strigulated with tawny, markings dark fuscous-brown, sometimes minutely edged with cinnamon-brown. Costa with numerous wedge-shaped marks alternating with minute strigulae; some scattered short strigulae and points between these and cell; indication of an incomplete median dark fuscous streak, its anterior half formed by a series of irregular spots along lower edge of cell and a longitu-

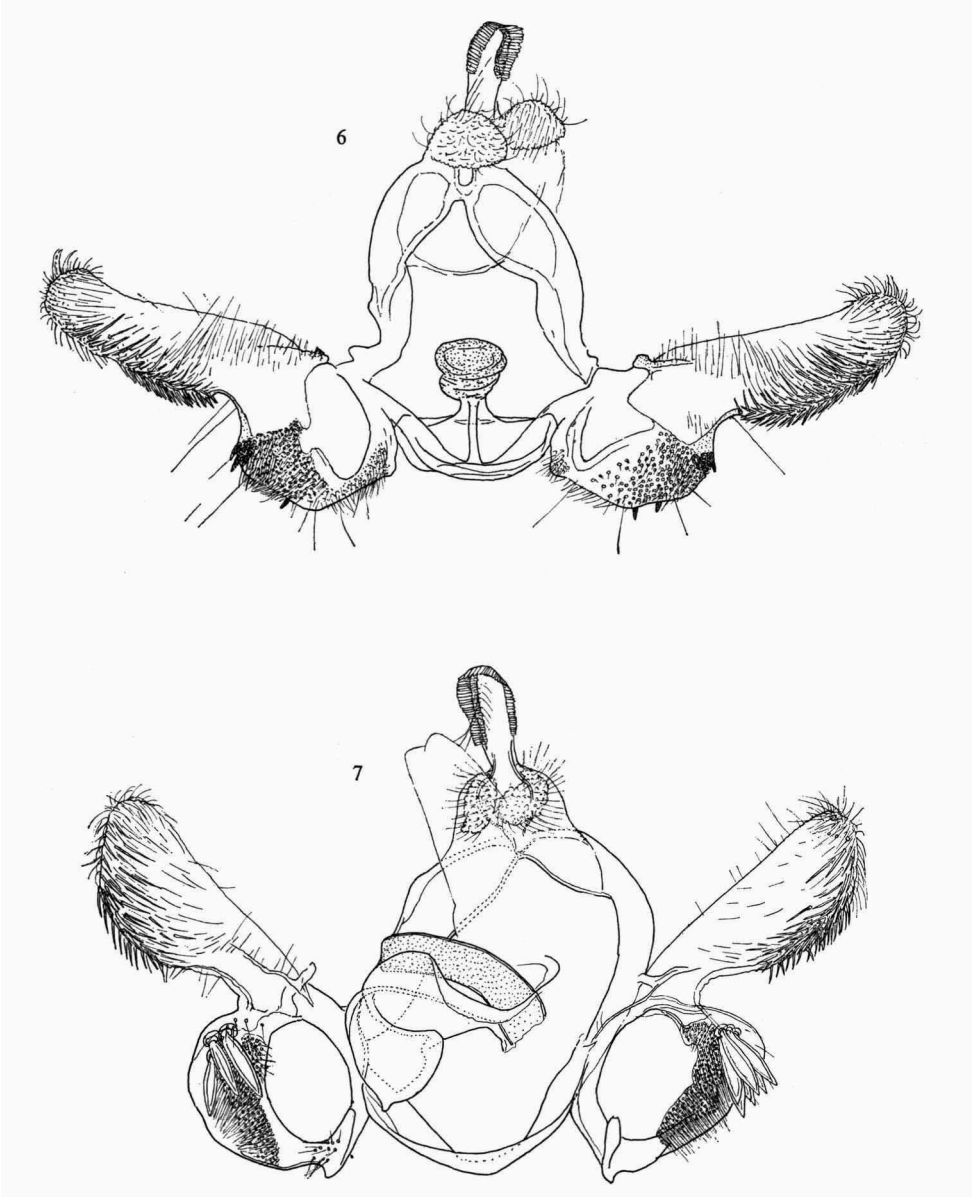

Fig. 6. *Bactra (B.) adoceta* sp.n., ♂, holotype, genitalia (5500). Fig. 7. The same of *B. (B.) vaga* sp.n., ♂, holotype (1839).

dinal suffusion opposite this series, in and below base of fold; posterior half of streak more or less separated from preceding markings and formed by a blotch across end of cell and irregular suffusion and strigulae along

veins between cell and apex; a well-defined dark brown, cinnamon-edged horizontal strigula halfway between lower angle of cell and tornus (present in both specimens); a dark spot in apex; an irregular band from apex along termen and tornus to dorsum; a series of dark dots along dorsum, rather large and approximated. Cilia pale fuscous, dusted with darker fuscous and grey, with a subbasal fuscous band.

Hind wing pale ochreous, coarsely but regularly dusted with dark fuscous-grey, dusting denser and darker over apical half of wing. Cilia fuscous-grey with a pale base and a darker grey subbasal shade.

Male genitalia. Tegumen rather narrow and high. Socius large, not pending. Anus ill-defined. Vinculum short. Valva rather narrow; sacculus rounded, with punctulate area extended and ill-limited, spines short but thick, 4-6, crowded in a small apical patch, besides 1-2 isolated dark spines on the outer side of the sacculus; cucullus slender, gently sinuate, top rounded; cucullus spines very dense, rather strong, ending well below apex. Ms and Mc bristles absent. Aedeagus very short.

Brazil, Castro, Paraná (Wm. Schaus), 1 ♂, holotype, gen. no. 5500, 1 ♂, paratype, "0945", gen. no. "4 Oct. 1922, 0-19, A. B.[usck]". (U.S.N.M.)

Apparently allied to the *seria* group of species but not closely. The veins 6 and 7 in the hind wing are very closely approximated along base and soldered, but not stalked — a peculiar feature in this genus.

Bactra (Bactra) vaga spec. nov. (fig. 7)

♂ 15-18 mm. Head, thorax pale ochreous. Antenna dark fuscous, pale ochreous-ringed. Palpus rather long, projecting, elongate-triangular, roughish along upper edge and front, apex projecting as a roughish small pencil, light ochreous-fuscous, upper angle pale ochreous. Abdomen pale ochreous.

Fore wing elongate-suboval, dilated, broadest at ¾, costa gently curved throughout, apex pointed, termen convex, very oblique, broadly rounded beneath. Whitish-ochreous, between veins dusted with bright tawny, a rather narrow tawny median streak from base to apex, suffused with blackish along its median third, a round black dot on lower angle of cell; wing below streak rather infuscated; dorsum with a series of distant blackish points. Cilia whitish-ochreous, with a faint median brighter ochreous band.

Hind wing whitish-ochreous, slightly suffused with grey except towards costa, denser suffused with grey towards apex. Cilia sordid whitish-ochreous.

The male paratype is less tawny and more grey-tinged, with basal sixth of wing suffused with grey, all markings dark fuscous or blackish; lower

half of wing is not darker than upper half; median streak unicolorous dark fuscous; a terminal row of blackish dots. Cilia along basal half barred with dark fuscous.

Male genitalia. Tegumen and vinculum moderate. Uncus rather long and broad, not dilated, top rounded. Anus large, conical. Valva characteristic and resembling that of *B. festa*: sacculus thick, subglobular, with a very large basal opening, an elongate punctulate area, and a dense group of extremely large spindle-shaped spines (3-6), apicad and laterad of this area. Aedeagus moderate, gradually curved.

New Guinea, Territory of Papua, Maneau Range, N. slopes of Mt. Dayman, 2230 m, 15.VI.1953 (4th Archbold Expedition to New Guinea, G. M. Tate), 1 ♂, holotype, gen. no. 1839, 1 ♂, paratype, gen. no. 1948. (L. M.)

Nearest to *Bactra (B.) festa* Diak. from Japan, which species stood quite isolated untill present.

As to the collecting locality, the following may be derived from the extensive list of the localities of this expedition, kindly sent to me by the American Museum of Natural History, New York: "Camp in a grassy hollow beside a stream fringed with heavily mossed forest. Vegetation cover of slopes largely fire-induced, frost-bitten grassland of alpine type: bracken and other ferns replace the grasses locally. Extensive bodies of forest in valleys and ravines, continuous with forests of lower slopes and extending to near the summits of the peaks (2800-2980 m) in attenuated gully strips".

Bactra (Bactra) metriacma Meyrick (fig. 8)

Bactra metriacma Meyrick, 1909, Journ. Bombay Nat. Hist. Soc. **19**: 582 (♂♀, Ceylon). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 288 (lectotype selected, genitalia ♂ ♀ figured). — Clarke, 1955, Meyrick's Types **1**: 205. — 1958, l.c. **3**: 312, pl. 155 fig. 4-4a (lectotype figured).

Distribution. Ceylon.

The species is of moderate size, with rather narrow, pointed fore wings. The topotypical specimen cited below (gen. no. 3563) is coloured and marked as follows. Head, palpus and thorax almost whitish. Fore wing with costa gradually curved, apex pointed, termen tolerably straight and very oblique. Pale, whitish-ochreous, slightly suffused with sandy-ochreous, partially moderately dusted with fuscous. This ground colour is interrupted by an ochreous-whitish streak from base to apex, running above middle of wing; this streak edged below and accentuated by a narrow dark brown line, from before middle of lower edge of cell, to middle of vein 6, and by a similar line along vein 7; these lines are slightly suffused upon a tawny ground;

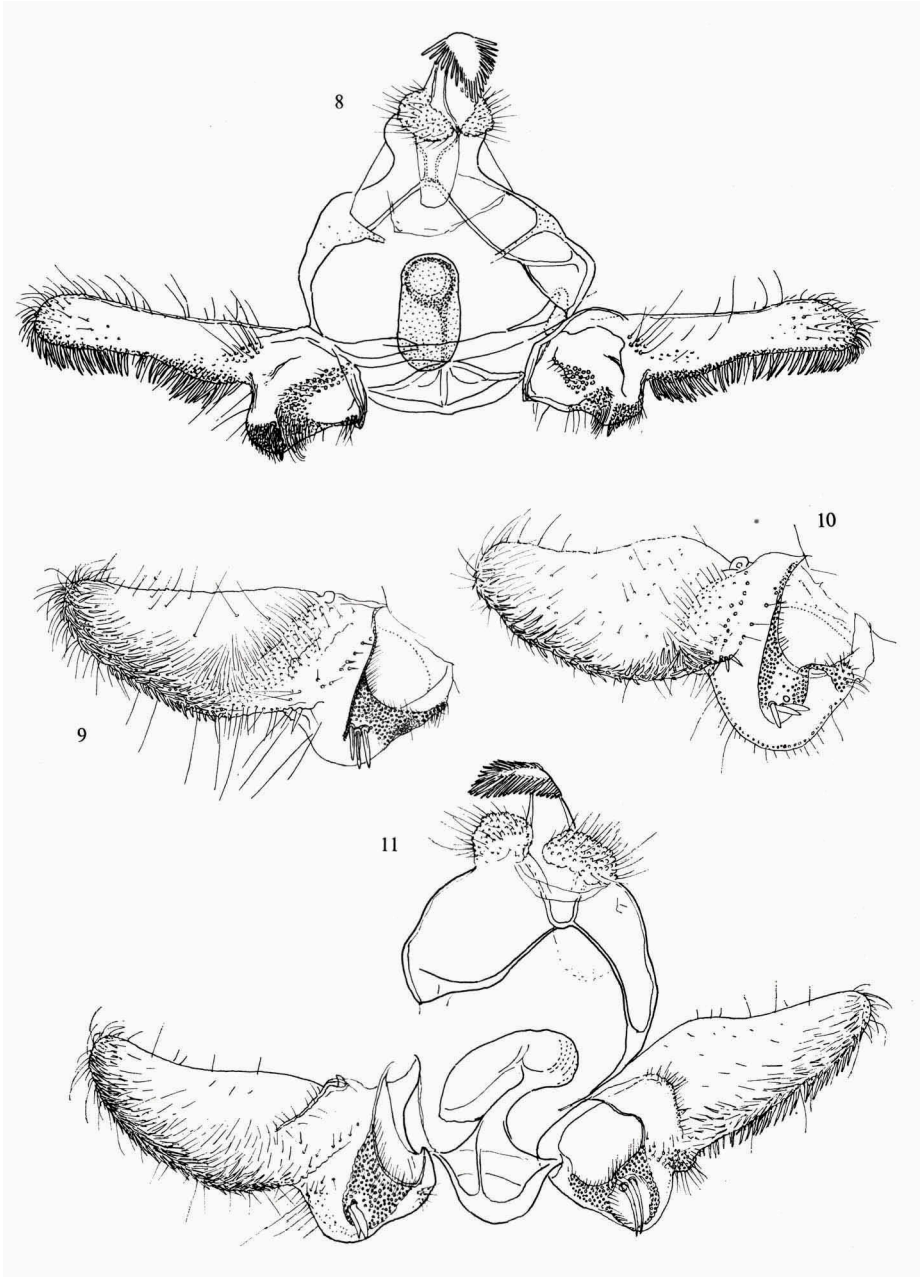

Fig. 8. *Bactra (B.) metriacma* Meyrick, ♂, genitalia (3563). Fig. 9. *B. (B.) honesta* Meyrick, ♂, left valva (4835). Fig. 10. The same of *B. (B.) helophaea*, ♂ (4836). Fig. 11. *B. (B.) honesta* Meyr., ♂, syntype, genitalia (3966).

first line interrupted by a white dot on end of cell; costal markings very short, dark brown, a streak of brown irroration along vein 12, not reaching costa; posterior part of upper edge of cell and base of vein 11 finely but distinctly marked with pale fuscous, conspicuous upon the ground of the white streak; terminal area ochreous-whitish, finely and less distinctly streaked along veins with tawny or pale fuscous; ends of veins along termen with minute dark dots; dorsum with a series of short dark brown marks. Cilia pale tawny, infuscated.

Hind wing fuscous-grey, moderately dark.

Male genitalia. Tegumen and uncus closely resembling those in *B. lanceolana*, especially the elongate, "stalked" top of tegumen is characteristic. Anus is indicated as a thin but distinct plate. A narrow rod below anus apparently representing gnathos, slightly sclerotized but obliterated in middle. Vinculum shallow and depressed. Valva long and narrow; sacculus with a projecting angular base, dilated, almost quadrate, with top oblique, prominent, densely covered with short hairs concealing a series of short spines (in figure visible in left valva); there is a sinuate patch of short hairs on rounded verrucose bases running across the disc of sacculus, to its base (this patch is interrupted in right valva); cucullus is slender and long, more slender than in any other species of the subgenus known to me, ventral edge densely beset with moderate spines mixed with bristles, spines especially dense along basal third of that edge. Aedeagus blunt, rather short, curved.

Material studied. Ceylon, Maskeliya, VIII. 1902 (E.E.G.), E. Meyrick det., in Meyrick Coll.); these are syntypes: 2 ♂, gen. nos. 3503 and 3563. A third specimen, without abdomen, but very probably of the same species: the same locality, VIII. 1904 (Pole). (B.M.)

Bactra (Bactra) honesta Meyrick (fig. 9, 11)

Bactra honesta Meyrick, 1909, Journ. Bombay Nat. Hist. Soc. **19**: 585 (♂♀, Shillong). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 281, pl. 6 fig. 22, pl. 8 fig. 38. — 1962, Zool. Verh. **59**: 24, pl. 16 fig. 82. — Clarke, 1955, Meyrick's Types **1**: 162. — 1958, l.c. **3**: 311, pl. 154 fig. 4-4a.

This and the following species, *B. helophaea*, are scarcely represented in collections and therefore less well known. I am satisfied that both are distinct. Formerly their discrimination seemed difficult to me, due to the error of attributing them to the *furfurana* group of species. Now I am satisfied that they do not belong to that group with a short valva, but should be attributed to the long valva group of *B. graminivora* instead. The length of the valva is a subtle feature, apparent only after some experience. It is most evident when studying the genital apparatus in toto with "closed" valvae, then

opening the valvae and flattening them out. When comparing already flattened-out mounts this difference is less obvious. I myself did not notice it for quite a while. But once recognized, the difference is unmistakable.

So to the group with short valvae belong *B. furfurana* and *B. lacteana*. To that with long valvae: *B. graminivora*, *B. honesta* and *B. helophaea*. Unfortunately the identification of the females of the two last mentioned species is still vague, but I hope to re-study the typical material which is not available at present, at a later date.

Male genitalia. These are of a characteristic and little varying shape. Valva long and narrow, cucullus broadest beyond base, thence gradually and considerably attenuated towards a rather long and slender point. Mc series very broad, formed by several rows of fine and weak hairs. Ms series, a single thin row of short stiff hairs. The marginal cucullus bristles do not form a terminal patch but become less numerous, longer and thinner in the primary incision. Sacculus rather conical, with a distinct narrowed top with the outer extremity not hairy along the edge (the same as in *B. furfurana*): the basal extremity of the edge of cucullus ending halfway between Mc and Ms, distinct and slightly verrucose; basal hairs moderate, on a fold-like slight thickening of the edge of sacculus which is darker sclerotized (but not always as well defined as in my figure of 1962: pl. 16 fig. 82). Uncus pointed and moderately long. Socii characteristic: rather large and with rigid lower edges, so resembling those of *B. lanceolana*, but considerably less strong.

Female genitalia have to remain undescribed in this place, pending study of additional material.

Material studied. Lectotype, ♂, the genitalia of which have been figured twice in different positions: in 1950 by myself (pl. 6 fig. 22, note the shape of the valva!) and by Clarke (1958, pl. 154 fig. 4a, note the characteristic socii!). Besides, the following specimens: Assam, Shillong, Khasis, 18.VI.1928 (T. B. Fletcher), 1 ♂, gen. no. 4835 (B.M.), and the same locality, 1 ♂, gen. no. 3966. (L.Z.M.)

Bactra (Bactra) helophaea Meyrick (fig. 10)

Bactra helophaea Meyrick, 1928, Exot. Microl. **3**: 442 (♂ ♀, Assam). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 287, pl. 5 fig. 21, pl. 7 fig. 32, 35 (lectotype selected, syn. of *B. furfurana*). — 1962, Zool. Meded. **59**: 35, pl. 12 fig. 66, pl. 14 fig. 73-74 (distinct species). — Clarke, 1955, Meyrick's Types **1**: 161. — 1958, l.c. **3**: 311, pl. 154 fig. 3-3a (distinct species).

Distribution. Assam.

This species is closely allied to both *B. graminivora* and *B. honesta* and

is but little better known than the last mentioned. Most of what is said of the preceding species applies to *B. helophaea.*

Superficially very similar to *B. honesta,* possibly flying together.

Male genitalia. The valva is long, so that the species also belongs to the *graminivora* group. Cucullus broader, more constricted at base, costa considerably more sinuate than in *B. honesta.* Cucullus bristles less dense than in *B. honesta*; there is a small terminal patch of rather short but strong bristles; Mc and Ms series of bristles and hairs similar. Sacculus more spherical, hairy along outer edge (as in *B. lacteana*); punctulate area smaller, basal hairs denser. Uncus is long, considerably longer and more slender than in *B. honesta*; socii of usual shape, without rigid edges below.

Female genitalia, figured once but with little detail, need re-investigation.

Material studied. A s s a m, Shillong, Khasis, 21.VI. 1928 (T. B. Fletcher), 1 ♂, gen. no. 4836. (B.M.) And lectotype specimen, the genitalia of which have been figured in almost the same position, by myself (1950, pl. 5 fig. 23, note the slender uncus), and by Clarke (1955, pl. 154 fig. 3a, note the shape of the valva).

Bactra (Bactra) graminivora Meyrick

Bactra graminivora Meyrick, 1922, Exot. Microl. **2**: 521 (♂ ♀, Bengal). — Fletcher, 1932, Life-hist. Indian Microl. **2**: 24, pl. 14, 15 fig. a-d (biology, foodplants). — Diakonoff, 1950., Bull. Brit. Mus., Ent. **1**: 287, pl. 6 fig. 24, pl. 7 fig. 34, 36 (lectotype designated, genitalia ♂♀ described). — Amsel, 1958, Beitr. naturforsch. S.W. Deutschl. **17**: 76 (N. Arabia).

Bactra (Bactra) graminivora: Diakonoff, 1956, Zool. Verh. **29**: 18, fig. 10. — 1959, Zool. Bijdr. **29**: 179, fig. 6, 7. — 1962, Zool. Verh. **59**: 21, fig. 1e, 18-20, 30, pl. 3 fig. 17-20.

Bactra cyperana Amsel, 1951, Bull. Soc. Sci. nat. Maroc **31**: 68, fig. 4 (♂, Morocco).

Bactra mediterraneana Agenjo, 1952, Faunula Lep. Almeriense: 99, pl. 4 fig. 32, 33, pl. 12 fig. 6, 7 (♂ ♀, Spain: Almeria).

Distribution. Central Asia and Ethiopian region, Spain, Canary Islands.

Material studied. E u r o p e: Spain, Algeciras, 6-8.IX.1962 (B. M. Goodings), 5 ♀, gen. nos. 4700, 4701, 4708, 4758. "Sicily, coll. F. Ragusa", 2 ♂, gen. nos. 4773 and 4774. N o r t h A f r i c a: Algeria, Prov. Oran, Sebdou, 1-7.IX.1918 (P. Retrou), 3 ♀, gen. nos. 4799, 4824, 4834; Sidi-bel-Abbès, 11.VII.1918 (P. Retrou), 1 ♀, gen. no. 4833. Morocco, Mazagan, VI-X.1902 and I.1903 (W. Riggenbach), 2 ♂, gen. nos. 4783, 4801 and 7 ♀, gen. nos. 4794-95, 4806, 4811, 4832, 4853 and 4854; Rabat, IV.1913, 2 ♀, gen. nos. 4840 and 4851; V.1914, 1 ♀, gen. no. 4792 (A. Théry); Tangier, 25.IX and 15.X.1934 (Querci), 2 ♀, gen. nos. 4814 and 4815. M a d a g a s c a r, Diego Suarez, 17-26.VIII.1917 (G. Melou), 4 ♂, 18 ♀. (Rothschild Bequest, B.M.)

Pakistan, Karachi Airfield (E. & A. Vartian), 4 ♂, gen. nos. 4525, 4526, 4529, and 4627, and 6 ♀, gen. nos. 4520, 4522-4524, 4527 and 4626. (V.M.)

Bactra (Bactra) lanceolana Hübner

Tortrix lanceolana Hübner, 1796, Samml. europ. Schmett. **7** (Tortr.): pl. 13 fig. 80.
Bactra lanceolana: Wilkinson, 1859, Brit. Tortr.: 115. — Diakonoff, 1956, Zool. Verh. **29**: 5 (synonymy).

Distribution. Palaearctic region, North Africa, Asia Minor, Persia, Afghanistan, Central Asia, Siberia.

Material studied. The following record is of great interest: Ceylon (!), printed label: "Pundaluoya, Ceylon, Dec. 97", another printed label with a black edge: "Ceylon, Green", 1 ♂, gen. no. 4787. (Rothschild Bequest, B. M.)

A pale male with the characteristic discal markings.

Canada, British Colombia, Fraser Mills (L. E. Marmont), 6.VI.1921, "6790", 1 ♂, gen. no. 4897. Altogether 5 ♂, two of which named by C. Heinrich (gen. no. 26.V.1926.16). (U.S.N.M.)

U. S. A., Michigan, 1 mile N. of Beechwood, Iron County, 11.VII.1955 (A. B. Klots), 3 ♂, gen. no. 4582. (A.M.N.H.)

Furthermore, since my 1962 paper in Zool. Verh. **59** I saw and dissected material from the following countries:

Spain: Algoida near Bonanza, Andalucia. Sicily: Madonia, Medda, St. Piero. Algeria: Sebdou, Forêt de Teniza, Sidi-bel-Abbès. Morocco: Tangier, Rabat. Croatia: Zeugg. In total 19 ♂, 31 ♀.

Bactra (Bactra) robustana (Christoph)

Aphelia robustana Christoph, 1872, Horae Soc. ent. Ross. **9**: 13, pl. 1 fig. 10.
Bactra robustana: Rebel, in Staudinger & Rebel, 1901, Catal. Lep. Pal. Fauna **2**: 113. — Kennel, 1910, Pal. Tortr.: 472, pl. 18 fig. 72. — Kloet & Hincks, 1945, Checkl. Brit. Ins.: 124. — Vári, 1951, Entom. Ber., Adam. **13**: 198. — Bentinck, 1951, Tijdschr. Entom. **94**: 334.
Bactra scirpicolana Pierce, 1935, Entomologist **68**: 148. — Bentinck, 1936, Tijdschr. Entom. **79**: XXVII and 201.
Grapholitha (Bactra) scirpicolana: Bentinck, 1936, Tijdschr. Entom. **79**: 209.
Bactra griseana A. M. Djakonov, 1929, Rev. russe Entom. **23**: 164, fig. 21-22.
Bactra grisea [lapsus]: Diakonoff, 1956, Zool. Verh. **29**: 13.
Bactra (Bactra) robustana: Diakonoff, 1956, Zool. Verh. **29**: 13, fig. 8, 14-15. — 1962, l.c. **59**: 15, fig. 1c, 13-16, pl. 2 fig. 11-16.

Distribution. Palaearctic region, Caucasus, Persia, Afghanistan, Asia Minor, Central Asia.

The present species has been erroneously recorded by myself from North

Africa earlier. Now it proves to occur in that region after all.

Material studied. North Africa: Morocco, Rabat, 1914 (A. Théry), 2 ♀, gen. nos. 4748 and 4753. Tangier, 150 ft., 19.VII.1934 (Querci), 1 ♀, gen. no. 4844. These are new records. (B.M.)

Japan, Honshu, Prov. Masasaki, plains, 3.VIII.1898 (A. E. Wileman), 1 ♀, gen. no. 3696. A new record. (Rothschild Bequest, B.M.)

In total 4 ♀.

Bactra (Bactra) lacteana Caradja

Bactra lanceolana var. *lacteana* Caradja, 1916, Iris **1916**: 62.

Bactra gozmanyana Toll, 1958, Ann. Zool. Polon. **17**: 65, fig. 1, 2, pl. 2 fig. 1, 5, pl. 3 fig. 8. — Diakonoff, 1959, Bijdr. Dierk. **29**: 186. — 1962, Zool. Verh. **59**: 31, fig. 1 f, 8, 26-28, 31-32, pl. 5, 10, 11, 12 fig. 67, pl. 15 fig. 78. — Jäckh, 1959, Bombus **2**: 71. — Hannemann, 1961, Tierw. Deutschl. **48** (1): 106, no. 408 fig. 408, pl. 22 fig. 12.

Bactra (Bactra) furfurana type II [partim] Diakonoff, 1956, Zool. Verh. **29**: 7, fig. 6 (♂).

Bactra (Bactra) lacteana: Diakonoff, 1962, Zool. Verh. **59**: 45, pl. 18.

Distribution. Palaearctic region, Central Asia, Siberia. Apparently does not occur in the New World.

The following record is of interest.

Japan, Yokohama, XI.1911 (H.H.) (Meyrick Coll., unnamed), 1 ♂, gen. no. 4731. (B.M.)

Bactra (Bactra) furfurana (Haworth)

Tortrix furfurana Haworth, 1811, Lep. Brit.: 466.

Bactra furfurana: Wilkinson, 1859, Brit. Tort.: 147. — Diakonoff, 1956, Zool. Verh. **29**: 11 (synonymy).

Distribution. Palaearctic and Nearctic regions.

Material studied. The following specimens are probably worth recording: Morocco, Tangier, 150 ft., 19.VIII.1934 (Querci), 1 ♀, gen. no. 4831. Assam, Shillong, IX.1920 (T. B. Fletcher) (Meyrick Collection, B.M.; the specimen was named: *helophaea*!). U. S. A., North Carolina, 1883 (Morrison) (Walsingham Coll.), 1 ♀, gen. no. 3625. (B.M.)

U. S. A., District of Columbia, Washington, VIII.1902 (A. Busck), 1 ♀, gen. no. 4863 and "no. 24.V.1922 A.B.". Maryland, Plummers Island, 1.VII. 1903 (A. Busck), named *B. lanceolana*, 1 ♂, gen. nos. 4864-4866, 4903. Texas, San Benito, 16.III.1923, gen. nos. 4867, 4904. California, San Diego, 3.VI.1911 (W. S. Wright), named *B. furfurana* by A. Busck, gen. no. 4878 and "24.V.1922 A.B.". (U.S.N.M.)

U. S. A., Virginia, Falls Church, 17.VII.1962 (D. Duckworth), 2 ♀, gen. no. 5523. (L.M.)

The Nearctic material of the common Palaearctic species surprisingly belongs to the forma *kurentsovi* Diakonoff, 1962, described as a variety, from the neighbourhood of Wladiwostok, U.S.S.R. Apparently the form has a circumboreal distribution. It differs from the typical *B. furfurana* of Western Europe by a more densely haired sacculus and somewhat more spiny basal part of the ridge of the cucullus bristles, both these characters, however, not reaching the degree of differentiation as in *B. (B.) lacteana* Caradja.

The present additional data on forma *kurentsovi* are of considerable interest and show that the Siberian form is not an incidental, local development, but that it has a wide distribution and must be of a considerable antiquity. However, at the same time, its very existence makes the rather controversial validity of *B. lacteana* (= *B. "gozmaniana"* Toll) still more problematic!

Bactra (Noteraula) noteraula Walsingham

Bactra noteraula Walsingham, 1907, Fauna Hawaii. **5**: 689 (nom. nov. pro *B. straminea* Meyr. nec Butl.). — Meyrick, 1911, Trans. N. Zeal. Inst. **43** (1910): 89.

Chiloides straminea Meyrick, 1885 [nec Butler, 1881], Trans. N. Zeal. Inst. **17**: 142 (N. Zealand, partim!).

Noteraula straminea: Meyrick, 1891, Trans. N. Zeal. Inst. **24**: 217 (gen. nov.). — 1905, Trans. Ent. Soc. Lond.: 232.

Bactra xystrota Meyrick, 1911, Trans. N. Zeal. Inst. **43** (1910): 62 (♂, N. Zealand). **Syn. nov.**

Bactra sp., Philpott, 1928, Trans. N. Zeal. Inst. **59**: 475, fig. 12a, b, d, e (♂).

Examination of the original material of two syntypes (in the British Museum) revealed the above synonymy. New Zealand may be inhabited by only one species, viz., *Bactra noteraula* Wals.

Using this opportunity I herewith select a lectotype of *Bactra xystrota* Meyrick, a male, labelled: "Invercargill, New Zealand, A.P., 10.I.1909", a small white label, written in ink, in Meyrick's hand. Other labels of the specimen: *"Bactra xystrota* Meyrick, 3/1, E. Meyr. det. in Meyr. Coll." "Meyrick Coll., B.M. 1938-290". Gen. no. 2967. (B.M.)

Other material studied. A male syntype, with similar labels as lectotype, gen. no. 2968; another male, no. 3/8, with a printed label, "Ovenga, Chatham Ids., 2.I.1924 (C. Lindsay)". (B.M.)

All these specimens are rather small, narrow-winged, with acutely pointed fore wings, which is a constant character; the size, however, is subject to variation.

The lectotype of *Bactra xystrota* may be redescribed as follows. Head, palpus and thorax light ochreous, palpus acutely long-pointed. Fore wing

narrowly lanceolate, pointed, apex long, termen very oblique. Costal third light ochreous, becoming deeper ochreous-tawny towards base; remainder of wing deeper ochreous-tawny, an ill-defined brownish median streak from base to apex, well-defined above posteriorly; minute, isolated, slightly raised blackish-brown scales sparsely scattered over the wing, marking veins on the above mentioned streak and forming a large blackish stigma on lower angle of cell. Cilia unicolorous light ochreous-tawny, whitish-ochreous on costa. Hind wing pale grey, faintly touched with yellowish, minutely and evenly dusted with ochreous-fuscous. Cilia white, touched with yellowish.

This place may be used for selection of a lectotype of *Chiloides straminea* Meyrick, 1885, nec Butler, 1881, which species has been transferred to the genus *Bactra* Stephens by Meyrick and received a new specific name, *noteraula* from Lord Walsingham. I hereby select as this lectotype the male specimen from Walsingham Collection (gen. no. 2993) labelled: "Wangami, N. Zealand, 3.III.1883, Meyrick, no. 1949" (written in ink, in Durrant's hand), "*Chiloides straminea* Btl. named by Meyr." (in same hand), "*Noteraula straminea* Meyr., named by Drnt.". Apparently this is a specimen collected and named by Meyrick himself and subsequently sent to Lord Walsingham, so that it seems certain that it has been handled by both these lepidopterists. (B.M.)

Material studied. "N. Zealand (Mathew) 875, no. 2207", Walsingham Collection, 1 ♂, gen. no. 2994. 3 ♂, "Wangami, New Zealand, 25.II.1883", the same locality, "3.III.1883", and "Auckland, New Zealand, C.V.H., 7.I. 1913", all written in Meyrick's hand, in Meyrick Collection. (B.M.)

Bactra (Chiloides) difissa spec. nov. (fig. 13)

♀ 15.5 mm. Head and palpus white, palpus with dorsal half of median segment except towards apex fuscous, tuft in front beneath infuscated. Antenna dark fuscous, scape white. Thorax ochreous-fuscous (denuded). Abdomen ochreous-fuscous.

Fore wing oblong-suboval, gently and gradually dilated, broadest at 2/3, costa gently curved throughout, more so towards extremities, apex subobtuse, termen gently rounded, convex. Whitish-ochreous, this ground colour forming a conspicuous broad subcostal streak from base to apex, remainder of wing suffused with light fuscous and tawny. Costal edge suffused with tawny, this suffusion dilated at ¾ so as to form a moderate longitudinal costal spot; numerous, rather short dark fuscous costal transverse marks, becoming longer along posterior half of costa; a median longitudinal streak of darker fuscous suffusion from base to apex; a series of black interneural

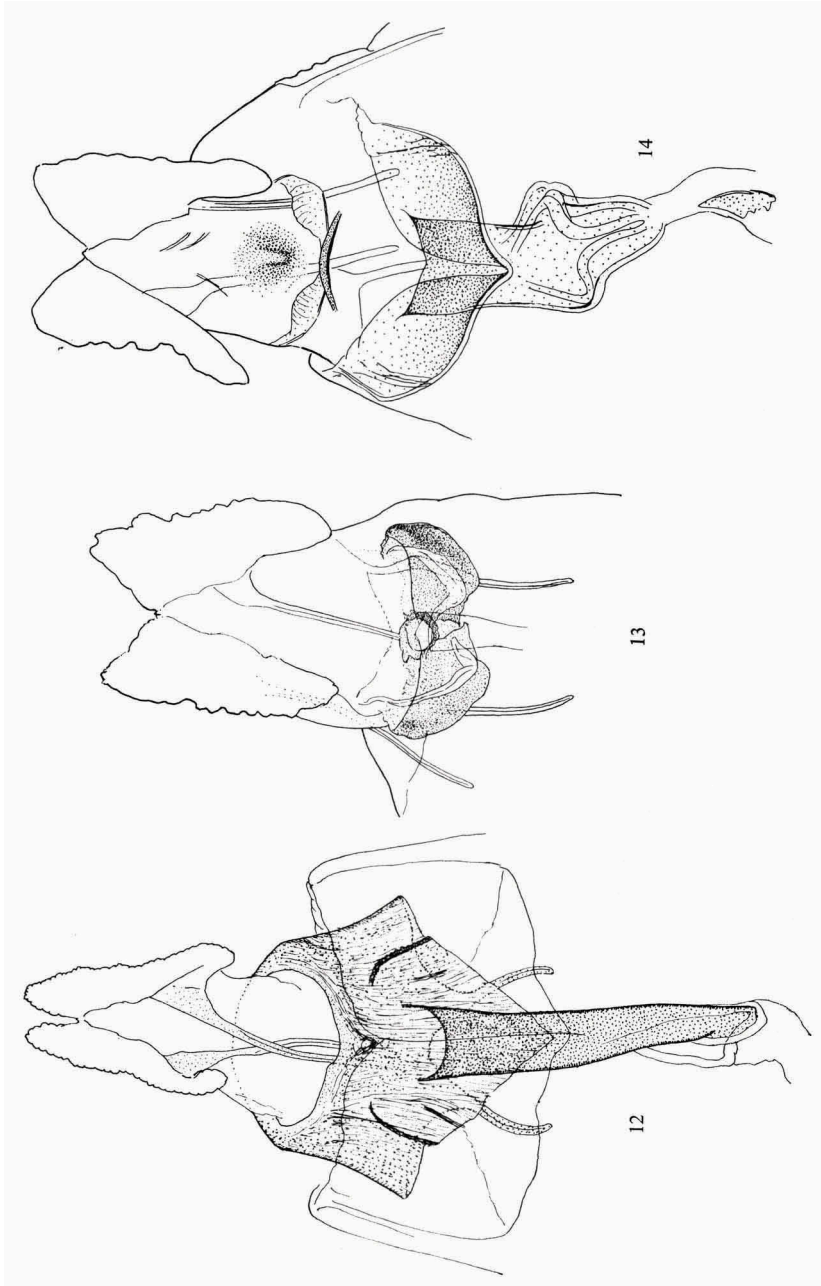

Fig. 12. *Bactra (Chiloides) fracta* sp.n., ♀, holotype, genitalia (4728). Fig. 13. *B. (C.) difissa* sp.n., ♀, holotype, genitalia (4729). Fig. 14. *B. (C.) erema* sp.n., ♀, holotype, genitalia (3011).

lines halfway between cell and margin; dorsum with a series of dark fuscous points. Cilia dark fuscous (damaged).

Hind wing rather dark fuscous, darker towards edge and tip. Cilia fuscous with a pale basal line (damaged).

Female genitalia. Sterigma small and rather simple. Ostium irregularly circular, edge sclerotized; this is flanked by two large irregularly semioval curved sclerites, over which there are hyaline folds. Colliculum absent. Ductus bursae simple. Signum absent.

Angola, Kuvali River, 30.I.1899 (Penrice), 1 ♀, holotype, gen. no. 4729. (Rothschild Bequest, B.M.)

The affinity of this species is obscure.

Bactra (Chiloides) erema spec. nov. (fig. 14)

♀ 12 mm. Head sordid whitish, a loose tuft on forehead and vertex infuscated. Antenna pale fuscous. Palpus rather long, slender, angulate, semiascending; whitish, median segment with a blackish transverse band in middle, terminal segment rather long, exposed, blackish externally. Thorax (rubbed) whitish. Abdomen whitish-ochreous.

Fore wing elongate-suboval, broadest in middle, costa gently curved throughout, more so anteriorly, apex pointed, slender, produced, termen sinuate; concave above, rounded beneath. Whitish. A streak of faintest pale ochreous suffusion below costa posteriorly, a broader and more distinct similar streak from base to apex below cell, extending halfway towards dorsum; costa with numerous very short blackish marks and points; an ill-defined fuscous suffusion and coarse dusting towards base of wing in middle of disc; first discal spot fuscous, obliquely transverse, at $^1/_3$, connected with $^1/_3$ of costa by slightly undulate olive-tawny oblique line; second discal spot semioval, large, olive-tawny, connected by a similar but more oblique line with middle of costa, by an ill-defined fuscous stripe with apex; a pair of fine oblique costal lines before apex; a dark terminal line; apex suffused with dark fuscous. Cilia (imperfect) whitish, strongly dusted with fuscous.

Hind wing and cilia whitish.

Female genitalia. Lamella antevaginalis shaped as two transverse elongate sclerites, separated by a narrow split. Lamella postvaginalis with a narrow crescentic sclerite, concave below. Colliculum, a strong tube, with lower portion dilated and equipped with longitudinal folds. Cestum, a small sclerite.

Karimun Djawa Island, off N. coast of Java, 22-30.XI.1930 (M. A. Lieftinck), 1 ♀, holotype, gen. no. 3011. (L.M.)

Nearest to *B. angulata* Diak. judging from the genitalia as well as from the markings. The strongly pointed tip of the fore wing is characteristic.

Bactra (Chiloides) angulata Diakonoff (fig. 16-17)

Bactra (Chiloides) angulata Diakonoff, 1956, Zool. Verh. **29**: 21-24, fig. 23, 26-27 (♂ ♀, East Borneo). — 1956, Proc. Ned. Akad. Wet. (C) **59**: 524.

Distribution. Borneo, Halmahera, Palau Islands, Southern New Guinea: Merauke, Upper Digul River.

North New Guinea, Misool Island , Fakal, 0-70 m, 8.IX-20.X. 1948 (M. A. Lieftinck), 1 ♀, gen. no. 2148. Japen Island, Serui, 6.I.1957 (G. F. Mees), 1 ♀, gen. no. 2414. East Borneo, Bengen River, Talang, 125 m, 31.VIII.1956 (A. M. R. Wegner), 1 ♂, gen. no. 3012, 1 ♀, 3013. (L.M.)

Ceylon, Maskeliya, I.1906 (de Mowbray), 1 ♂, gen. no. 4740; Puttalam, XI.1904 (Pole), 1 ♂, gen. no. 4756. Both specimens in the Meyrick Collection, unnamed. (B.M.)

In order to stipulate the differences in the shape of the valva of this species from that of the closely allied *B. capnopepla* Turner, I am presenting a figure of the left valva of the male no. 3012. Note the prominence of the lower edge of the sacculus and the absence of any submedian cucullus spines.

Bactra (Chiloides) meridiana Diakonoff

Bactra (Chiloides) meridiana Diakonoff, 1956, Proc. Ned. Akad. Wet. (C) **59**: 524, fig. 2 (♀, New Guinea).

Distribution: Southern New Guinea: Merauke.

Southern New Guinea, Merauke, 6.V.1957 (G. F. Mees) 2 ♀, gen. nos. 2412, 2413. (L.M.)

Bactra (Chiloides) jansei Diakonoff

Bactra (Chiloides) jansei Diakonoff, 1963, Tijdschr. Ent. **106**: 291, 313, fig. 21-23 (♂, South Africa).

Distribution. South Africa: Transvaal, Natal, Cape Province.

Tanganyika Territory, Matango Hochland, w.s.w. von Songea, 20-30.XI. 1935 (Zerny), 1 ♂, gen. no. 4533; the same locality and collector, 21-29.II.1936, 1 ♂, gen. no. 4537. (V.M.)

Bactra (Chiloides) capnopepla Turner (fig. 15)

Bactra capnopepla Turner, 1946, Trans. Roy. Soc. S. Austr. **70**: 211 (♂, Queensland).

Bactra (Chiloides) patris Diakonoff, 1956, Zool. Verh. **29**: 24, fig. 22 (♂, Java). **Syn. nov.**

Distribution. Australia: Queensland; Java.

After a comparison of the holotypes of the two above named species I am

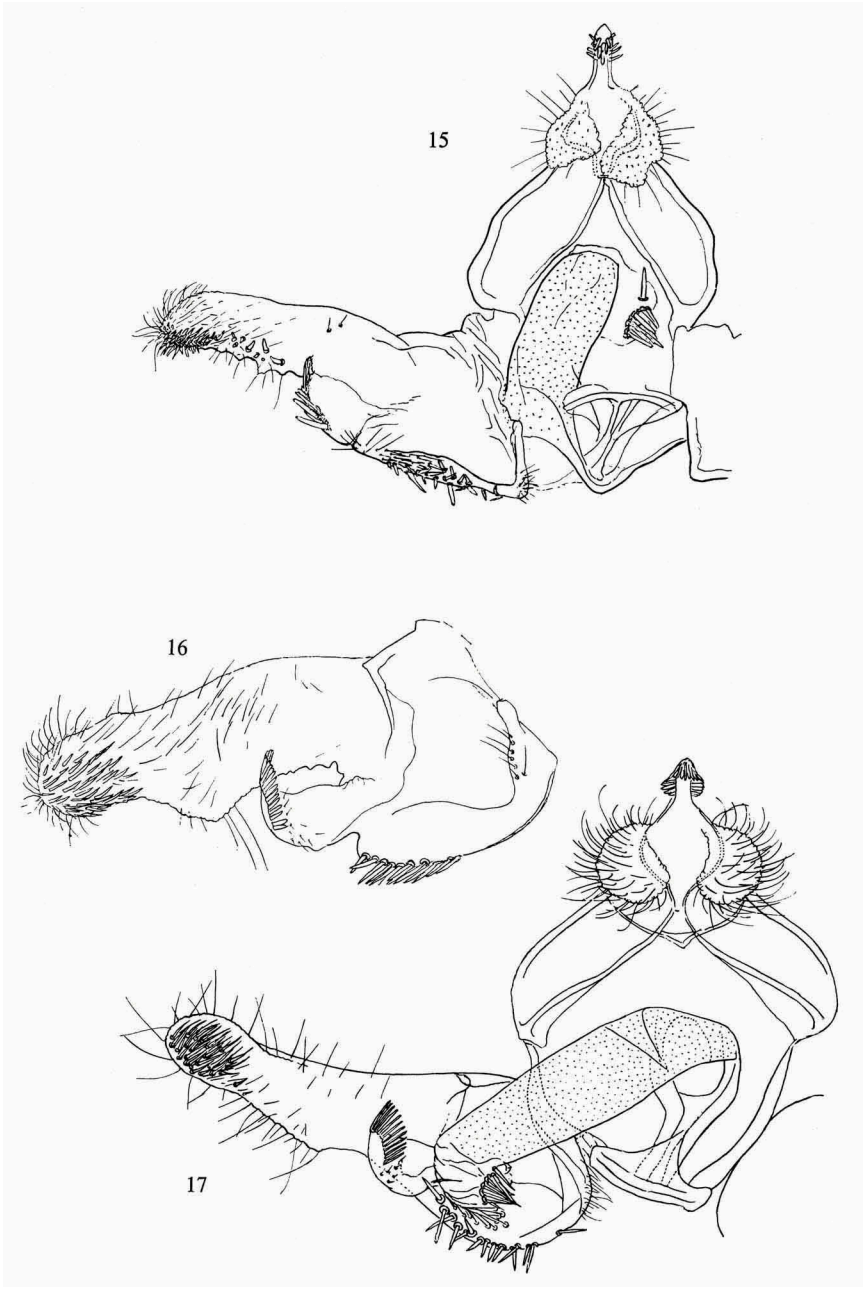

Fig. 15. *Bactra (Chiloides) capnopepla* Turner, ♂, holotype, genitalia (2940). Fig. 16. *B. (C.) angulata* Diakonoff, left valva (3012). Fig. 17. The same, ♂, genitalia (1606). (Fig. 15 and 17, after Diakonoff, 1956).

satisfied that they are conspecific. However, there is a difference in the male genitalia as elaborated below, so that I prefer to regard the Javanese form as a subspecies:

Bactra (Chiloides) capnopepla patris Diakonoff, status nov.

The male genitalia show slight differences in the armature of the sacculus. In the nominate form the sacculus has a rectangular top, with some closely placed, weak, but rather long bristles; below these there are two more or less parallel series of exactly similar bristles, running along the internal edge of the margin of sacculus, to about the middle of its length, while the outer edge is beset with some three irregular series of spines, extending from about $^1/_4$ to $^2/_3$ of the length of sacculus, thence becoming short and sparce; the rectangular base of the margin is covered with a patch of short bristles.

In the subspecies *B.c. patris* the bristles of the sacculus are similar, but the spines are longer and more robust, they are arranged in a single row very close together.

As to the superficial appearance of the species, I may refer to my original description of *B. patris*. The holotype of *B. capnopepla* is slightly larger, 14 mm, and is suffused throughout with fuscous-grey, without the elegant pinkish tinge of *B. patris*; the markings are reduced to narrow dark fuscous lines, but are similar otherwise, except the edge of the basal patch which is less curved in *B. capnopepla*; the hind wing is darker greyish.

Material studied. Australia: Turner's holotype specimen, gen. no. T 826 (Canberra Museum) (my no. 2940), labelled thus: "Noosa, 5.X. 1939", "Holotype, *Bactra capnopepla* Turn." (pink label), "*Bactra capnopepla* Turn. Type" (white label, in Turner's hand).

Bactra (Chiloides) clarescens Meyrick (fig. 18, 20)

Bactra clarescens Meyrick, 1912, Trans. Ent. Soc. Lond. **1911**: 689 (♂ ♀, Dutch Guiana). — Clarke, 1955, Meyrick's Types **1**: 92. — 1958, l.c. **3**: 307, pl. 152 fig. 2-2a (lectotype selected, genitalia figured).

Distribution. Surinam: Paramaribo.

♂ 13-15 mm. Head and thorax ochreous-white. Palpus strongly dilated, roughish along edges, terminal segment rather long, slender; ochreous-white, slightly irrorated with blackish in middle externally. Thorax whitish-ochreous. Abdomen pale ochreous.

Fore wing rather narrow, elongate, costa distinctly curved at the extremities, less curved in middle, apex tolerably pointed, termen convex, little

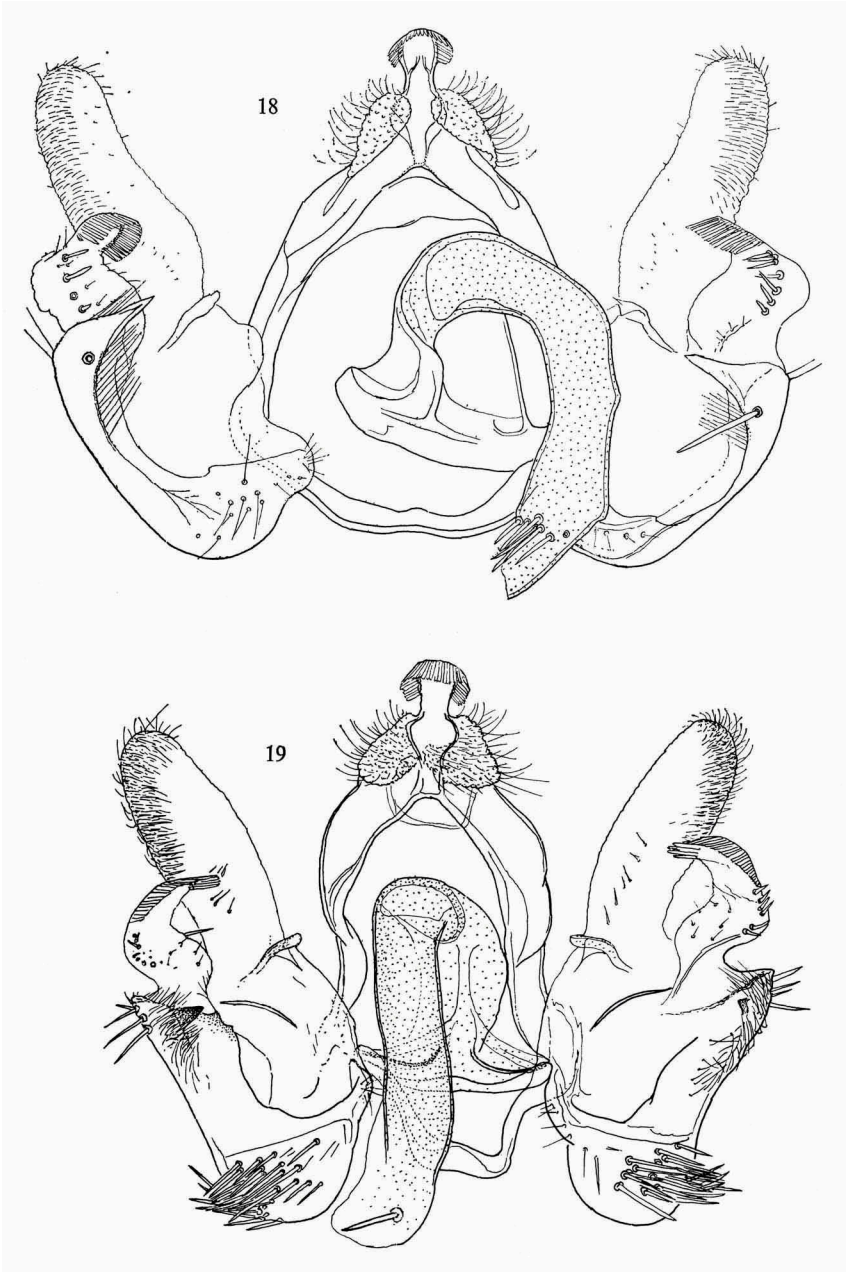

Fig. 18. *Bactra (Chiloides) clarescens* Meyrick, ♂, genitalia (2867). Fig. 19. *B. (C. philocherda* sp.n., ♂, paratype, genitalia (3726).

oblique. Ochreous-whitish, termen halfway to cell becoming glossy silvery-white, markings light tawny or light tawny-fuscous. Anterior half of costa with short, posterior with elongate and suffused tawny strigulae extending across $^1/_3$ of wing, alternating along entire costa with also rather oblique dark brown shorter lines; terminal edge with a distinct light fulvous (in one specimen, fuscous) streak, from apex to tornus, attenuated downward, seemingly undulate (because of termen between veins being minutely dotted with whitish); a similar streak preterminal and parallel, from ultimate costal mark to middle of wing; posterior third of cell filled out with tawny-fuscous, this colour sharply limited by transverse vein, less sharply by lower edge of cell, suffusion extending across lower angle of cell and connected halfway to dorsum with a fuscous, inwards-oblique small blotch across fold; dorsum irregularly dotted with dark fuscous.

Hind wing whitish, terminal and apical edges suffused with pale tawny; cilia whitish, around apex with a pale fuscous basal third. (Specimen redescribed, 15 mm, gen. no. 2867).

Another male (without abdomen, 13 mm) is somewhat deeper marked with fuscous, hind wing more suffused with fuscous-tawny, along veins reaching cell.

A third specimen (gen. no A.B. Oct. 17, 1922, 15 mm) is much darker, ground colour glossy pale grey, markings deep tawny, more extended and complete; the two penultimate costal marks continued by curved lines running to terminal streak; a cloudy dark fuscous suffusion on $^1/_3$ of dorsum, ascending to cell and filling this; only small posterior portion of cell deep tawny, below with an upcurved hook encircling lower angle of cell; veins beyond cell narrowly dark brown. Hind wing pale grey at base, gradually becoming dark grey posteriorly. Cilia sordid fuscous-grey.

Finally, a well preserved and rather clearly marked male specimen from Brazil (gen. 5288) differs from the re-description as follows. No preterminal line, instead faint indications of some three parallel lines curving from the posterior costal strigulae and strigulae between those, running down to above tornus; discal markings clear and rather different: a cuspidate spot in fold at about $^1/_4$ of wing, point directed basad, dark fuscous, conspicuous; an irregular-subtriangular dark fuscous patch on lower angle, sharply excised by closing vein and base of vein 5; grey-fuscous suffused patches connecting first and second discal spots, respectively, with dorsum; veins 5-7 streaked with dark fuscous and rather suffused with fuscous-grey posteriorly with an indication of leaden-metallic colour. Cilia with a median dark fuscous line and oblique bar through apex.

A fifth male densely strigulated, costal lines complete, also all veins

streaked, first stigma irregular, transverse, more or less connected with a small streak in fold, second stigma an oblique patch across cell, including its lower angle, followed by 3 inwards-oblique lines before tornus. Sixth male (5408) similarly marked but also dotted throughout, this dotting obscuring markings, so that the wing is entirely tinged fuscous-tawny.

♀ 15-21.5 mm. Variable as to colouring, but resembling the males. There are a few darker females, one (gen. no. 3249) brightly marked with tawny, but the majority are whitish, with strongly suffused and ill-defined pale tawny markings. Finally, the Jamaica specimen (3716) is suffused throughout with dull pale ochreous-tawny, except faint dark costal markings and blackish dots along dorsum.

Male genitalia. Tegumen moderate, rather broad. Vinculum broad, little curved. Uncus rather short. Valva with sacculus under 1, base thickened, sparsely haired; sacculus rigid, forming a well-defined edge towards top beset with a regular row of rather long straight hairs and ending in a very large, inwards-directed straight spike; a single large subapical spine, two small apical hairs only. Valvula rather broad, strongly sinuate, little narrowed towards top, corona moderate, a series of some 6 moderate spines laterally. Cucullus rather slender, sinuate. Aedeagus strongly flattened laterally and curved downard. Cornuti, a transverse patch of some 8 rather long and straight spines.

Female genitalia. Sterigma partly formed by a huge tubular colliculum, asymmetrical and abruptly narrowed along lower half; ostium bursae formed by a funnel-like dilatation with pointed lateral extremities and a strongly twice sinuate upper edge. A complex of small horizontal folds represents lamella postvaginalis. A moderate sclerite in the wall of ductus bursae represents cestum.

Material studied. British Guiana, Bartica, XII.1912 (Parish) (Meyrick det., in Meyrick Coll.), 1 ♀, gen. no. 3249. Jamaica, Runaway Bay, 28.III.1905, "Wlsm. 77097", Walsingham Collection, 1 ♀, gen. no. 3716. British West Indies, Grand Cayman, Georgetown (A. W. Cardinale) (B.M. 1935-196), 1 ♀, gen. no. 4710. Argentine, Villa Ana, F.C.S.Fe, XII.1925 (K. J. Hayward), 1 ♂, gen. no. 4685. (B.M.)

French Guiana, Cayenne (Wm. Schaus), 1 ♂, 5 ♀, gen. nos. 2866 ♀, 2867 ♂, 2869 ♀, 2870 ♀, 4922 ♀, 5501 ♀, 5502 ♂, and 9 more ♀. St. Jean Maroni, 1 ♀, gen. no. 2868. British West Indies, Dominica, Fresh Water Lake, 2060 ft., 26.III.1956, 2 ♂, gen. nos. 5408-5409; Antrim, 1000 ft., 14.III.1956, 1 ♀, gen. no. 5407; 24.III.1956, 2 ♀, gen. nos. 5410-5411 (J. F. G. Clarke). Brazil, Nova Teutonia, 27° 11′ W 52° 23′ S, 3500 m, VI.1948 (F.Plaumann), 2 ♂, gen. no. 5.X.38.1 and 5288 "Benito Prov., Per-

nambuco, 1883" "Coll. C. V. Riley", "Unknown to Rag[onot?] 84, yell. 1. 193", "Fernald". (U.S.N.M.)

Bactra (Chiloides) philocherda spec. nov. (fig. 19, 21)

♂ 12 mm (11-15 mm). Head whitish. Palpus triangularly dilated; whitish-ochreous, suffused with tawny except upper (dorsal) part of tip of median segment and the whole terminal segment, and basal segment below. Fore wing ochreous-whitish, faintly strewn with pale tawny, markings fuscous. Costal strigulae short along anterior half, developed along posterior, slender but well-defined; a longitudinal suffused rather dark fuscous streak from base to apex, including a cloudy transverse dark blotch on end of cell, faintly edged paler, the streak becoming rather broader beyond cell, gradually dilated towards apex, a suffused blackish dot in apex; some veins posteriorly finely streaked with fuscous, vein 2 more distinctly so; a suffused dark fuscous terminal line, making small serrations over bases of cilia rather dark grey-fuscous, base, except in apex, pure white, barred with blackish opposite serrations of terminal line. Hind wing whitish, more than posterior half faintly infuscated, cilia whitish, grey opposite apex, around apex and along upper part of termen, posterior half of cilia suffused with grey.

Male genitalia. Tegumen high. Socius rather large. Vinculum moderate, erect-trapezoidal, almost quadrate. Valva with sacculus extended beyond base, so as to form a semioval process, covered with a dense sheaf of rather strong and long spines except basal spines which are turned outwards, top of sacculus ending prominently, with 3-5 subapical spines, and inwardly a rather short strong cusp, with a sclerotized ridge running across disc (in figure punctuated in left valva; right cusp seems shorter, the right valva pushed out further than the left). Valvula rather short, strongly sinuate, with small spines along outer edge. Cucullus long and rather slender. Aedeagus very long, on a long caulis. There is a single strong spine for a cornutus. (Slide figured, no. 3726, paratype).

The allotype and females from Dominica may be described thus.

♀ 12-16 mm. Paler, with the tawny strigulation almost vanished, with a moderate olive-tinged suffusion instead, denser in centre of wing; dark discal blotches smaller and less conspicuous, anterior preceded by a dark brown point; preterminal shadow also reduced to its posterior third which is faint and blackish; terminal line distinct, dorsal points less numerous. Cilia as in male.

Hind wing paler, sordid whitish, only posterior half faintly infuscated.

The following is a description of a female from Jamaica.

♀ 14 mm. Palpus hardly suffused. Female of typical "*nigrovittana*"-type.

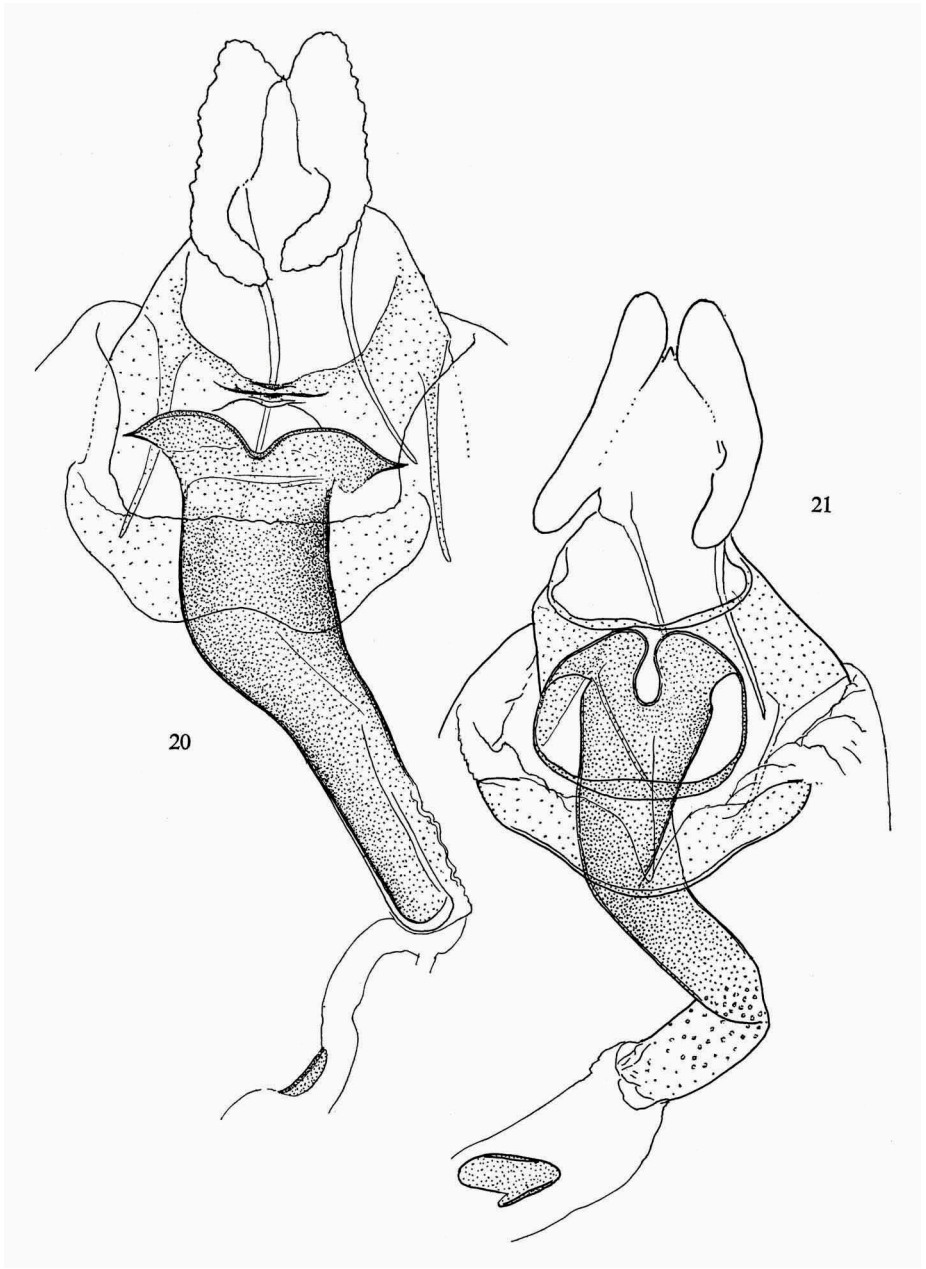

Fig. 20. *Bactra (Chiloides) clarescens* Meyrick, ♀, genitalia. Fig. 21. *B. (C.). philocherda* sp.n., ♀, paratype, genitalia (3721).

Fore wing ochreous-whitish rather densely suffused with pale tawny, on costal half faintly streaked between veins with deeper tawny; base of wing slightly suffused with dark fuscous; median fascia broader than in male, brownish-fuscous, containing some purplish-black marks in fold at $^1/_3$; the fascia runs along fold to end of cell, thence runs as a tawny brown broad band towards apex; terminal line indicated by a row of minute black points on ends of veins interconnected by a fine dark zigzag line with pale triangles between veins. Cilia tawny, becoming dark grey towards apex, irrorated with ochreous-whitish, a distinct dark grey supramedian fascia, preceded by several slender lines; extreme base of cilia pale.

Hind wing as in male, slightly deeper coloured. Cilia white, grey opposite apex, around apex and along upper part of termen posterior half of cilia suffused with grey.

Female genitalia. Seventh sternite with a transverse elongate-oval plate, dilated in middle, with lower edge thickened, upper with a deep excision in middle. Colliculum very strong, smooth, except the less sclerotized lower fourth which is minutely verrucose. Upper edge of colliculum with a deep incision which is constricted above middle; the rim is continued as a wide narrow band, apparently encircling the ostium. There is a rather large, irregularly oval sclerite in ductus bursae, representing the cestum. Signum of usual shape, rather strong (slide no. 3721, paratype).

Material studied. British West Indies, Dominica, Antrim, 1000 ft., 13.III.1956 (J. F. G. Clarke), 1 ♂, holotype, gen. no. 5406; 1 ♀, allotype, gen. no. 5405; Roseau Falls, paratypes, 1 ♂, gen. no. 5414; 2 ♀, gen. no. 5413. Further paratypes: Florida, Palm Beach, (H. C. Dyar Collection), 2 ♀, gen. nos. 5443 and 5446. Pompano, bred from *Cyperus*, III.1945, lot 45-5767, SS. 24039, 24057 and 24059, 2 ♂, 2 ♀, gen. nos. 1949 ♂, 4918 ♂, 4919 ♀, 4921 ♀. Royal Palm State Park, 1 ♂, gen. no. 22.V.1930.5. Panama, Porto Bello, IV.1912 (Busck), 1 ♂, gen. no. 4.X.1922.02. Cuba, Stego de las Vegas, 9.VII.1933 (A. Otero), E.E.A. Ento no. 10228 (another specimen is a ♀ *verutana*!), 1 ♂, gen. no. 4893. (U.S.N.M.)

Jamaica, Runaway Bay, 26.II.1905 (Walsingham), no. 77096, 1 ♂, gen. no. 3726; 1 ♀, no. 77095, gen. no. 3721 (Walsingham Collection). Peru, Iquitos, III.1920 (Parish), 1 ♂, gen. no. 2596; 1 ♂, gen. no. 3596. Jurimaguas, III.1920 (Parish), 1 ♀, gen. no. 3598. Brazil, Pará, VII.1919 (Parish), 1 ♀, gen. no. 3597 (Meyrick Collection, all named by E. Meyrick as "*Bactra verutana* Z."). East Cuba, Sierra Maestra, 1000 ft., 10.I.1930 (O. Querci), 1 ♂, gen. no. 4879. West Africa: Angola,

Loanda, II.1875 (v. Homeyer), 1 ♂, paratype, gen. no. 4190 (Rothschild Bequest). (B.M.)

Type locality: British West Indies, Dominica, Antrim.

The species is nearly related to *B. (C.) boschmai* Diak., from the Wissel Lakes region of Central West New Guinea! A third relative is *B. (C.) limitata* Diak. from Java. The male genitalia of the two sexes show clear differences in the three species.

The paratype specimen gen. no. 5414 tending to form the maculate type: the fascia is broken in an elongate plical spot and there is a larger dark brown discal suffused patch, semicircular anteriorly, with posterior edge well-defined and notched. The Angola specimen is undoubtedly conspecific.

Bactra (Chiloides) straminea (Butler)

Chiloides straminea Butler, 1881, Ann. Mag. Nat. Hist. (5) **7**: 393, no. 25 (Hawaii). — Meyrick, 1885, Trans. N. Zeal. Inst. **17**: 142 (part.) — Walsingham, 1907, Fauna Hawaii. **1**: 687-688, pl. 11 fig. 5 (Hawaii).

Bactra (Chiloides) straminea: Diakonoff, 1956, Zool. Verh. **29**: 26, fig. 4, 24-25 (head, genitalia ♂, ♀ illustrated).

Distribution. Hawaiian Islands.

Material studied. Hawaii, Kona, 2000 ft., X.1892 (Perkins), Walsingham Collection, no. 25205, 1 ♂, gen. no. 1862. Molokai, + 3000 ft., 16.IX.1893 (Perkins), Wals. Coll., no. 26310, 1 ♂, gen. no. 1872. (B.M.)

Bactra (Chiloides) simpliciana Chrétien

Bactra simpliciana Chrétien, 1915, Ann. Soc. ent. France **84**: 302 (♂, Gafsa, on *Cyperus conglomeratus*). — Amsel, 1951, Bull. Soc. Sci. nat. Maroc **31**: 68.

Bactra telaviviana Amsel, 1935, Zoogeographica **2**: 46, 123 (nom. nud.). — 1935, Mitt. Zool. Mus. Berlin **20**: 291, pl. 11 fig. 89 (♀, Palestine). — 1935, Veröff. Deutsch. Kolon. Uebersee Mus. **1**: 261, no. 230.

Bactra (Chiloides) telaviviana: Amsel, 1951, Beitr. naturforsch. S. W. Deutschl. **17**: 76, fig. 18 (♂, N.E. Arabia).

Bactra lactosana Turati, 1922, Atti Soc. ital. Sci. nat. Milano. **61**: 172 (sex?, Cyrenaica).

Bactra pauperrima Turati, 1934, Atti Soc. ital. Sci. nat. Milano **73**: 196, pl. 3 fig. 24 (sex ?, Cyrenaica).

Bactra (Chiloides) simpliciana: Diakonoff, 1963, Tijdschr. Entom. **106**: 318.

Distribution. North Africa; Arabia.

Material studied. Algeria, Prov. Oran, Sidi-bel-Abbès, 11.VI.1918 (M. Retrou), 1 ♀, gen. no. 4838. Morocco, Mazagan, IX.1902 (W. Riggenbach), 1 ♀, gen. no. 4841; id., VI.1903, 1 ♀, gen. no. 4846. (Rothschild Bequest, B.M.)

Bactra (Chiloides) rhabdonoma Diakonoff

Bactra (Chiloides) rhabdonoma Diakonoff, 1963, Tijdschr. Ent. **106**: 290, 322, figs. 35-37 (♂, South Africa).

Nyassa-See, Mbamba-Bai, 12-16.IV.1936 (Zerny), 2 ♂, gen. nos. 4530, 4532. (V.M.)

Bactra (Chiloides) punctistrigana Mabille

Bactra punctistrigana Mabille, 1900, Ann. Soc. ent. France **68**: 751 (Madagascar). — Victte, 1947, Mem. Inst. Sci. Madagascar (A) **1**: 54. — 1954, l.c. (E) **5**: 379 (lectotype selected). — Diakonoff, 1959, Rev. franç. Entom. **26**: 177, fig. 20-21, pl. 2 fig. 10 (type redescribed, figured). — 1963, Tijdschr. Entom. **106**: 330, fig. 43-45.

Distribution. South Africa, Madagascar.

Morocco, Sabdou, 1-4.IX.1918 (P. Retrou), 1 ♀, gen. no. 4812. Sicilia, "Ficuzza, J. Kr. (E. Ragusa)" (a small label, written in red ink), "Sicily, Coll. F. Ragusa" (printed label). (Rothschild, B.M.)

Although these records are extremely interesting, I cannot suppress a feeling of doubt: could this truly South African species really occur so much northerly, or would this be due to mislabelling? However, the Sicilian specimen has two different but concurrent labels.

Bactra (Chiloides) venosana (Zeller)

Phoxopteris venosana Zeller, 1847, Isis: 738.
Aphelia venosana: Herrich-Schäffer, 1849, Syst. Bearb. Schmett. Eur. **4**: 244.
Bactra venosana: Rebel, 1901, in Staudinger & Rebel, Catal. Lep. Pal. Fauna **2**: 113. Etc.
Synonyms are *B. truculenta* Meyrick, 1909; *B. scythropa* Meyrick, 1911; *B. geraropa* Meyrick, 1932; *B. banosii* Gozmany, 1960.

Distribution. Northern Africa, Southern Europe, Southern Asia, Pacific, Australia.

The recent new record is by Bradley, 1961 (as *truculenta*), Bull. Brit. Mus., Ent. **10**: 122 (Guadalcanal).

In Clarke's monograph (Meyrick's Types **3**: 308, pl. 153 fig. 4-4b, ♀ lectotype selected and figured) *Bactra geraropa* Meyrick is not synonymized with *B. venosana* (or *"truculenta"*), and apparently presented as a valid species which is erroneous.

Additional material studied. "Java, Rembang", 1 ♀, gen. no. 4567. "Java, Batavia", 1 ♂, gen. no. 4568. "Java, Tegal (Lucassen)", without abdomen. (Snellen Coll., L.M.)

Madeira, Funchal, 1-8.V.1938 (Stors), no. 4278, 1 ♂, gen. no. 3321. (H.M.)

Philippine Islands, Luzon, Los Baños, 1 ♀, gen. no. 5061. Pangasinan Prov., Babasit, 13.III.1945 (J. G. Franclemont), 1 ♂, gen. no. 1996. Mindanao, Sulu, Siasi Id., Siasi, sea level, 24.VIII.1958. Caroline

Islands, Truk Id., Moen, Civ. Admin. Area, 13.II.1949 (R. W. L. Potts), 1 ♀, gen. no. 5380. Marianas Ids., Saipan Id., 1-2 miles E. of Tanapag (H. S. Dybas), at light, 10.III.1945, 1 ♀, gen. no. 5273. India, Gujarat, Karaghoda (R.M.) 25.VIII.1919, 1 ♂, gen. no. 5402. Calcutta (Atkinson), 1858, 1 ♀, gen. no. 5403. Ceylon, Wellawaya, XI.1905 (L.C.B.), 1 ♀, gen. no. 5391. Siam, Bangkok, 7.VII.1932 and 11.VII. 1932 (H. M. Smith), 1 ♀, gen. no. 4885, respectively, 1 ♂, gen. no. 5524; 9.VIII.1932 (H. M. Smith), 1 ♀, gen. no. 5326. Hawaii, Honolulu, Pawaa jet, at light, 18.V.1927 (O. H. Swezy), 1 ♂, gen. no. 1822. (U.S.N.M.)

West Java, Bogor (Buitenzorg), 25.IV.1955 (P. J. Imbert), 1 ♀, gen. no. 3015; 2.VII.1955 (F. C. Drescher), 1 ♂, gen. no. 3016. (L.M.)

Ceylon, Kalutava, III.1911 (F.M.), 2 ♂, gen. nos. 4737, 4734; Puttalam, VIII.1904 (Pole), 2 ♂, 4735, 4738; Kandy, VII.1911 (F.M.), 1 ♀, 4754; Peradeniya, VII.1906 (Green) (all Meyrick Coll., unnamed). Formosa, Taihoku, IX.1925 (S.I.) (Meyrick Coll., unnamed). Tambora Islands, 2500-4000 ft., VI.1896 (W. Doherty) (Rothschild Bequest). North Africa, Algeria, Oran Prov., Sidi-bel-Abbès, 17.IX. 1917 2 ♂, 4821, 4839; Sebdou, 14.IX.1918, 1 ♂, 4767; Forêt de Tenira, 13.VI.1918, 1 ♂, 4823 (all by P. Retrou). Morocco, Mazagan, VII.1902, 1 ♂, 4798 (W. Riggenbach) (Rothschild Bequest). (B.M.)

Bactra (Chiloides) stagnicolana Zeller

Bactra stagnicolana Zeller, 1852, Lepid. Micropt. Caffr.: 84 ("Caffraria"). — Meyrick, 1913, Ann. Transv. Mus. **3**: 275 (*B. siccella* Walk., synonym). — 1920, Voyage Allaud & Jeannel, Lep.: 63 (E. and S. Africa). — Diakonoff, 1958, Ent. Tidskr. **78** (suppl.): 77, textfig. 7, pl. 7 (type redescribed, genitalia ♂ figured).

Tortrix stagnicolana: Walker, 1863, List Lep. Het. Brit. Mus. **28**: 326 (S. Africa).

?*Ancylolomia siccella* Walker, 1866, List. Lep. Het. Brit. Mus. **35**: 1750 (♀, Cape).

?*Aphelia lanceolana* Walsingham, 1881 (nec Hübner), Trans. Ent. Soc. Lond.: 231 (Natal, Spring Vale, Dec., March, April).

Distribution. South Africa, Nyassaland, Southern Rhodesia; Madagascar, Comoro Islands; Mauritius.

Material studied. Angola, Quirimbo, 75 km E. off Amboim, 300 m, 7-12.V.1934 (K. Jordan). (Rothschild Bequest, B.M.)

Bactra (Chiloides) chariessa spec. nov. (fig. 22)

♂ 10.5-18.5 mm (holotype 15 mm). Head ochreous-whitish, sides of vertex suffused with pale tawny. Palpus strongly dilated, tawny-grey; terminal segment very slender, almost concealed. Thorax whitish, rather suffused with pale fuscous-olive. Abdomen whitish.

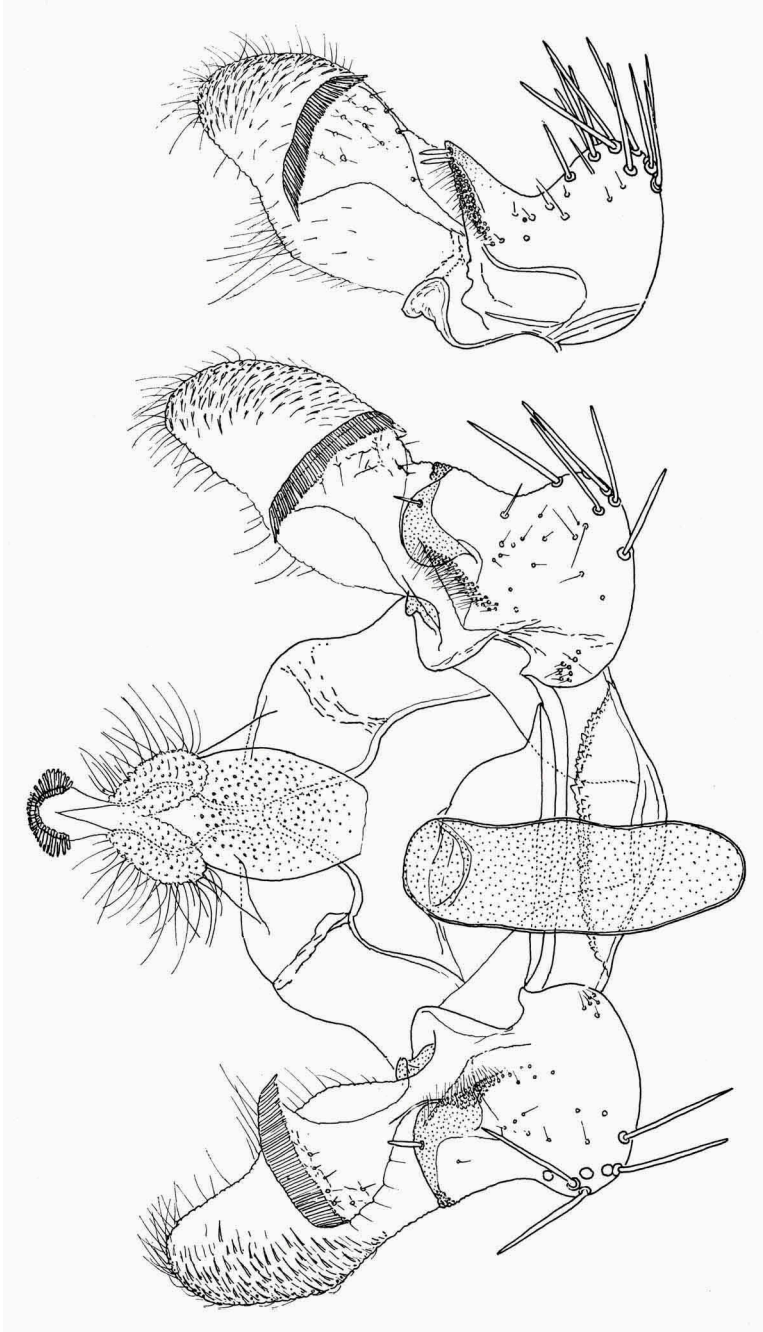

Fig. 22. *Bactra (Chiloides) chariessa* sp.n., ♂, holotype, genitalia (3591); left, right valva of paratype (3562).

Fore wing elongate-suboval, rather broad, costa gently curved throughout, apex moderately pointed, termen straight, oblique. Pale ochreous, suffused with light tawny-olive and finely irrorated with dark brown; in certain lights tinged lilac-greyish. Costa with a series of short, oblique dark brown marks, larger and smaller alternating; the ultimate three larger marks are dilated, wedge-shaped and continued by olive-brown, slender and slightly undulate lines across wing to lower third, and middle of termen, respectively; their posterior extremities strongly curved downward; the ultimate costal spot only with a fragment of such line, but followed by a dark brown slender and much less oblique line separating apex; upper half of apex beyond this line filled out with whitish, more or less extending over cilia; veins beyond cell minutely lined with brown; a marginal row of depressed dark marks along dorsum. Cilia pale ochreous, with a pale basal line, and with three rather suffused dark fuscous lines, first of these subbasal, third postmedian, second intermediate; these lines converging towards apex of wing and obscured opposite lower half of apex by blackish suffusion; cilia on costa whitish.

Hind wing pale greyish, veins brownish, becoming denser and darker lined with brown towards costa.

Paratype, ♂ gen. no. 3562, rather differently marked, paler, with all markings more or less unicolorous dark fuscous, stronger contrasting with the ground colour. Costal oblique strigulae longer, continued more distinctly across wing; continuations of first and second of the three ultimate marks forming two curved dark lines before termen are more distinct, first to about halfway cell and termen, second to middle of termen, thence marginal, to tornus; an irregular suffusion along median half of wing, between cell and fold, with serrate edges, whitish dot on end of cell distinct. Hind wing paler, veins not darkened. Paratype ♂, gen. no. 3237, is similar to preceding, but with fore wing markings partially rubbed, and with hind wing darker, clouded with bronze-grey posteriorly. Finally, paratype ♂, gen. no. 4739, from Sikkim is very large, 18.5 mm, and is throughout suffused with dark grey, with a narrow dark median streak.

Male genitalia. Intermediate between those of *B. coronata* and *B. venosana*. Tegumen rather broad, very similar to that of *B. venosana*, uncus also quite similar. Tuba analis is extended so as to form a rather rigid, punctulate oval plate (reduced in *B. venosana*). Vinculum characteristically similar to that in *B. venosana*, with ventral edge irregularly denticulate (less extended and entirely smooth in *B. coronata*). Valva resembling that of *B. coronata*, but with sacculus broader and less high, with some 6-10 shorter spines (in *B. coronata* about 20 spines). Valvula and cucullus, and also aedeagus rather similar to those of *B. coronata*.

Material studied. "Ceylon, Haldamuttan (C.C.A.), 1909", "*Bactra graminivora* Meyr., E. Meyr. det., in Meyr Coll.", 1 ♂, holotype, gen. no. 3591. "Maskeliya (Pole), III. 1906", "*Bactra phenacistis* Meyr., E. Meyr. det., in Meyr. Coll.", 1 ♂, paratype, gen. no. 3562. "Ceylon, Pundaloya", "Ceylon, Green Coll., 91-26", 1 ♂, paratype, gen. 3237. Ambulangoda, VIII. 1925 (J.P.) (Meyrick Coll., unnamed), 1 ♂, paratype, gen. no. 4732. India, Nilgiri Hills, Pykara, 7000 ft., (H.L. Andrews), 1 ♂, paratype, gen. no. 4713; Sikkim, 4500 ft., VII.1904 (G.C.D.), 1 ♂, paratype, gen. no. 4739 (Meyrick Coll., unnamed). (B.M.)

"Maskeliya, Ceylon, (Alston), 5.1906", "*B. phenacistis* Meyr." (Meyr. Coll.). 4 ♂. (U.S.N.M.)

The species appears to be intermediate between *B. venosana* and *B. coronata*.

Bactra (Chiloides) coronata Diakonoff

Bactra coronata Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 286, pl. 5 fig. 17 (♂, Java).

Bactra (*Chiloides*) *coronata*: Diakonoff, 1926, Zool. Verh. **29**: 33, fig. 34-36 (♂ ♀).

Distribution. Java, Borneo, Philippine Islands.

Material studied. Ceylon, Kalutava, VII.1911 (F.M.) (Meyrick Coll., unnamed), 1 ♀, gen. no. 4724. (B.M.)

Kangean Islands, 25.VIII.1954 (A. Hoogerwerf), 1 ♂, gen. no. 3014. Central Java, Semarang, 1879, 1 ♂, gen. no. 4569. (L.M.)

Philippine Islands, Luzon, Dau, Pampanga, 9.II.1945 (J. G. Franclemont), 1 ♂, gen. no. 1998. (C.U.M.)

"Sicily, Coll. F. Ragusa" (printed label) and a small label written in red ink "Ficuzza, $^1/_{10}$", 1 ♀, gen. no. 4786. (Rothschild Bequest, B.M.)

The last record would mean a novelty for the Palaearctic fauna; however, as is already remarked under *B. punctistrigana*, this seems alsmost certainly to be due to erroneous labelling, for *B. coronata* is a truly tropical species.

Bactra (Chiloides) leucogama Meyrick

Bactra leucogama Meyrick, 1909, Journ. Bombay Nat. Hist. Soc. **19**: 584 (♂ ♀, Ceylon). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 287 (lectotype selected). — 1956, Zool. Verh. **29**: 45, fig. 39-41 (♂ ♀). — Clarke, 1955, Meyrick's Types **1**: 185. — 1958, l.c. **3**: 312, pl. 155 fig. 2-2a (lectotype figured).

Distribution. Ceylon; South Celebes.

The species is of a moderate size, with not marked fore wings of diverse tinge, paler or brighter ochreous.

There are slight differences in the exact shape of the colliculum in the

studied material, which, however, are due either to position in the mount, or to individual variation.

Material studied. Formosa, Anping, V.1911 (Sauber), 1 ♂, gen. no. 2988. (D.E.I.). The same locality, V.1912 (Sauter), 1 ♀, gen. no. 3504 (Meyr. det, in Meyrick Collection). (B.M.)

Ceylon, Puttalam, II.1904 (Pole), 1 ♀, gen. no. 5400 (syntype). (U.S.N.M.) Galle, 6.IX.1907 (B.F.), 1 ♀, gen. no. 4736 (Meyrick Coll., unnamed). (B.M.)

Bactra (Chiloides) optanias Meyrick

Bactra optanias Meyrick, 1911, Proc. Linn. Soc. N.S. Wales **36**: 253 (♂ ♀, Australia). — 1911, Trans. N. Zeal. Inst. **43**: 89. — Clarke, 1955, Meyrick's Types **1**: 226.

Bactra excelsa Diakonoff, 1956, Zool. Verh. **29**: 39, fig. 42, 44 (♂ ♀, Java, Guam, Truk, Tahiti). — 1956, Proc. Ned. Akad. Wet. (C) **59**: 528 (N. Guinea). **Syn. nov.**

Bactra monochorda Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 288, pl. 5 fig. 20 (♂, Ceylon). **Syn. nov.**

Bactra litigatrix Meyrick, 1929, Trans. Ent. Soc. Lond. **76**: 495 (Tahiti). — Clarke, 1955, Meyrick's Types. **1**: 190. — 1958, l.c. **3**: 312, pl. 155 fig. 3-3a (holotype & genitalia illustrated). **Syn. nov.**

Bactra passercula Turner, 1916, Trans. R. Soc. S. Austr. **40**: 527 (Australia, ♀). **Syn. nov.**

Distribution. Australia, Tahiti, Marianas Islands, Caroline Islands, New Guinea, Java, Ceylon.

The comparison of type specimens revealed the above synonymy. This is a widely distributed Indo-Australian species, ranging from Ceylon to Tahiti. The armature of the edge of sacculus is subject to slight variations, individual as well as in right and left valva of a single specimen. This misled me and caused the erection of the species *B. excelsa* and *B. monochorda*. Further study may prove that these two and also *B. litigatrix* Meyr. represent subspecies. For the present I prefer to synonymise them with *B. optanias* Meyr.

Redescription of the male lectotype of *B. optanias* is as follows.

Head, palpus, and thorax light ochreous, head and thorax laterally infuscated, palpus with lower half fuscous. Fore wing elongate, dilated, broadest beyond middle. Whitish-ochreous, densely suffused throughout with rather dark grey, markings brown, faintly edged with ochreous. A series of rather long oblique costal strigulae from base to apex; an ill-defined pattern of suffused spots, more or less following veins; a more distinct suffused streak from middle of costa to upper angle of cell, thence to upper $^1/_3$ of termen; a white dot on end of cell, followed by a black point; two pale ochreous

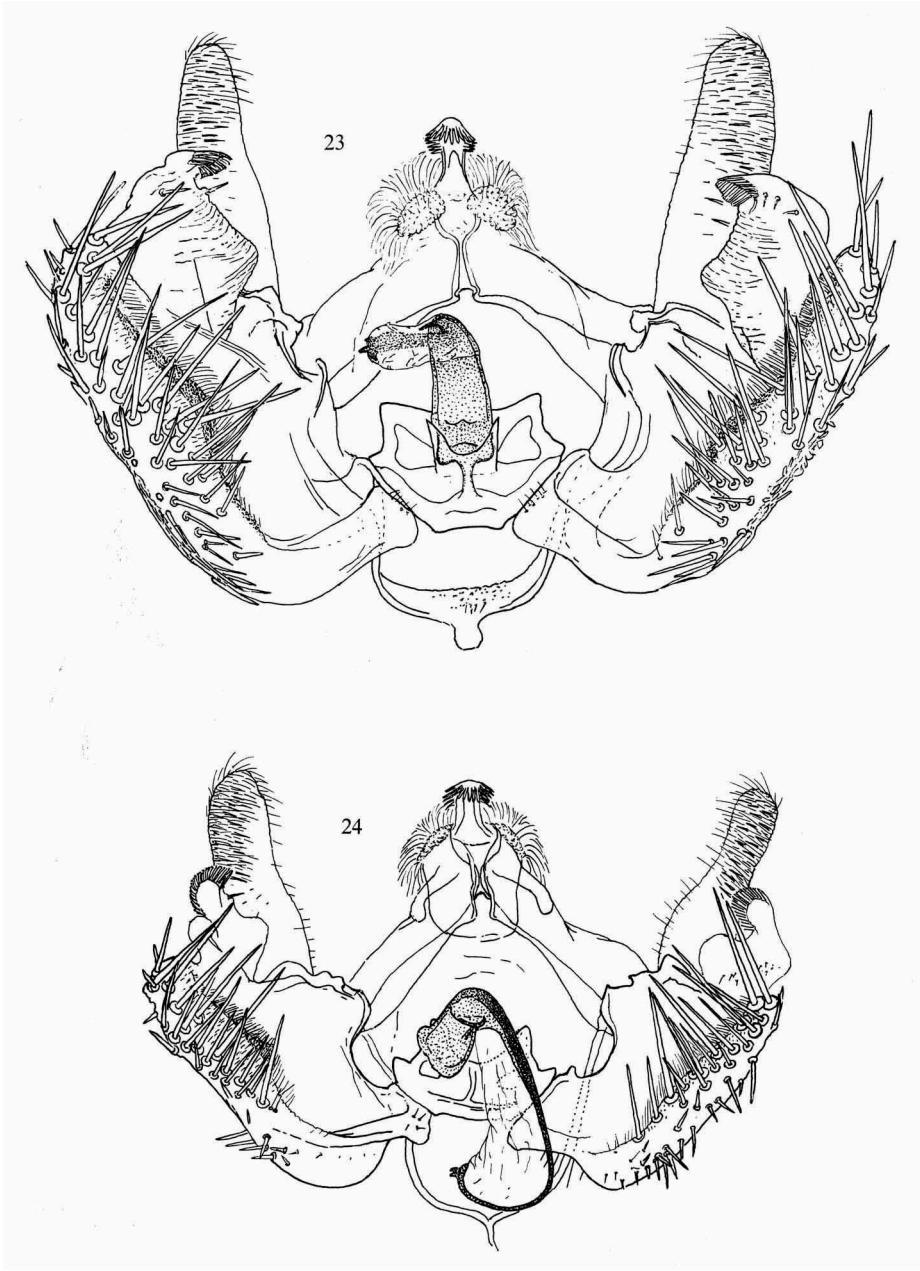

Fig. 23. *Bactra (Chiloides) copidotis* Meyrick, ♂, lectotype, genitalia. Fig. 24. *B. (C.) "phenacistis"* Meyrick, ♂, lectotype, genitalia.

longitudinal streaks in cell; a dentate marginal streak along termen. Cilia dark fuscous becoming white in tornus; with a white basal line.

Hind wing light fuscous-ochreous, tinged yellowish, with a faint brassy gloss. Cilia pale brassy-fuscous.

Material studied. Of *B. optanias* Meyr. Lectotype, male, hereby selected, labelled as follows: "Stanthorpe, Queensland, A.J.I., XII.1908" [label in Meyrick's hand], "*Bactra optanias* Meyr., $^5/_4$, E. Meyrick det., in Meyrick Coll.", lectotype label, gen. no. 2964. Four syntypes, "Melbourne, Victoria,

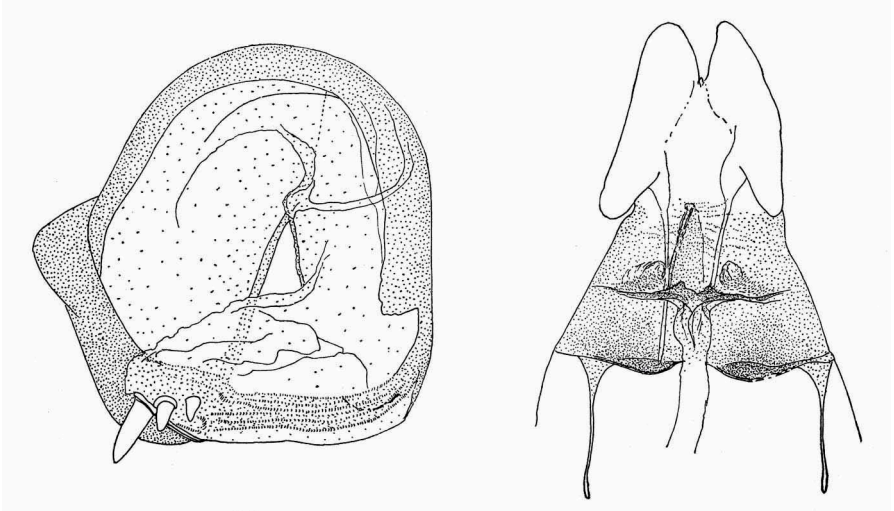

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Fig. 25. *Bactra* (*Chiloides*) "*phenacistis*" Meyrick, aedeagus, strongly enlarged, in frontal aspect (seen rostrad) (3560). Fig. 26. *B. (C.) perisema* sp.n., ♀, holotype, genitalia (3517).

G.H.R., 1877", "$^5/_2$", gen. no. 2965 ♂; same labels, "$^5/_3$", gen. no. 2966 ♀ (genitalia damaged but recognizable); "Cooktown, Queensland, M., 1895, $^5/_5$" (without abdomen), a male; "Sydney, N.S. Wales, 15.XII.1878, $^5/_3$" (no abdomen). (B.M.)

Material of *B. "passercula"* Turn. Australia, "Stradbroke, Q., 30.IV. 1911", "*B. passercula* Turn." (written in Turner's hand), "Holotype, *Bactra passercula* Turn." (pink printed label, name written in Common's hand), 1 ♀, gen. no. 3025. (C.S.I.R.O.)

Material of *B. "litigatrix"* Meyrick. "Guam Island" "P. T. Fullaway Collector", "459", "PHOTO", "Comp. with type, *B. litigatrix* Meyr., Det. J. F. G. C[larke] 1949", "♂ genitalia on slide 25.V.1949 J. F. G. C. 9507". (U.S.N.M.)

Unnamed material studied. New Zealand, "Hamilton, 13.I.1880 (Meyrick Coll.), 1 ♀, no. 2995; the same locality, 17.I.1880; the same, specimen without abdomen. Australia, Parramatta, N. S. Wales, 11.IV. 1879 (Raynor), no. 10405 (Walsingham Coll.), "Aphelia lanceolana Hb.", the same locality, 21.III.1879, no. 10404, 1 ♀, gen. no. 3033. (B.M.)

Australia, Queensland, Stanthorpe, February (A. J. Turner), 1 ♂, gen. no. 3162; Q., Mt. Larcom, 18.IV.1955 (I. F. B. Common), 1 ♂, gen. no. 3200; North Queensland, Mossman, 8.VI.1939 (A. J. Turner), 1 ♂, gen. no. 3219. (C.S.I.R.O.)

Ceylon, Colombo, 1891, no. 32931 (Makwood) (Walsingham Coll.), 1 ♀, gen. no. 3234. Nawalapittiya, 2500 ft., 1880 (Pole), no. 11231, 1 ♀, gen. no. 3047. The same locality, no. 32932, 1 ♂, gen. no. 3048. (B.M.)

Tahiti, Papeite, 21.X.1961 (J. F. G. Clarke), 1 ♂, gen. no. 5084. Truk Island, Moen, 7-8.III.1949, Civil Admin. Area (R. W. C. Potts), 3 ♂, gen. nos. 5374, 5378, 5379. (U.S.N.M.)

Bactra (Chiloides) copidotis Meyrick (fig. 23-25, 27)

Bactra copidotis Meyrick, 1909, Journ. Bombay Nat. Hist. Soc. **19**: 584 (♂ ♀, Ceylon). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 286, pl. 6 fig. 26, pl. 8 fig. 37 (lectotype selected, genitalia ♂, ♀ figured, *phenacistis, commensalis* syn.). — Clarke, 1955, Meyrick's Types **1**: 100. — 1958, l.c. **3**: p. 308, pl. 153 fig. 1-1a, 2-2a (lectotype photos).

Bactra phenacistis Meyrick, 1909, Journ. Bombay Nat. Hist. Soc. **19**: 585 (♂ ♀, Ceylon). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 286 (lectotype selected, syn. of *copidotis*).

Bactra commensalis Meyrick, 1922, Exot. Microl. **2**: 522 (♂ ♀, Bengal, Bombay). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 286 (lectotype selected, syn. of *copidotis*). — Clarke, 1955, Meyrick's Types **1**: 96. — 1958, l.c. **3**: 307, pl. 152 fig. 3-3a (distinct species).

Distribution. Ceylon; Bengal.

After my having synonimized *B. commensalis* with *B. copidotis* (1950), Clarke expressed the opinion that *B. commensalis* may be a distinct species after all (1958). Indeed it seems that the male genitalia of *B. copidotis* and *B. phenacistis* (Clarke's photographs, l.c., pl. 153, fig. 1a and 2a) are quite similar, while those of *B. commensalis* (his photograph pl. 152 fig. 3a) have a different aedeagus. This is, however, a dilusion, caused by different position of the aedeagus in the slides. This organ is almost transparent in the present species, except for a very strong supporting dorsal keel, becoming a narrow curved rod and reaching the top of the aedeagus, and for the moderately sclerotized base of the aedeagus. In Clarke's fig. 3a of pl. 152 this rod is well visible, but in the other two photographs it is illustrated in frontal aspect and escapes attention entirely, while only the lateral edges of the base of the aedeagus are visible.

I now present a strongly magnified sketch of the aedeagus of the lecto-

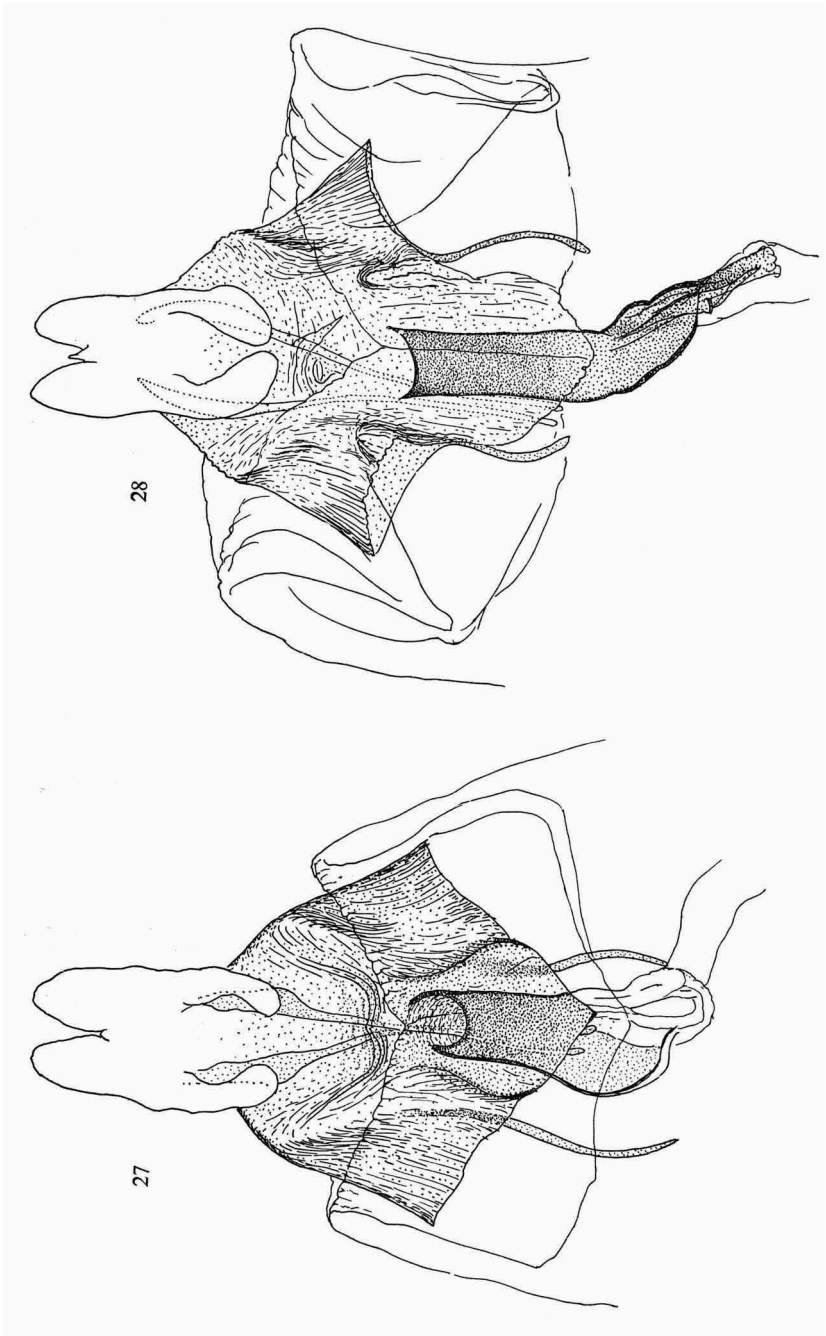


Fig. 27. *Bactra (Chiloides) copidotis* Meyrick, ♀, genitalia (3619). Fig. 28. The same of *B. (C.) copidotis* forma *borealis* n., ♀, holotype (3599).

type of *B. phenacistis*, with the apical portion slightly pressed to the right and down. It is evident that the sclerotized keel supporting the aedeagus along its dorsal surface, is abruptly narrowed well before the top, forming there a blunt tooth on the left side; this tooth is also clearly visible in Clarke's figure of *B. copidotis*, in unchanged position. The apical portion of this asymmetrical keel is bent to the left, is less darkly sclerotized and shows finely strigulated or punctulate structure which I tried to indicate in my figure by small strigulae, to end in an irregular plate crowned with two (type of *B. "commensalis"*) or three (other "species") short spines. This sclerotized band, when depressed further down and to the right, is seen from its narrow side, and has the appearance of a slender rod without visible dilatations, as in Clarke's photograph pl. 152 fig. 3a.

The only difference is that of size, the lectotype of *B. commensalis* being rather smaller, and its genitalia appearing more slender, consequently (cf. the valvula). Therefore I am once more satisfied that these three species of Meyrick are conspecific.

The two males cited below are of the *B. "nigrovittana"*-type of markings: with a longitudinal dark brown stripe, running along lower edge of cell, to lower half of apex; the wing is tawny-ochreous, with brownish-lined veins and costal sharp strigulae, and with a whitish narrow streak, bordering the brown stripe from above, and running from base almost to apex. The hind wing is variously infuscated.

The females are paler, they have the dark longitudinal streak; but this is strongly suffused, the pale contrasting streak above this is absent. The hind wing is also paler, almost whitish.

Female genitalia of the topotypical material (Ceylon) may be redescribed thus. Eighth and ninth segments are considerably sclerotized, forming a subconical rigid body, with a well-defined rostral (in figure, lower) edge, which is projecting in a point in middle ventrally. Sometimes the sides of the cone are slightly constricted, as in paratype, gen. no. D 48 (in the British Museum); besides, latero-ventrally the sclerite is moderately pressed inwards on both sides, so that a more or less distinct oblique ridge is formed. Lamella postvaginalis is indicated by a few shallow accolade-shaped folds; the portion of the sclerite protecting the ostium is flattened and subcardiform, ending in the above mentioned point. Colliculum, a strong and wide tube, dilated almost to a bulb at the lower extremity. Signum is of the usual shape of a concave, finely scobinate suboval sclerite, strong and well-defined.

The species is robust, with a distinct dark longitudinal stripe (*"nigrovittana"*-type), edged above by whitish. The termen in the two species is distincly sinuate, the apex pointed.

Material studied. Except for the re-inspection of three male type specimens concerned, and the remounting of the slide of the genitalia of *B. phenacistis,* the following material was studied. Ceylon, Maskeliya, XI.1904 (de Mowbray). *"Bactra phenacistis* Meyr., Meyr. det., in Meyr. Coll.", 1 ♂, gen. no. 3560. Maskeliya, III.1906 (Pole) (also Meyrick Coll.), 1 ♂, gen. no. 3561. "Ceylon", "Rothschild Bequest", 1 ♀, gen. no. 3619. India, Nilgiri Hills, 3500 ft., 1 ♂, gen. no. 4711; Pykava, 7000 ft., IV.1913, 2 ♂, gen. nos. 4714 and 4715 and two more specimens without abdomens, probably conspecific (all collected by H. L. Andrewes). (B.M.)

India, Bengal, Pusa, bred VI.1920 (T. B. Fletcher) (Meyr. Coll.), 1 ♂, gen. no. 5404. (U.S.N.M.)

In total 6 ♂, 1 ♀.

Bactra (Chiloides) copidotis forma ♀ **borealis** nov. (fig. 28)

♀ 19 mm. Entirely similar to the nominate form as to the size, the colouring, the shape of fore wing and the markings. However, the genitalia are clearly, although not profoundly different. Since no matching material of the males from the same locality is available, I prefer for the present to regard this as a forma.

Female genitalia rather similar to those of the nominate form, but the sclerotized cone of the eigth and ninth segments has laterally a deeper excised edge which in middle is produced into a longer but less acutely pointed plate. Colliculum is a longer tube not dilated downards. The lamella postvaginalis shows some concentric small folds.

This form seems to be a thorough intermediate between the female of *B. copidotis* and that of *B. cerata,* but in my opinion there is no close connection between the two last mentioned species.

India, Nilgiris, 3500 ft., IX.1910 (Meyrick Coll.), 1 ♀, holotype, gen. no. 3599. (B.M.)

Bactra (Chiloides) fracta spec. nov. (fig. 12)

♀ 16 mm. Head and thorax pale ochreous-tawny with a pinkish tinge. Palpus strongly triangularly dilated, roughish, top obliquely truncate, terminal segment minutely exposed, acute, pale ochreous, median segment with an oblique broad fuscous transverse band, from below dorsal edge to projecting lower angle of the apical tuft. Abdomen pale ochreous.

Fore wing narrow, oblong, costa curved along basal half, distinctly concave at ¾, apex pointed, termen gently sinuate, concave above, very oblique. Pale ochreous-white, glossy, marbled with pale ochreous. Costal markings very

short, along anterior half minute, dark fuscous or blackish; first spot roundish, suffused anteriorly and preceded by some dark dusting; second spot represented by a very fine dark brown line along closing vein, preceded by some dark dusting in cell; a faint streak of pale tawny suffusion above fold, indistinctly uniting discal spots; a well-defined triangular tawny spot representing apical streak, anteriorly with an acute point halfway towards cell, along wing margin extending from apex to middle of termen, lower edge of triangle concave; a dark fuscous terminal line; a series of blackish dots along median portion of dorsum. Cilia pale ochreous, strongly suffused with dark fuscous except in tornus, with a pale base, a black bar opposite apex.

Female genitalia. The sclerotized conus of the genital segments (probably the 8th segment) is less extended, with characteristic deep lateral folds on each side of the ostium region. Colliculum is long straight and gradually narrowed. Signum as in *B. copidotis,* rather small.

India, North Coorg, Dibidi (Newcome), 23.VI.1906, 1 ♀, holotype, gen. no. 4728 (E. Meyrick Collection, unnamed). (B.M.)

Belongs to the group of *B. (C.) copidotis* and is rather closely related to that species.

Bactra (Chiloides) cerata (Meyrick) (fig. 29, 30)

Polychrosis cerata Meyrick, 1909, Journ. Bombay Nat. Hist. Soc. **19**: 587 (♂ ♀, Ceylon, Assam).

Bactra cerata: Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 285, pl. 6 fig. 7 (genitalia ♂), pl. 8 fig. 39 (genitalia ♀; lectotype selected). — Clarke, 1955, Meyrick's Types **1**: 79. — 1958, l.c. **3**: 307, pl. 152 fig. 1-1a.

Distribution. Ceylon; Assam.

This is one of the few *Bactra* species which can easily be recognized superficially by the unusual colouring, provided the specimen is not rubbed. The olive-ochreous, sometimes almost orange spots make the species very distinct.

The species is small and slender, with rather truncate wings and incongruent heavily sclerotized genitalia in the two sexes.

It may be redescribed as follows (gen. no. 3593).

♂ 12 mm. Head pale ochreous, sides of crown fuscous-grey. Antenna fuscous. Palpus moderate; light yellowish-ochreous, median segment towards apex mixed with dark grey, especially below; terminal segment slender and rather short. Thorax fuscous-grey. Abdomen light fuscous.

Fore wing moderate, subtruncate, costa rather curved, apex rather obtuse, termen straight, little oblique. Dark fuscous, mixed with leaden-grey, and spotted with light olive-ochreous. Costa with a dense row of rather thick

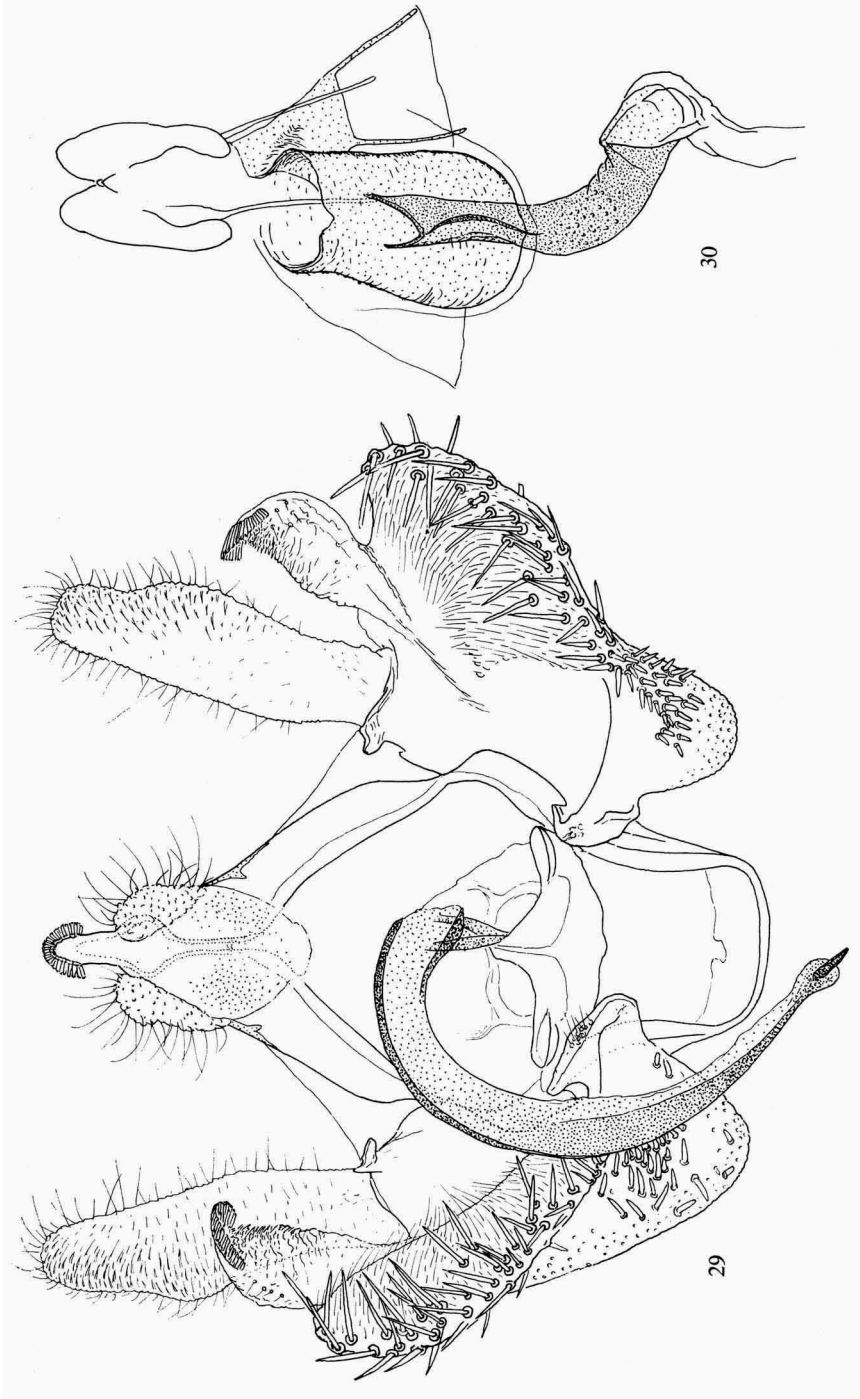


Fig. 29. *Bactra (Chiloides) cerata* Meyrick, ♂, genitalia (3593). Fig. 30. The same, ♀, genitalia (3595).

dark brown marks, short and oblique, alternating with less oblique minute shorter strigulae, costa between these marks ochreous-whitish; penultimate oblique streak continued before apex and, distinctly, along termen to tornus; this streak is preceded by a similar oblique streak which is hardly continued but obliterate in disc; and followed by a less oblique strigula before apex; olive-ochreous spots as follows: one on middle of cell; another, large patch, irregularly wedge-shaped and inwards-oblique, with base on dorsum beyond middle, top on lower angle of cell; an ill-defined sinuate transverse band of deeper olive suffusion across wing beyond ¼ (apparently partly rubbed). Cilia dark grey, with white base and a black subbasal line.

Hind wing dark bronze-fuscous, cilia concolorous, with a pale basal line and a dark fuscous subbasal band.

The females (9.5-11 mm), which are slightly rubbed, are similar, except for less defined costal marks, the costa not being mixed with whitish between these marks.

Male genitalia. Tegumen high. Vinculum erected-rectangular and smooth. Valva very strong, sacculus extended and thickened, its base triangularly projecting, densely clothed with short strong spines, becoming longer beyond this triangular extension, and arranged in about three rows as far as the top; disc of sacculus finely bristled. Valvula rather slender and short, moderately dilated in middle, aciculate on the inner side, crown of spines moderate. Costa very long, rather narrow, top abruptly narrowed. Aedeagus very long, strongly curved, with a non-deciduous spine at the top. Cornuti apparently absent.

Female genitalia. Eighth segment moderately sclerotized. Lamella antevaginalis shaped as a wide bag, slightly dilated downward, with a rounded or subcardiform lower extremity, its upper rim gently emarginated in the middle. Colliculum, a long, strongly sclerotized and sinuate tube, with moderately dilated lower end; this tube is originating inside the bag-like sclerite of the lamella antevaginalis.

Material studied. Assam, Shillong, IX.1917 (T. B. Fletcher), 1 ♂, gen. no. 3593. "Ceylon, R.", 1 ♂, gen. no. 3594, 1 ♀, no. 3595. (Meyrick Coll., B.M.)

Bactra (Chiloides) cerata insularis subsp. nov. (fig. 34)

♀ 11 mm. Head slightly darker than in nominate form, sordid fulvous. Otherwise the slightly rubbed specimen is in all respects similar to a female of the nominate form from Ceylon.

Female genitalia show moderate differences with the nominate form. The 8 + 9th segments are entirely sclerotized, but lamella antevaginalis does not

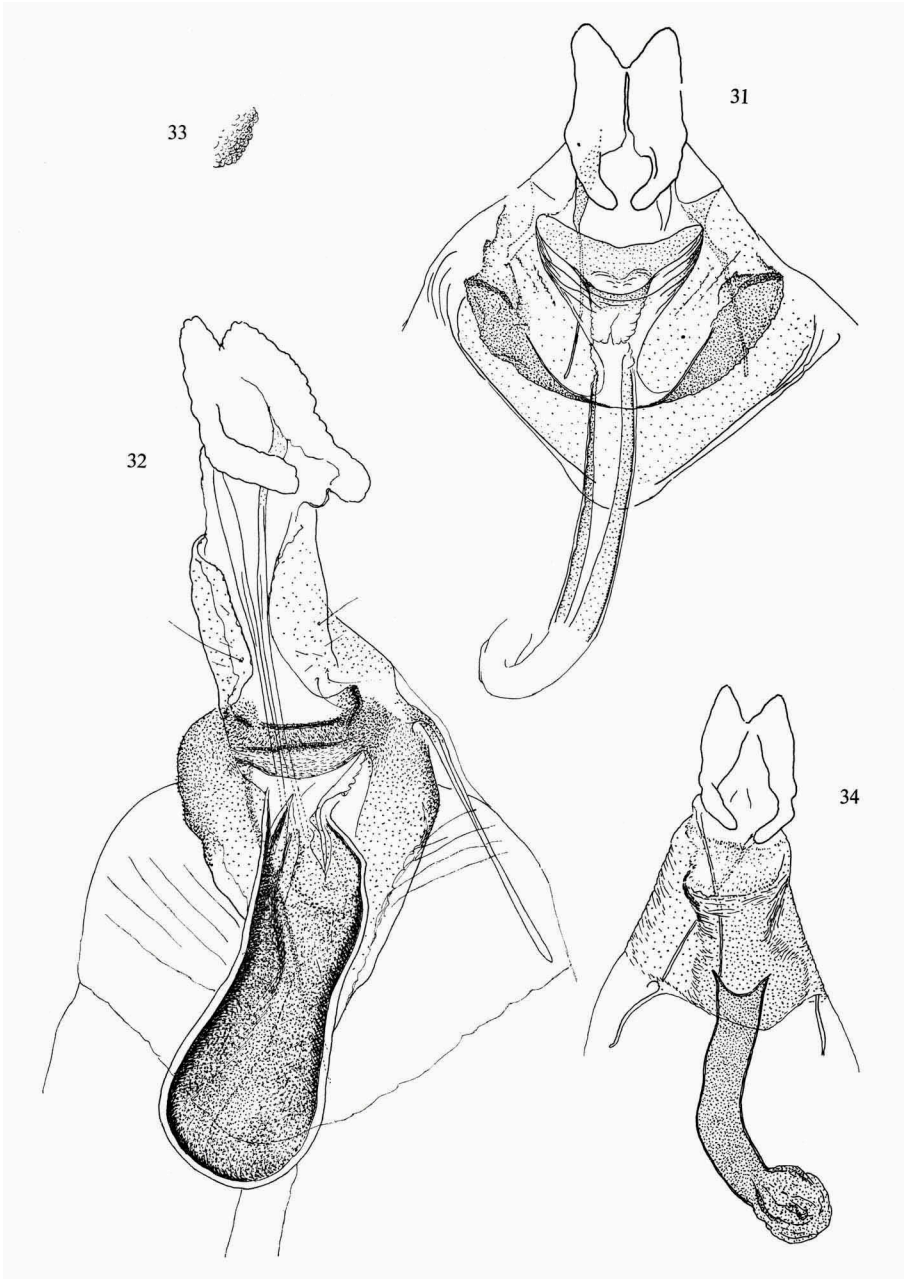


Fig. 31. *Bactra (Chiloides) tornastis* Meyrick, ♀, genitalia (2130) (after Diakonoff, 1959). Fig. 32. *B. (C.) nea* sp.n., ♀, holotype, genitalia (4682). Fig. 33. The same, signum. Fig. 34. *B. (C.) cerata insularis* subsp. n., ♀, holotype, genitalia (3531).

form such a big pear-shaped plate as in *B. (C.) cerata,* is less differentiated and indicated only by series of lateral folds, its shape is erect, constricted in middle, lower extremity obtusely pointed. The colliculum is very similar, but less curved, without a longitudinal fold along upper half, the apical dilatation is entirely sclerotized.

Fiji Islands, Vunidawa, Reiva River, 6.I.1932 (H. Phillips), 471, 1 ♀, holotype, gen. no. 3531. "*Bactra iomolybda,* E. Meyrick det." "May be misidentified. 1955. Det. by E. C. Zimmerman". Unique. (B.M.)

Bactra (Chiloides) perisema spec. nov. (fig. 26)

♀ 17 mm. Head ochreous-whitish (palpi missing). Thorax pale ochreous-tawny. Abdomen pale ochreous.

Fore wing elongate, moderate, broadest in middle, costa curved at extreme base, straight anteriorly, gently rounded and prominent in middle, straight, beyond middle, apex moderately rounded, termen rather short, straight, oblique, broadly rounded beneath. Pale ochreous, evenly suffused with light tawny-fulvous, markings slightly deeper tawny and (sparsely) dark fuscous. Costa with numerous slender, oblique, tawny strigulae, becoming longer posteriorly and running $^1/_3$ across disc; along costal edge a series of very short dark fuscous marks on the strigulae and alternating with them; apex with a light tawny roundish spot preceded by two short, almost vertical costal dark fuscous marks; indication of irregular spots of dark fuscous irroration in fold beyond base and $^1/_3$, respectively, posterior spot rather conspicuous; traces of 2-3 interneural short streaks halfway between lower angle of cell and termen, this series outwardly encircled by a slender tawny line, resting on tornus; the fourth penultimate costal oblique streak running to vein 7, thence continued downward by an oblique, curved series of shorter dark fuscous marks, almost parallel to preceding tornal line and ending on termen above tornus; the following costal strigula (third penultimate) very slender, but traceable across wing to vein 7, thence abruptly curved downward to end of 6; a row of points along dorsum. Cilia (rubbed) whitish with a subbasal dark fuscous line.

Hind wing whitish with a golden gloss, rather densely irrorated from beyond base with pale fuscous. Cilia concolorous, a fuscous subbasal line.

Female genitalia. Eighth segment sclerotized inequally, its anterior edge more sclerotized ventrally except in middle. Lamella antevaginalis shaped as a transverse straight rod, dilated towards middle, with two small, inequal prominences flanking ostium, covered with minute hairs. Lamella postvaginalis with a large verruca on each side, which have a concentrical structure; in the middle (in fig., slightly out of the middle, to the left) there is an erect

fold, making the impression of a tubular ostium, which is not so: ostium is simple, a dilatation of the ductus bursae only membraneous, with a median fold, signum absent.

British Guiana, Mallali, III.1913 (Parish), 1 ♀, holotype, gen. no. 3517. *"Bactra clarescens* Meyr., E. Meyrick det., in Meyrick Coll.". Unique. (B.M.)

The affinity of this species is uncertain without the male genitalia being known.

Bactra (Chiloides) nea spec. nov. (fig. 32-33)

♀ 23 mm. Head, and thorax rather dark fuscous-tawny. Palpus long, porrect, median segment sinuate, rough along posterior part of upper and lower edges; fuscous, a suffused dark brown median spot; terminal segment moderate, porrect, obtuse, dark fuscous.

Fore wing oblong-subtruncate, costa moderately curved along anterior half, almost straight along posterior, apex pointed, slightly produced, termen strongly sinuate, oblique. Rather deep tawny-fuscous, anteriorly more tinged greyish, posteriorly touched with somewhat brighter ochreous-tawny; costal third somewhat paler, greyish anteriorly, with a pale ochreous longitudinal streak posteriorly between veins 7 and 9, to apex, veins narrowly streaked fuscous; lower part of wing darker brownish; a longitudinal dark fuscous-brown streak from base to apex, narrower anteriorly than median third of disc, not quite filling out cell, posteriorly gradually dilated; lower half of this streak suffused and prolonged by faint suffused lines along veins; this streak sharply edged above by pale streak from cell to apex. Cilia rather dark fuscous-brown, with a narrow pale basal line and a dark fuscous faint subbasal band.

Hind wing deep bronze-fuscous, cilia concolorous, with a pale basal and a dark subbasal line.

Female genitalia. Genital segment elongate, forming a neck. Sterigma complicated, very robust, forming a transverse broad bar with several longitudinal and transverse heavily sclerotized fold-like structures (thickenings), flanked by two broader descending and converging plates; the upper portion of sterigma heavily punctulate and subaciculate. These parts enclose a triangular area (ostium) which is not sclerotized and quickly passes into an elongate-pearshaped extremely strong colliculum, with several longitudinal folds or thickenings and with a refracting wall; ductus bursae originating from the dorsal surface of this colliculum. Signum rather small, of normal shape, a shallow basket. Anapophyses and postapophyses long.

Central West Africa, Angola, Bihé, Pedreira, 12.XI.1904 (Dr. Ansorge), 1 ♀, holotype, gen. no. 4682. (Rothschild Bequest, B.M.)

A conspicuous large and dark insect, belonging to the *fasciata* group of species.

Bactra (Chiloides) orbiculi minax subsp. nov. (fig. 36)

♂ 14 mm. A somewhat rubbed specimen with markings identical to those of the unique type of the nominate form from Borneo and of the same size and facies. The genitalia, however, show some differences, justifying the description of this subspecies.

Cucullus a trifle broader with a narrower top; cucullus bristles basally abruptly forming a patch of not numerous large and stiff spines obliquely traversing valva. Valvula with a row of lateral spines. Sacculus with a distinctly prominent lower portion with a sheaf of strong spines; the spines along the edge becoming larger basad and scattered over the whole surface of sacculus. Otherwise as in nominate form.

Female genitalia unknown.

Philippine Islands, Luzon, Benguet Prov., Klondyke, 800 ft., 9.V.1912 (A. E. Wileman), 1 ♂, holotype, gen. no. 5529. (Rothschild Bequest, B.M.)

Although this interesting record belongs into a faunistic survey of the Microlepidopterous fauna of the Philippine Islands, which is in the course of preparation, I cannot abstain from describing it here.

Bactra (Chiloides) priapeia Heinrich (fig. 37-40)

Bactra priapeia Heinrich, 1923, Proc. Ent. Soc. Washington **25**: 105 (♂, Louisiana; ♀ incorrect). — 1926, Bull. U.S. Nat. Mus. **132**: 86, fig. 172, 345 (♀ readjusted; Texas, Louisiana, Florida). — Forbes, 1924, Mem. Cornell Univ. Agr. Exp. Sta. **68**: 470.

Distribution. Southern States of the U.S.A.

A large species, ♂ 16-17 mm, ♀ 16-26 mm. The male has the appearance of *B. venosana,* dark with strong strigulation, sometimes with a median shade, always with a white discal spot, edged below by a moderate V-shaped spot. Hind wing sometimes rather dark grey, cilia pale ochreous.

The series of the females studied by me represent the maculate type (8 specimens), also the vittate type (2 specimens), while other 2 females are palely maculate and rather suffused with fuscous; in all both discal spots are present; in typically maculate examples there is a triangular apical streak, well-defined above.

Male genitalia. Tegumen high. Vinculum rounded. Juxta strong, caulis long. Socius very large, corrugated. Valva with costa rounded and prom-

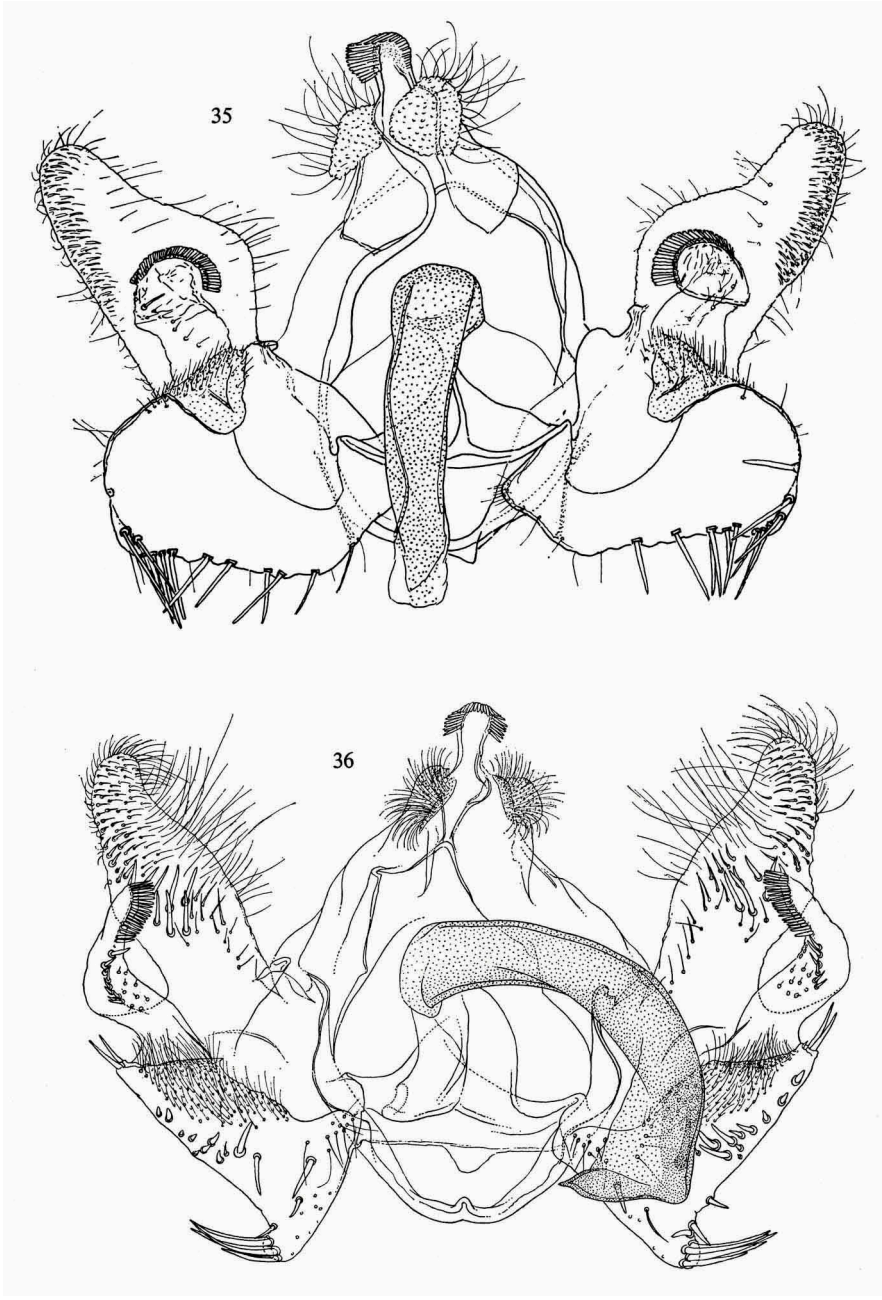


Fig. 35. *Bactra (Chiloides) tornastis* Meyrick, ♂, genitalia (3592). Fig. 36. *B. (C.) orbiculi minax* subsp. n., ♂, holotype, genitalia (5529).

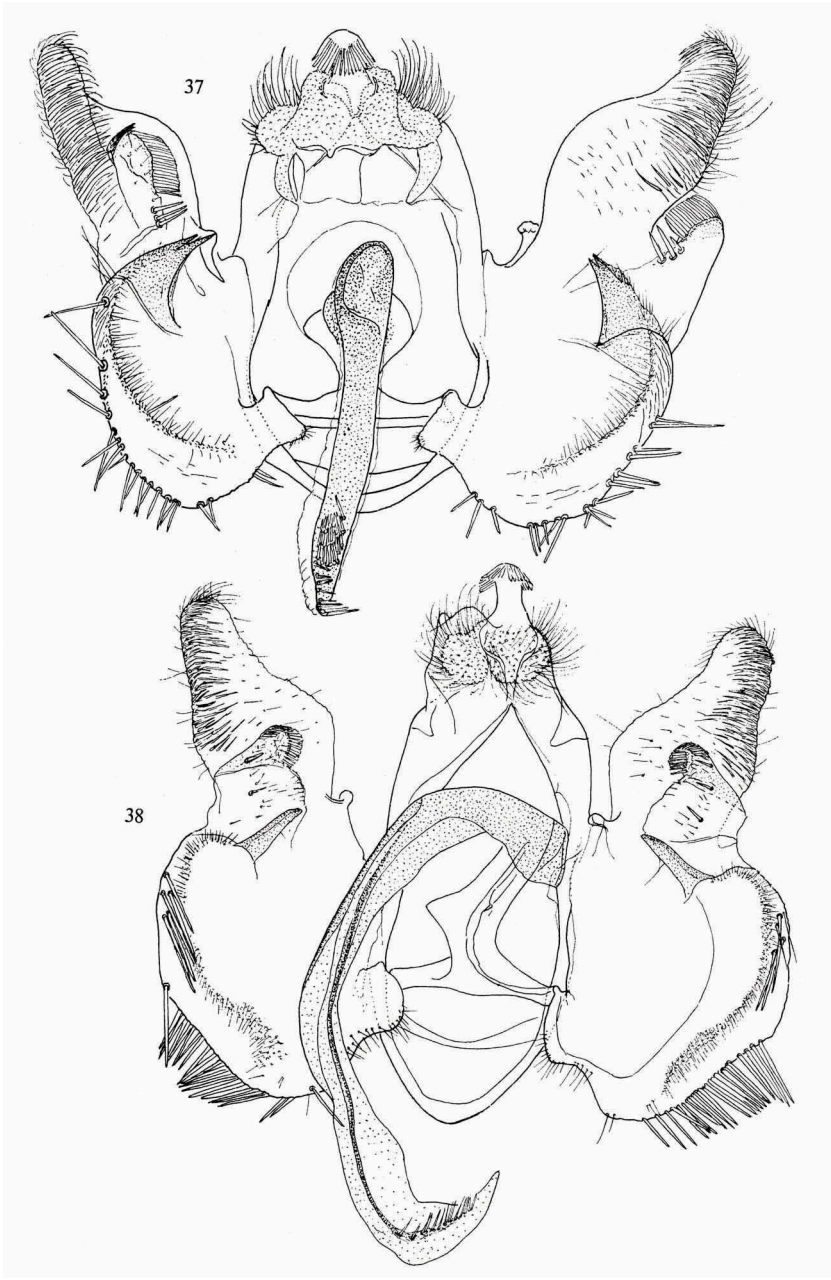


Fig. 37. *Bactra (Chiloides) priapeia* Heinrich, ♂, holotype, genitalia. Fig. 38. The same, male genitalia (4683), showing differences by changed position (more compressed).

inent, cucullus narrowed, top rather slender. Valvula with a large corona and a wide stalk, three large spines laterally under the corona. Sacculus with a very large characteristic cusp at top, curved inwards, with two apical teeth; the aciculate area is fasciate, forming a curved edge to the upper sacculus surface; corona of moderate, rather sparse spines, gradually becoming shorter basad. Aedeagus very long, membraneous, only a dorsal moderate sclerotized band; cornuti, a small patch and a single series of spines.

Female genitalia. The seventh, eighth and ninth segments inseparable, sclerotized and forming a cone with a broad, regularly rounded, semispherical base. Anapophyses slender and moderately long. Colliculum, a long, almost straight tube, gently attenuated downwards (craniad), with a rounded top; a broad ventral split is distinct. Ductus bursae with a single loop below colliculum, with a minute cestum there. Bursa copulatrix with a pear-shaped corpus. Signum of the usual shape, rather large and strong. (Slide described, no. 3620).

A robust and large species with very distinct genitalia in the two sexes. Also the markings of the present female are quite characteristic.

Material studied. U. S. A.: holotype, male, "Sabine River Ferry, Louisiana, opposite Orange, 20.VI.1917", "Cornell Univ., lot 542 sub 20", "♂ genitalia on slide 24 Apr., 1923, no. 4, N.P.", "Holotype, Cornell Univ. no. 661-1". The specimen is of the vittate type, with costal markings rather well-defined. Paratypes: "Schriever, Louisiana, 17.V.1917", "gen. no. 24 Apr., 1923, no. 2, male, 661-2" "Victoria, Texas, 4.VI.1917, 661-3". (C.U.M.)

Texas, San Benito, 16-23.VI untill 8-15.IX, gen. nos. 5451 ♀, 5452 ♂. Florida, Fernald Coll., 1 ♀, gen. no. 5453. (U.S.N.M.)

"Texas, Walsingham Collection, *Bactra lanceolana* var.", 1 ♀ gen. no. 3620. Texas, Brownsville, IV.1925 (E. Piazza), 1 ♂, gen. no. 4747. (Rothschild Bequest, B.M.)

Panama, Canal Zone, Corozal (A. Busck), 1 ♂, gen. no. "4 Oct., 1922, 0-20, A. Busck"; 1 ♀, gen. no. "13 June 1924, 0-20, A. Busck"; 1 ♀, gen. no. 5503. (U.S.N.M.)

British Honduras, Rio Grande, 1935 (J. J. White), 1 ♀, gen. no. 4683; 1 ♂, gen. no. 4686; Rio Temas, IV.1937 (J. J. White), 1 ♀, gen. no. 4684, 2 ♂, 1 ♀. Cuba, Central Baragua, IV.1931 (H. H. Plank), 1 ♂, gen. no. 4881. (B.M.)

In total 9 ♂, 8 ♀.

Bactra (Chiloides) tornastis Meyrick (fig. 31, 35)

Bactra tornastis Meyrick, 1909, Journ. Bombay Nat. Hist. Soc. **19**: 586 (♂ ♀, Ceylon; Coorg). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 289, pl. 5 fig. 18 (lectotype selected, genitalia illustrated). — 1963, Tijdschr. Entom. **106**: 355 (Africa). — Clarke,

1955, Meyrick's Types **1**: 312. — 1958, l.c. **3**: 315, pl. 156 fig. 3-3a (lectotype illustrated).
Bactra grethae Diakonoff, 1959, Bijdr. Dierk. **29**: 185, fig. 11 (♀, Pakistan). **Syn. nov.**

Distribution. Ceylon, Coorg, Africa.

The species may be redescribed as follows.

♂ 12-14 mm (♂ redescribed, 14 mm). Head and thorax pale ochreous, sometimes head suffused with light tawny. Palpus moderate, strongly and abruptly triangularly dilated, roughish below, outwardly dusted with dark fuscous. Abdomen fuscous.

Fore wing sublanceolate, moderately broad, costa gently curved towards extremities, apex moderately pointed, termen gently rounded, very oblique and long. Variably coloured, pale lilac suffused with light tawny or almost whitish, markings either deeper tawny and brownish, or ochreous-olive. Characteristic and present in all specimens is a pure white dot on closing vein, edged below by a dark semicircular mark; in two specimens (including type) upper half of cell posteriorly is filled out with whitish or creamy, this colour extending above upper edge of cell and sharply traversed by a brown line being posterior half of upper edge of cell; veins 7 and 8 are distinctly streaked with brown and vein 8 also edged with white streaks above and beneath; in tawny-tinged specimens (type included) there is a roundish more or less defined dark fuscous patch at $^1/_3$ of disc below middle. Costa with numerous slender oblique streaks from base to apex, longer on posterior half of costa. Cilia pale ochreous or whitish, irrorated with dark fuscous, a dark fuscous-brown subbasal band, base of cilia whitish.

Hind wing pale grey, becoming darker grey on posterior half (in one specimen, only towards tip). Cilia whitish.

Male genitalia. Tegumen robust, uncus strong, slightly erected, resembling that of *B. lanceolana*. Vinculum, a slender bow, with a prominence in middle. Valva with a strongly extended, transversely dilated sacculus, with a triangular base and a prominent, broad top; a series of rather long spines marginally, this margin moderately scalloped; upper part of sacculus with a triangular double-folded area, resembling that in *B. venosana*, covered with dense short hairs only. Valvula moderately long and broad, its crown of flat spines moderately broad. Cucullus rather long, with costa angularly and obtusely prominent in middle. Aedeagus long, curved down, sclerotized, top simple, pointed. Caulis long, juxta strong but simple.

The species resembles *B. venosana* Zell. closely but is paler, with more pronounced costal strigula. The feature of the termen of the fore wing being rounded (as already stated by Meyrick), in contrast with all other species of *Bactra* which have slightly sinuate or concave termen, is not very distinct.

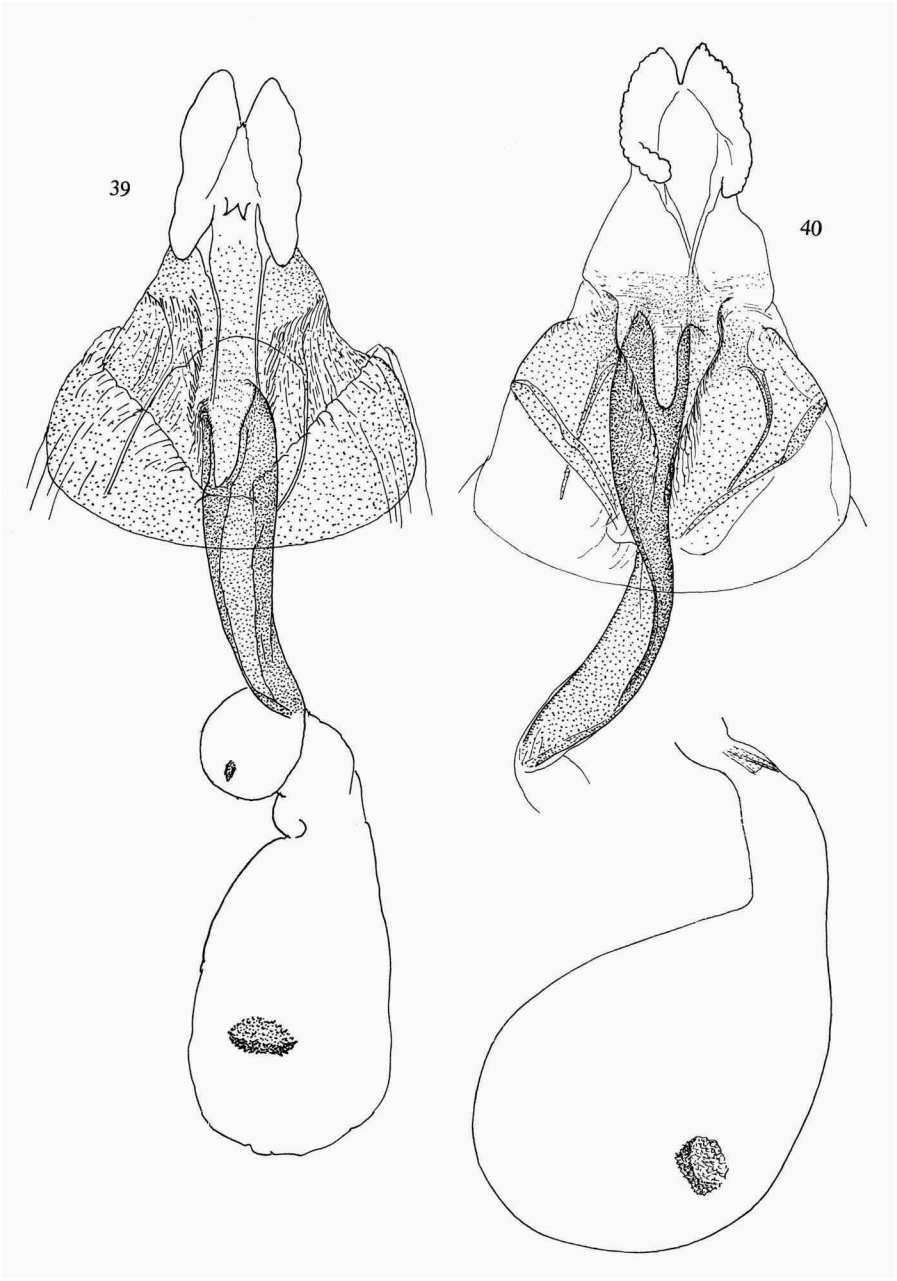


Fig. 39. *Bactra (Chiloides) priapeia* Heinrich, ♀, genitalia (3620). Fig. 40. The same, ♀, genitalia (4684).

After study of more material I am satisfied that the rubbed female described by me under the name of *B. grethae* is the sex partner of the present species.

The female may be redescribed thus.

♀ 14.5 mm. Head pale whitish-ochreous. Thorax pale ochreous mixed with tawny. Palpus triangularly dilated, pale ochreous, median segment except at apex suffused with dark brownish-fuscous, terminal segment dark brownish-fuscous. Abdomen pale fuscous.

Fore wing pale ochreous, partially suffused with light tawny. Markings darker tawny. Costa throughout with numerous very oblique long strigulae alternating with short, almost vertical marks; a horizontal paler streak of ground colour running above cell from base, across upper angle of cell to apex; a vertical brown transverse jot in extreme apex; a rounded suffused tawny spot on lower angle of cell, partially surrounding a minute white dot on closing vein and faintly extended to termen; vein beyond cell streaked with brown; faint light tawny suffusion extending also anteriorly along lower edge of cell, so as to touch a rounded brown patch in fold at $^1/_3$; termen with a fine dark brown marginal line, interrupted twice: above and below the extremity of vein 6; a series of small dots along dorsum. Cilia whitish-ochreous, with several dark lines, barred with dark brown opposite ends of veins.

Hind wing whitish, veins and extreme edge very faintly tinged ochreous. Cilia whitish.

Female genitalia. Ostium shaped as a large funnel, slightly depressed ventrally, with a concave dorsal and a more concave ventral edge. This funnel plicate laterally and flanked by two weak oval folds, edged below by two strongly sclerotized plates. Colliculum, a straight narrow tube, open ventrally.

Material studied. India, Bombay, Bassein Fort, X.1909, "11" *Bactra tornastis* Meyr. teste T.B.F. (T. B. Fletcher Coll.), 1 ♂, gen. no. 3535. Bombay (T.B.F.), X.1909, (Meyrick Coll.), 1 ♂, gen. no. 3536. Bombay, Surat, (H.M.L.), 8.VII.1904, "*Bactra commensalis* Meyr." $^4/_3$, E. Meyr. det., Meyr. Coll. 1 ♂, gen. no. 3592. Gujarat, Karaghoda (R.M.), 18.IX. 1919", 1 ♀, gen. no. 3539. Ahmedabad (S.H.M.), 25.VIII.1917, 1 ♀, gen. no. 3540. "Ceylon, Nawalapittiya (J. P.), I.1904" (Meyrick Coll.), 1 ♂, gen. no. 3537. (B.M.)

India, Bassein Fort, Bombay (A.M.), 1909, 1 ♂, gen. no. 5386, 1 ♀, gen. no. 5385. S. India, Gooty (W. H. C.), 1907, 1 ♂, gen. no. 5387. (Meyrick Coll., U.S.N.M.)

Also recently recorded from Nubia, Africa (Diakonoff, 1963).

Bactra (Chiloides) triceps Diakonoff

Bactra (Chiloides) triceps Diakonoff, 1963, Tijdschr. Entom. **106**: 342, fig. 58-60 (♂ ♀, S. Africa).

Distribution. South Africa: Transvaal, Natal.

Material studied. Morocco, Mazagan, VI.1902 (W. Riggenbach), 1 ♂, gen. no. 4849. (Rothschild Bequest, B.M.)

This is another seemingly rather doubtful record. Mislabelling again?

Bactra (Nannobactra) maiorina Heinrich (fig. 41-43)

Bactra maiorina Heinrich, 1923, Proc. Ent. Soc. Washington **25**: 105 (♂ ♀, Virginia, U.S.A.). — 1926, Bull. U.S. Nat. Mus. **132**: 86, fig. 173, 344. — Forbes, 1924, Mem. Cornell Univ. Agr. Exp. Sta. **68**: 470.

This is the largest species of the subgenus with an entirely unusual facies, chiefly of the vittate type, also of the fasciate type.

♂ holotype, 17 mm. Head pale ochreous, vertex at the sides infuscated. Thorax pale fuscous. Palpus pale fuscous laterally. Fore wing oblong, termen gently rounded, oblique. Pale ochreous, costal markings fine, suffused dark median streak somewhat irregular, not extending $^1/_3$ of the width of wing, towards tornus dilated and suffused with ashy-grey; a similar suffusion along the terminal area; a rather distinct white terminal line, preceded by a dark fuscous denticulate line. Cilia pale (rather worn), strongly infuscated, with two fuscous lines.

Hind wing rather dark grey, cilia with a white basal line.

Female somewhat brighter ochreous along the costal portion of wing, the dark fascia is warmer brown-fuscous tinged.

Male genitalia. Large and robust. Sacculus longer than in any other species of the subgenus, rising more or less cylindrically, top truncate, outer edge forming a rigid collar; punctulate area occupying upper half of entire length of sacculus; spines rather long and slender, spread over outer $^2/_3$ of the whole punctulate area. Corona spines in two rows, 5 ultimate spines large and about equal.

Female genitalia. Genital segment forming a sclerotized collar. Ostium bursae large, rhomboidal, lower edge trickened, upper (lamella postvaginalis) aciculate but not prominent in middle. Ostium flanked by extremely large, heavily sclerotized, deeply corrugated lateral sclerites with serrate edges. A cestum present, being a moderate oval sclerite.

Material studied. U. S. A., Virginia, Arlington, 1.VII.1920, in *Scirpus fluviatilis*, holotype ♂, paratypes (worn): 1 ♂, 1 ♀. Missouri, Charleston, 18.VII.1919; St. Louis, 27.VII.1907 (Mac Elhose), 1 ♀, gen. no. 5449; 27.VII.1928 (A. C. Cole), on *Tipha latifolia*, 1 ♀. Indiana, Linton, 13.VII.

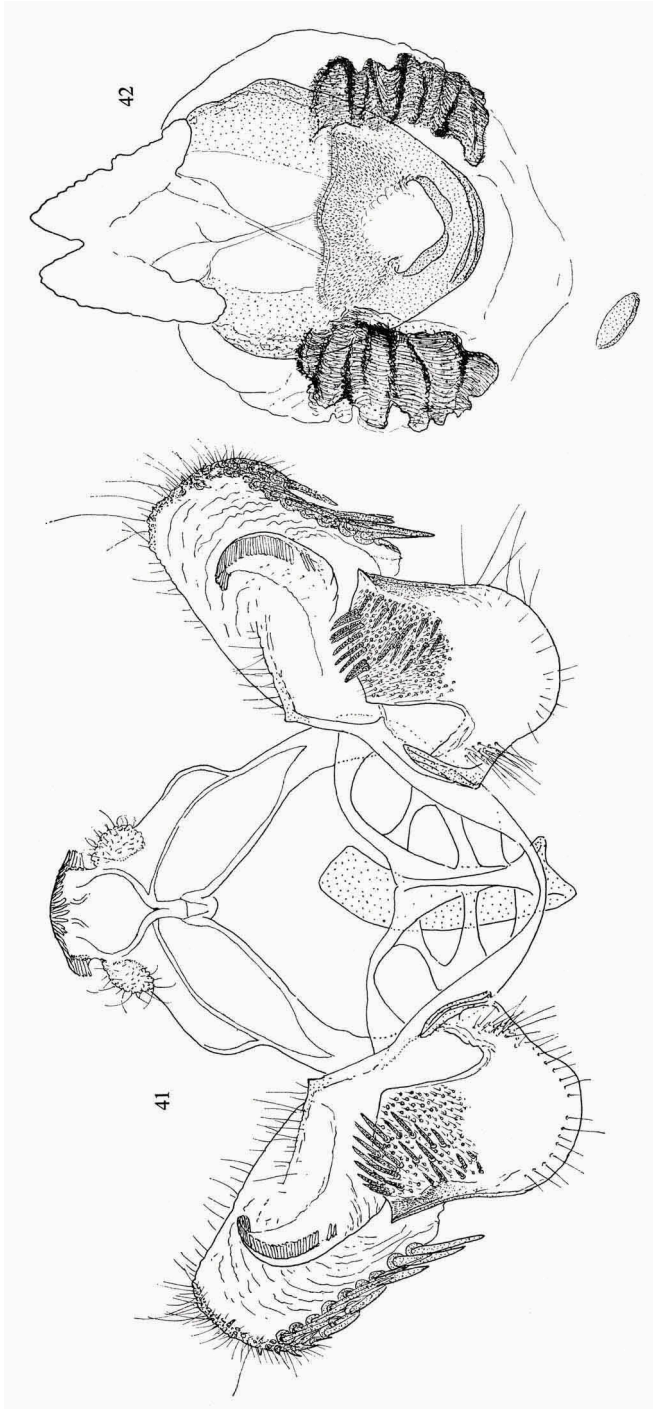


Fig. 41. *Bactra (Nannobactra) maiorina* Heinrich, ♂, genitalia, paratype. Fig. 42. The same, ♀, genitalia.

1916 (J. J. Davis), on grass, 1 ♀, paratype; 1 ♂, 1 ♀, gen. nos. 5448, 5449, Fernald Collection. Utah, Vineyard (Tom Spalding), paratypes, gen. no. "13.VII.1914 3", 1 ♀; "25.V.1922 12", 1 ♂. Illinois, Putnam County, "8049", 7.VIII.1936, 1 ♂, gen. no. 4900; the same, "3612", 24.VI.1933, 1 ♂, gen. no. 4901, "7557", 15.VI.1915, 1 ♀, gen. no. 4906; "7624", 19.VI.1926, 1 ♂, gen. no. 4907. (U.S.N.M.)

Bactra (Nannobactra) verutana Zeller (fig. 45-49)

Bactra lanceolana verutana Zeller, 1875, Verh. zool.-bot. Ges. Wien **25**: 247. — Fernald, in Dyar, 1903, List N. Amer. Lepid.: 5006. — Barnes & McDunnough, 1917, Check List Lepid. Bor. Amer.: 6789. — Forbes, 1924, Mem. Cornell Univ. Agr. Exp. Sta. **68**: 470.

Bactra verutana: Heinrich, 1926, Bull. U.S. Nat. Mus. **132**: 84, fig. 47, 171, 346 (distinct species).

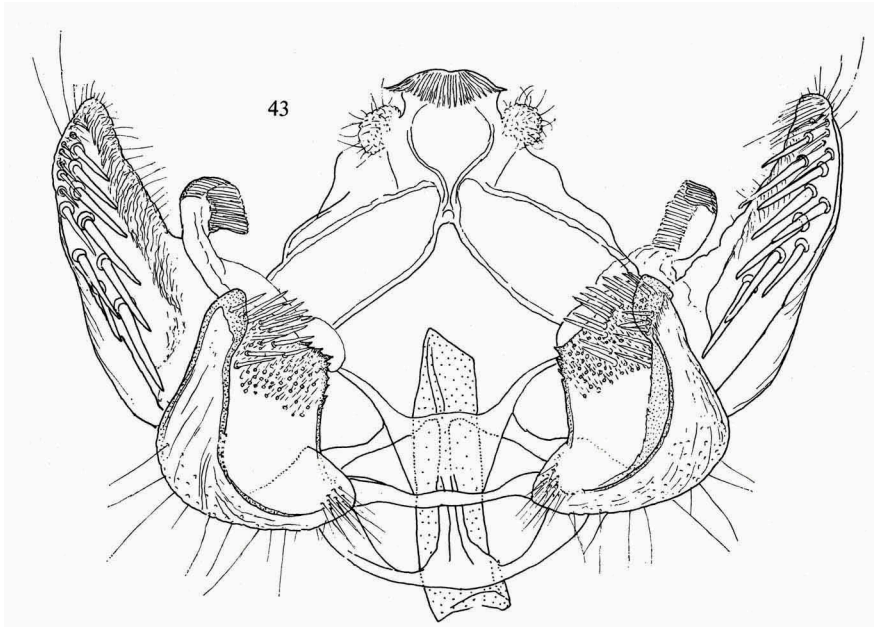
Bactra (Nannobactra) dasioma Diakonoff, 1963, Tijdschr. Entom. **106**: 351, fig. 69, 73. **Syn. nov.**

Distribution. Gulf States of North America; South Africa.

After some uncertainty about the identification of this species a useful and — so far — trustworthy character came to my notice, viz., the membraneous small coverlets on the shoulders of the tegumen (shoulder lobes, Diakonoff, 1963), clothed with fine aciculations or stiff short hairs. With this character it became possible to separate easily the present species from its close allies of the New and the Old World. Besides I am satisfied that an African species, defined by myself recently (*B. diasoma*) belongs in fact to *B. verutana*. *B. (N.) oceani* Diakonoff, 1956, from the Pacific region may be closely allied, but this cannot be ascertained without the evidence of the male genital structures; which, however, are not yet known.

Male genitalia. Tegumen rounded, shoulder with a small membraneous lobe covered with small aciculae or short stiff hairs. Sacculus with the punctulate area rather elongate in vertical direction. Lower part of sacculus rather large, blade-like, concave, with a distinct angular cusp at top. Corona spines subequal, i.e., the four ultimate spines of the external row are large and about equal; of the internal row two or three spines are large and similar. Spines of the sacculus of diverse size, shape, and number, usually moderate and not numerous (5-11), arranged along the median third of punctulate area, sometimes heavier, more numerous and spread over inner $^2/_3$ of the area, always more numerous towards top. The latter situation represents the subspecies *chrysea* Heinrich, a "California race of *verutana*".

Material studied of *B. (N.) verutana* males. Florida, Orlando, III. 1914 and 9.II.1918 (G. G. Ainslie), gen. nos. 4908, 4909, 4926, 4928. Pom-



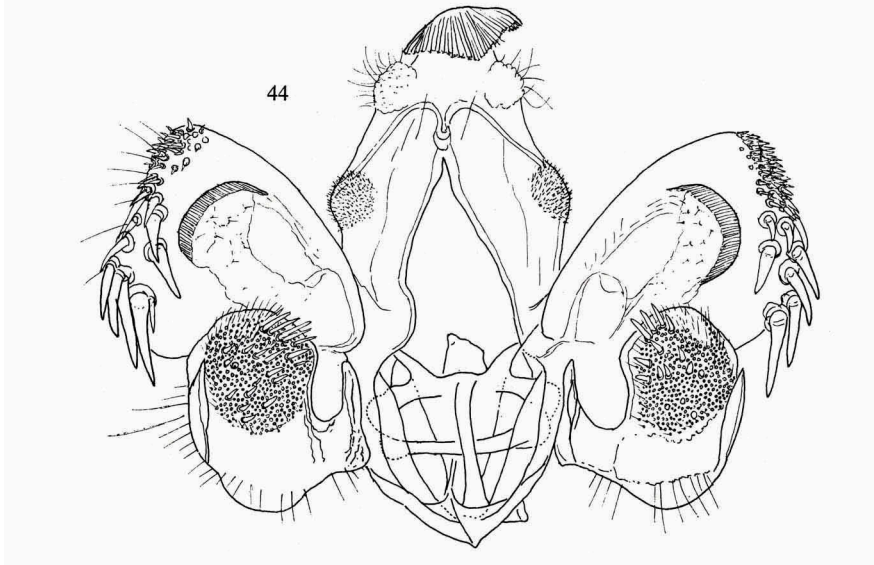


Fig. 43. *Bactra (Nannobactra) maiorina* Heinrich, ♂, holotype, genitalia. Fig. 44. *B. (N.) verutana* subsp. *chrysea* Heinrich, ♂, holotype, genitalia.

pano, 9.III.1945, lot 45-5767 SS 24059, ex *Cyperus*, gen. no. 4917. Vero Beach, IV.1911 (J. R. Malloch), gen. no. 4876. Porto Rico, Cataña, 26.V.1930 (Leonard & Hills), gen. no. 4925. 7 ♂. (U.S.N.M.)

Paraguay, St. Thomas, 29.III.1894 (Gudmann), "*Bactra verutana* Zell., det., Meyrick" 1 ♂. (V.M.)

The females of the *verutana* group of species have similar genitalia. Neither Heinrich nor myself were able to find tangible differences for their

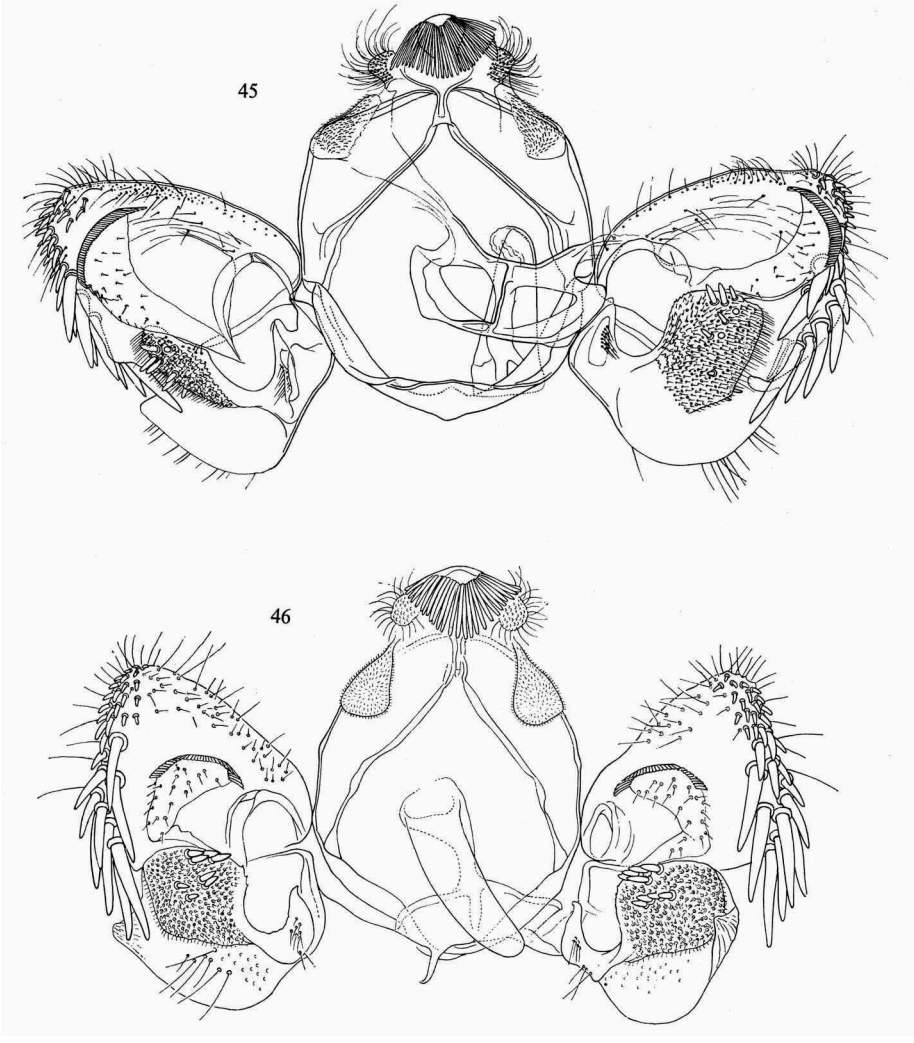


Fig. 45. *Bactra (Nannobactra) verutana* Zeller, ♂, genitalia (4876). Fig. 46. The same, ♂, genitalia of an African specimen (4496) (after Diakonoff, 1963).

separation. When in reasonable condition the females of *B. albipuncta* may easily be separated from those of *B. verutana* by their colouring and markings. But for the females of *B. chrysea, B. sinistra, B. verutana,* and *B. cultellana* there are so far no sufficient characters for certain identification. I was compelled to treat this possibly heterogenous lot as "*verutana* group of species". It seems that *B. cultellana* Zeller is a tropical species, scarce in collections.

Female genitalia. The genital segment strongly but rather variably sclerotized, brown. Differences in position may cause quite different aspects, as is shown in fig. 47-49. Sterigma shaped as a considerable mould covered with fine aciculae or very short hairs. Ostium bursae is situated below the centre of this mould. The sides of sterigma may be sclerotized to a considerably varying degree. On each side below the "ring" of the genital segment there is a more or less darkly sclerotized strongly concave moderate sclerite ("lateral sclerite"). Signum either absent or very weak.

Material studied. *B (N.) verutana* group, females. Florida, Starke, 22.IV.1949 (A. N. Tissott), reared from *Cyperus esculentus,* gen. no. 4870. St. Petersburg, gen. no. 4905. Vero Beach, IV.1941 (J. Malloch), gen. nos. 4871, 4872, 4877. Pompano, 19.III.1945, lot 45-5767 SS 24059. Texas, Liberty, at light, 13.VII.1923 (L. T. Bottimer), 2 ♀, gen. no. 4927. Baja California, Distrito Norte, 19.IV.1935 (D. Meadows), gen. no. 4916. Panama, Cabina, V.1911 (A. Busck), gen. no. 4931. Cuba, Havana (Baker), 7 ♀, gen. nos. 4886-4892. Stego de las Vegas, 9.VII.1933 no. 10228. "Ct. Heyshey Hab.", 23.VIII.1952 (L. C. Scaramuzza), reared on *Cyperus esculentus,* gen. nos. 4923-4924. (No locality), 1.XI.1927 (J. N. Benjamin), gen. no. 4902. (U.S.N.M.)

Porto Rico, San Germán, 16.II.1930, lot 795 sub. 34, Cornell Univ., gen. no. 4884. Puerto Real, Vieques Id., 28.IV.1930, lot 795, sub 42; the same, 29.IV.1930, same lot, sub. 44. (C.U.M.)

In total 28 ♀.

Paraguay, Villarica, IX.1934 (F. Schade) 1 ♀, gen. no. 5201; also IX and X.1934, 2 ♀. (U.S.N.M.)

Whether these are females of *B. (N.) cultellana* Zeller, of which one male was taken with these females, I am at present not able to ascertain. The female genitalia no. 5201 do not differ in any way from those of *B. verutana* females.

Bactra (Nannobactra) verutana subsp. **chrysea** Heinrich, status nov. (fig. 44)

Bactra verutana var. *chrysea* Heinrich, 1926, Bull. U.S. Nat. Mus. **132**: 85, fig. 49, 348 (♂, California).

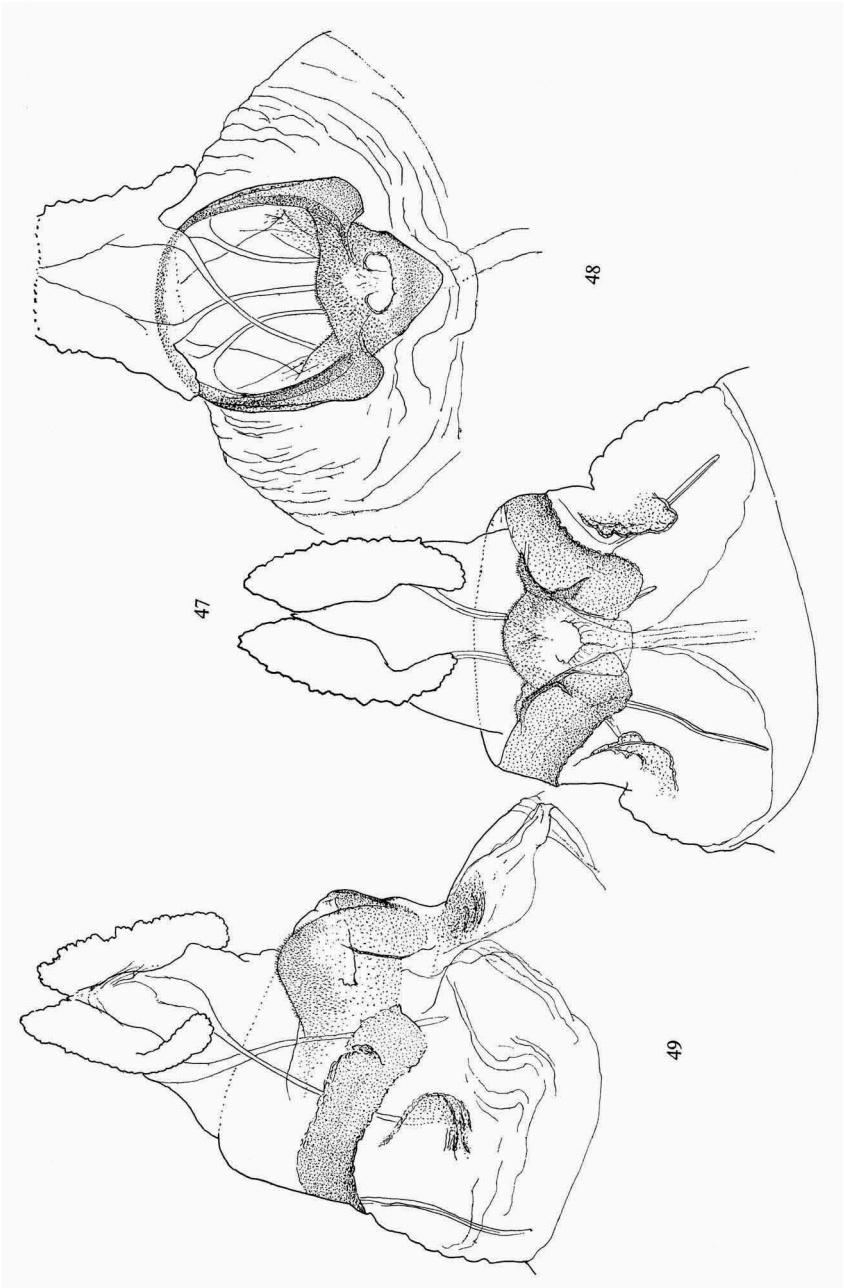


Fig. 47. *Bactra (Nannobactra) venutana* Zeller, ♀, genitalia (4896) in frontal aspect.
Fig. 48. The same, ♀, genitalia seen from above (4886). Fig. 49. The same, ♀, genitalia (4889) from the left side.

Distribution. California.

Although Heinrich states that he regards the form as the California "race" of *verutana*, he describes *chrysea* as a "variety". Subspecies is the correct taxon for this form.

Male genitalia. Similar to the nominate form, except that the sacculus spines are more numerous and stronger spread over the central part of the punctulate area.

Female genitalia are similar to those of *B. venosana*.

The validity of this form in my opinion is dubious, as the number and distribution of sacculus spines in *B. verutana* are subject to some variation. Much more material from California should be collected and closely compared with the nominate form.

Material studied. U. S. A., California, Loma Linda, 24-30.III., ♂ holotype. San Bernardino, ♂ paratype, no. 28027. Bowman Placer County, 13.VIII. 1931 (B. Fourness), 1 ♂, gen. no. 2990. Fresno County, Forsey, 15.IX. 1931 (Keiffer), 1 ♂, gen. no. 2991. (U.S.M.N.)

The surmised differences of this subspecies in the shape of the valva are due to differences of position in the mounts.

Bactra (Nannobactra) sinistra Heinrich (fig. 52-53)

Bactra priapeia Heinrich, 1923, Proc. Ent. Soc. Washington **25**: 105 (♀, Louisiana; erroneously attributed to ♂ *priapeia*).

Bactra sinistra Heinrich, 1926, Bull. U.S. Nat. Mus. **132**: 87, fig. 174.

Distribution. Mississippi.

According to the original author, the type is similar to the males of *B. priapeia* Heinr. However, the fasciate markings, so distinct there, are lacking in the female altogether. The three females studied are of a distinct, vittate type.

♀ 16 mm. Head and thorax pale ochreous. Palpus laterally rather dark fuscous. Fore wing oblong, costa slightly curved at base, less curved before apex, apex pointed, termen straight, oblique. Less than costal third pale ochreous, with rather short and slender light fuscous costal streaks, upper edge of cell posteriorly infuscated, veins 8 and 9 fuscous, forming a reticulation with costal marks, the part of wing beyond cell and below costa infuscated; lower $^1/_3$ of wing infuscated, greyish, median third occupied by a somewhat irregular blackish-fuscous streak with upper edge well-defined and strong, lower edge suffused, with two faint prominences directed posterad, veins beyond cell marked with fuscous; dorsum with a zone of dark dots; termen with an almost continuous row of dark fuscous dots. Cilia pale ochreous, with several fine lines and a series of cloudy dark bars.

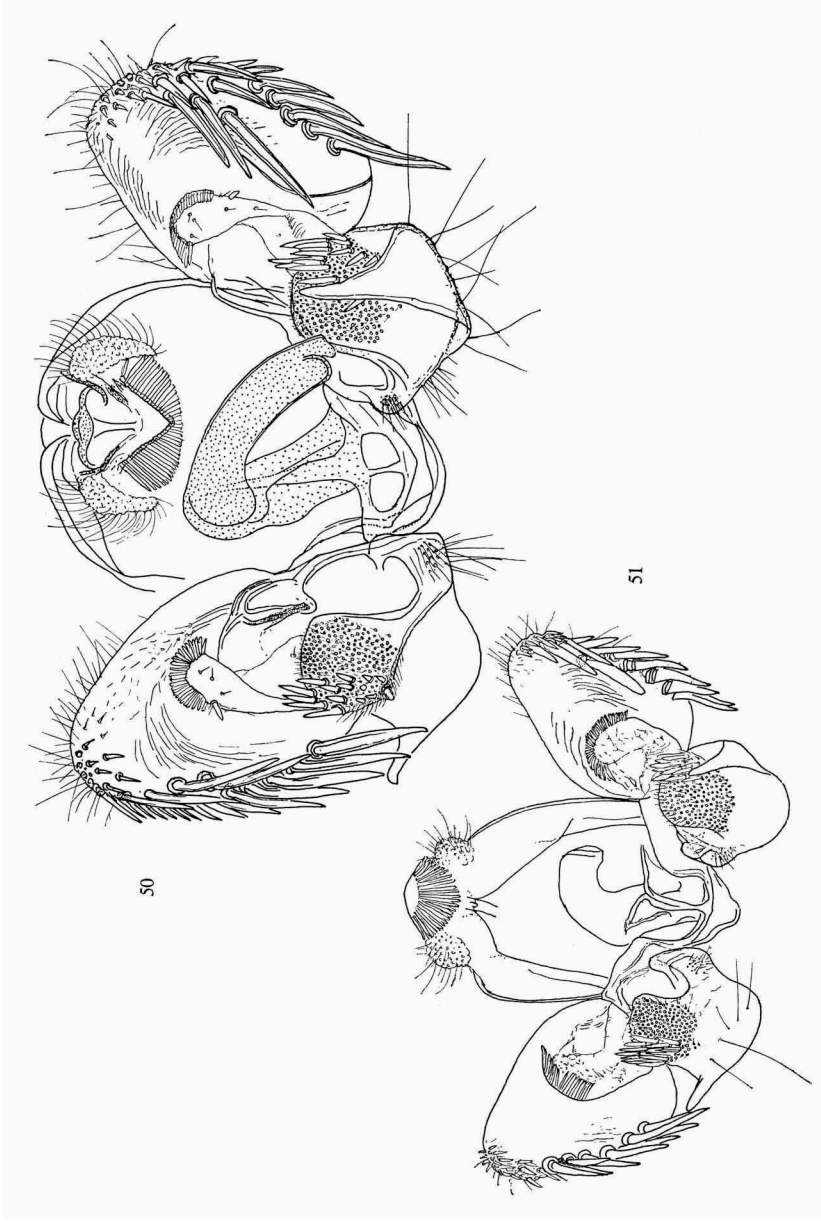


Fig. 50. *Bactra (Nannobactra) albipuncta* Heinrich, ♂, genitalia (3749). Fig. 51. The same, ♂, holotype, genitalia (5450).

Female genitalia. Sterigma little sclerotized, forming a large aciculate mould around the ostium, larger than in any other species of the subgenus. The genital segment forming a complete narrow aciculate band. Signum absent.

Material studied. Type, ♀, U. S. A., Sabine River Ferry, Louisiana, opposite Orange, June 20, 1917 (strongly rubbed specimen), Cornell Univ. Lot 542 sub 20. (C.U.M.)

Gulfport, Mississippi, 24 and 30, VI.1921 (F. H. Benjamin), 2 ♀, paratypes, gen. no. "8.X.1923 4. C.H.". (U.S.N.M.)

The above description is made from the paratype specimen from Gulfport.

Bactra (Nannobactra) cultellana Zeller (fig. 54)

Bactra cultellana Zeller, 1877, Horae Soc. ent. Ross. **13**: 13, 143 (♂, Bogotá).

Distribution. Colombia.

♂ 14 mm. Head and palpus pale ochreous, palpus with median segment partially fuscous, terminal segment with a subapical fuscous ring. Thorax and abdomen pale ochreous.

Fore wing rather narrow, elongate and pointed. Pale ochreous, markings blackish-fuscous. Costal marks short, rather close together, obscured by grey suffusion forming an ill-defined narrow submarginal streak. First discal spot irregular, conspicuous, elongate, at $^1/_3$, with anterior semioval half below, posterior similar half above the fold; second discal spot shaped as a fasciate longitudinal mark limited by lower angle of cell, slightly clavate posteriorly and extending beyond the cell; entire wing strewn with small dark specks and short curved strigulae; veins beyond cell very narrowly streaked with dark fuscous, streaks incomplete; preapical suffusion grey-fuscous, from well beyond cell, rather dark, in apex traversed by minute blackish strigulae; some cloudy and irregular infuscation along dorsum; a series of transverse short strigulae forming an almost continuous terminal fascia. Cilia pale ochreous, a dark bar opposite apex.

Hind wing pale grey-fuscous, stronger suffused with grey towards apex, area along vein 1c clearly paler, almost whitish. Cilia pale ochreous with a faint gloss, a darker subbasal shade (redescribed: no. 5200).

The following is perhaps the opposite sex of *B. cultellana*.

♀ 15 mm. Head, palpus, and thorax pale ochreous, palpus slightly infuscated outside, whitish inside. Antenna fuscous. Abdomen light ochreous.

Fore wing moderate, dilated, broadest at $^4/_5$, apex obtusely pointed, termen gently convex. Pale ochreous, markings dark brown and suffused fuscous-tawny. All veins clearly streaked with brown, lines of diverse thickness; thicker and more conspicuous are upper and lower edges of cell and veins 5,

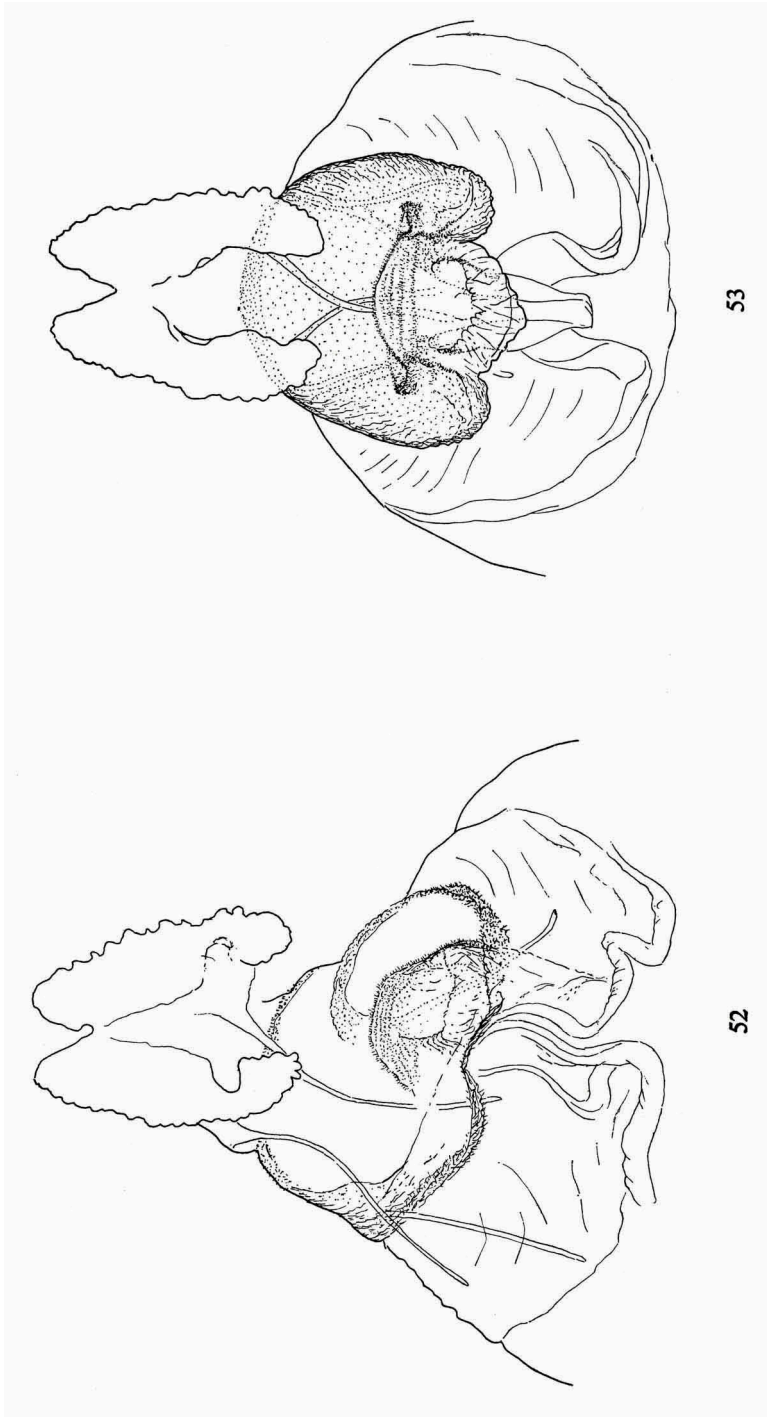


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Fig. 52. *Bactra (Nannobactra) sinistra* Heinrich, ♀, holotype, genitalia, seen partly from a side. Fig. 53. The same, ♀, paratype, genitalia in frontal aspect.

6, and 7; both parting veins in cell are also marked; anterior half of costa with traces of brownish very oblique transverse strigulae, more distinct between vein 12 and cell; posterior half of costa with some six oblique and slightly zigzag transverse lines, alternating with shorter marks, all not reaching beyond half the distance between margin and upper edge of cell, crossing and partly obliterating fine streaks along veins; dorsum from beyond base to before end of cell and as far as cell densely suffused with tawny-fuscous, crossed by darker streaks on veins; first discal patch ill-defined at $^1/_3$, slightly elongate and limited by cell; second discal patch small, as in male but shorter, below and slightly beyond lower angle of cell; terminal area with wedge-shaped streaks of tawny-brown suffusion between veins, reaching cell, becoming denser towards tornus but not obscuring streaks on veins; a median longitudinal streak in cell; irregular dark dots on ends of veins, more or less forming a terminal line; preapical suffusion ill-defined, rather bright tawny. Cilia (imperfect) with a white basal line and a subbasal dark fuscous band, more or less broken in a series of blackish bars.

Hind wing grey-fuscous, hardly darkened towards apex, lc area hardly paler. Cilia glossy pale ochreous with a dark subbasal shade.

Male genitalia. Tegumen rather higher than in *B. verutana,* without shoulder lobes. Instead sometimes triangular spots of slightly darkened sclerotization. Valva moderately constricted. Corona with a somewhat irregular double series of large spines. Valvula over $^1/_2$ of cucullus, corona rather large. Sacculus moderate, receded posterad, thus leaving a large basal opening; spines rather slender and short, sparse, spread over the median third of the aciculate area, hardly descending below middle of that area; cucullus blade (keel) large and broad, with rounded edges.

Material studied. Lectotype, hereby selected, ♂, gen. no. 3246, with a green label in Zeller's hand: "*cultellana,* Bogota", and a small label "96"; additional labels: "Zeller Coll., Walsingham Coll." (B.M.)

Paraguay, Villarica, X.1934 (F. Schade), 1 ♂, gen. no. 5200. Probably this species, the same locality, IX.1934, 1 ♀, gen. no. 5201; also IX. and X.1934, 2 ♀. U. S. A., Florida, Starke, 22.IV.1949, reared from *Cyperus esculentus,* (A. N. Tissot), 1 ♂, gen. no. 4869. (U.S.N.M.)

Bactra (Nannobactra) albipuncta Heinrich, status nov. (fig. 50-51)

Bactra verutana albipuncta Heinrich, 1926, Bull. U.S. Nat. Mus. **132**: 84, fig. 40, 347 (new var.).

Distribution. Colorado, Utah, Arizona.

The following is a redescription of the holotype.

♂ 16 mm. Head pale tawny, face white. Palpus strongly dilated, with very long loose hairs along apex, exceeding third segment, whitish, basal and median segments with a lateral black streak towards upper edge, except on cilia; terminal segment short, black. Thorax tawny-fuscous, collar pale tawny, tegula tawny-fulvous. Abdomen dark fuscous.

Fore wing sublanceolate, narrow, costa curved at base, straight posteriorly, apex pointed, termen tolerably straight above, broadly rounded beneath. Ochreous-whitish, dorsum as far as fold coarsely suffused with bright tawny: a similar suffusion, but less distinct, across median third of wing, and partially, before apex; anterior half of costa with some nine dark fuscous-brown triangular dots; transverse fascia from middle of costa running obliquely to lower angle of cell, dark fuscous-brown on costa, tawny-brown bar along upper edge of cell, narrowly continued basad, and a broader, dark fuscous-brown shadow along and below lower angle of cell; this shadow almost extending to fold, narrowly continued basad along lower edge of cell and along lower parting vein; posterior half of costa dark fuscous-brown, with a small white dot beyond transverse fascia, followed by four pairs of white costal marks, very bright and contrasting; dark interspaces faintly continued downwards; a dark shadow from beyond cell to apex; blackish-grey below, tawny-brown above, narrowly connected with dark spot on lower angle of cell; a conspicuous white dot on that angle; a dark brown marginal line along termen and dorsum, with a series of small triangular white dots along dorsum. Cilia pale ochreous, strewn with fuscous, a dark fuscous interrupted subbasal line, lower part of termen with several suffused fuscous-grey bars.

Hind wing fuscous-grey, somewhat darker towards apex. Cilia pale fuscous; with a subbasal darker line, bordered on both sides with faint paler lines.

Male genitalia. Valva deeply constricted. Valvula with a moderate or rather large corona, with a single lateral spine or without such spines (holotype). Corona spines in a double marginal row, very large with several spines arranged in a more discal group of the right valva (not discal in left valva). Sacculus with discal spines only at the external part of the acicular area, not numerous, rather long, becoming shorter rostrad; the outer edge or blade of sacculus very characteristic, forming a long pointed cusp of very variable shape, often inequal in left and right valva.

A gaudy-coloured, rather dark species with narrow, acutely pointed fore wings. It slightly resembles *B. (B.) furfurana* Haw. which, however, is much paler.

The holotype is from Denver, Colorado (Oslar leg.), gen. slide no. 5450, type no. 28026, U.S.N.M., „*Bactra venosana albipuncta* Heinr. Type".

The unrubbed specimens are warm tawny, dark markings contrasting with the glossy white discal point and the four pairs of costal strigulae.

Some male specimens are strongly maculate and resembling *B. furfurana* most. Others are rather evenly suffused with tawny. There is also a „vittate type", a female, pale ochreous with a fuscous lower $^2/_3$ of wing, except the pale termen.

The maculate type, ♀, is pale ochreous; with the second discal stigma rounded and small, the less conspicuous white dot straight above it, the edge of wing narrowly dark, with white markings.

Some greyish-tinged specimens are extremely similar to *B. furfurana*. I was not able to find any points of superficial structure with which to separate them with certainty. Usually *B. albipuncta* is warmer brown, with the sharply contrasting white point and costal markings, as already said above; but in greyer and rubbed specimens these differences disappear completely. The anal tufts in intact specimens, of course, are different, in *B. albipuncta* larger and globular, in *B. furfurana* smaller and laterally compressed.

Neither are there tangible differences in the female genitalia of *B. albipuncta* and *B. verutana*. All males from the Rocky Mountains (Colorado, Washington, Utah, Wyoming), are *B. albipuncta*. All males from other states are *B. verutana*.

Material studied. U. S. A., Denver, Colorado (Oslar), 10 specimens, including holotype (gen. no. 5450); Deer Creek, Provo Canyon, Utah; Eureka, Utah; Vineyard, Utah, 11-29.VII.1918, 7 specimens. Colorado, "2526, 2527", 2 specimens; Platte County, Wyoming, 1-12.VIII.1949 (D. N. Brannon), gen. no. 5438 ♂; Walla Walla, Wisconsin, 30.VI.1931 (D. N. Brannon), gen. nos. 5437 ♂, "3381" ♀; Aziz, gen. no. 5483 ♂. Pullman, Wisconsin, 11.VI.1932 (J. F. Clarke); Yakima, Wisconsin, 20.VII.1921 (F. Dean). (U.S.N.M.)

28 specimens in total.

Fountain Valley School, Colorado Springs, Colorado, 12-19 July 1932, 1 ♂. (Klots Collection, A.M.N.H.)

Bactra (Nannobactra) erasa Meyrick (fig. 55-56)

Bactra erasa Meyrick, 1928, Exot. Microl. **3**: 442 (♀, Andamans). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 286 (lectotype selected). — Clarke, 1955, Meyrick's Types **1**: 130. — 1958, l.c. **3**: 308, pl. 153 fig. 3-3b.

Distribution. Andaman Islands.

Still somewhat mysterious the identity of this species will remain subject to some doubt so long the male is not discovered. Judging from the female

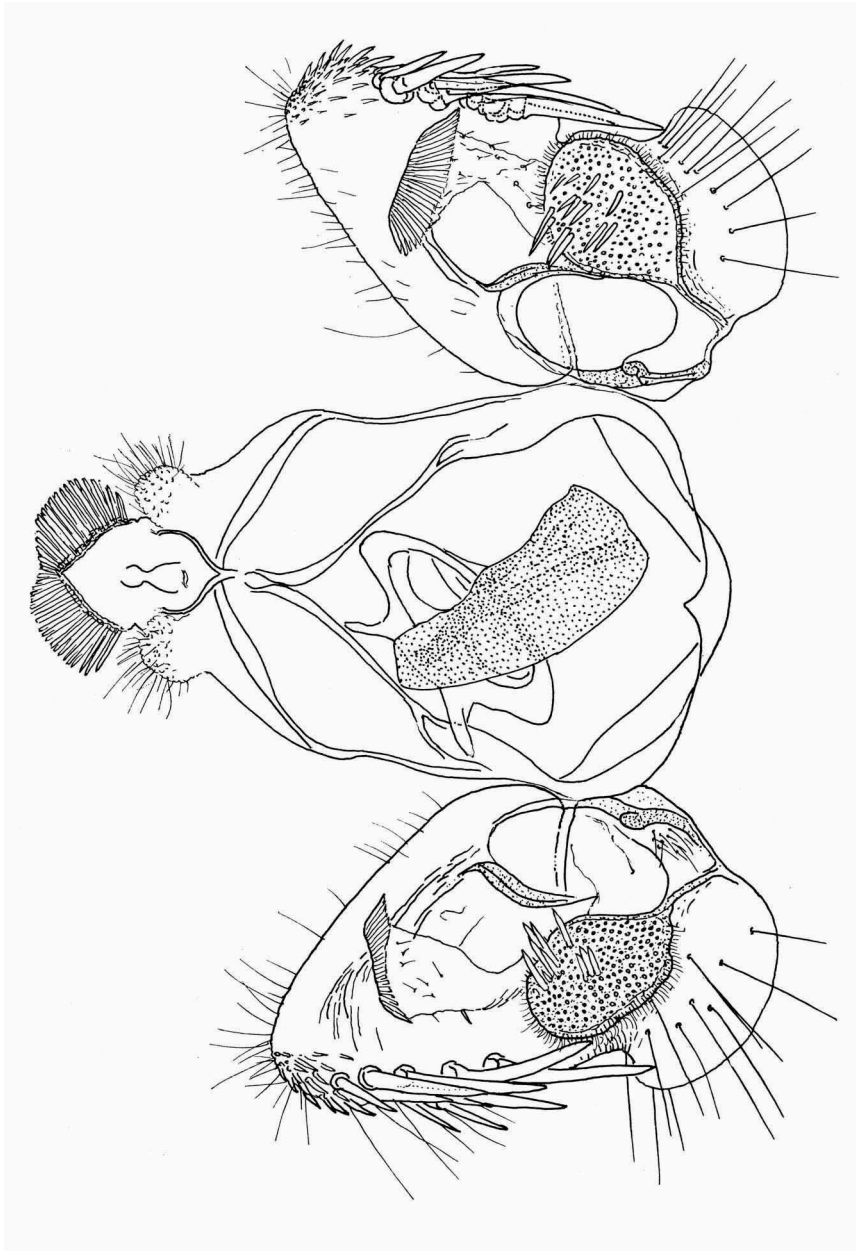


Fig. 54. *Bactra (Nannobactra) cultellana* Zeller, ♂, lectotype, genitalia (3246).

genitalia, the species belongs to the *verutana* group, with sclerotized ring of the genital segment but with less developed, although present, lateral sclerites.

The species probably is nearest to *B. (N.) oceani* Diak. which, however, has different sterigma; the latter is another species of which the males are not yet known.

♀ 12 mm. Head and abdomen ochreous-whitish. Palpus slightly suffused with grey, strongly dilated by a triangular tuft towards apex of median segment beneath, lower edge darker grey. Thorax pale tawny, anteriorly ochreous-whitish.

Fore wing elongate, pointed, costa straight except extremities, termen gradually rounded, little oblique above. Pale whitish-ochreous lower $^2/_3$ of wing from middle of its base to apex suffused with light tawny, edge ill-defined. Costal edge with numerous very short dark brown transverse marks, white between these; a series of smaller dots along dorsum, along termen more or less confluent so as to form a dark marginal line preceded by some grey suffusion; a hardly indicated roundish dot at $^2/_3$ fold; a greyish streak along closing vein, interrupted into a smaller upper and a larger lower roundish very faint marks. Cilia pale ochreous, with several fine pale tawny lines, lower of these greyish, dotted with dark brown, subbasal, base of cilia whitish; another darker grey or brownish line, subapical.

Hind wing pale fuscous, faintly becoming darker posteriorly, cilia whitish with a darker subbasal line.

Material re-studied. Lectotype, ♀, S. Andamans, VII.1927 (Ferrar), gen. no. 7150. (B.M.)

Bactra (Nannobactra) hostilis Diakonoff (fig. 59)

Bactra (Nannobactra) hostilis Diakonoff, 1956, Zool. Verh. **29**: 57, fig. 55, 56 (♂ ♀, Japan).

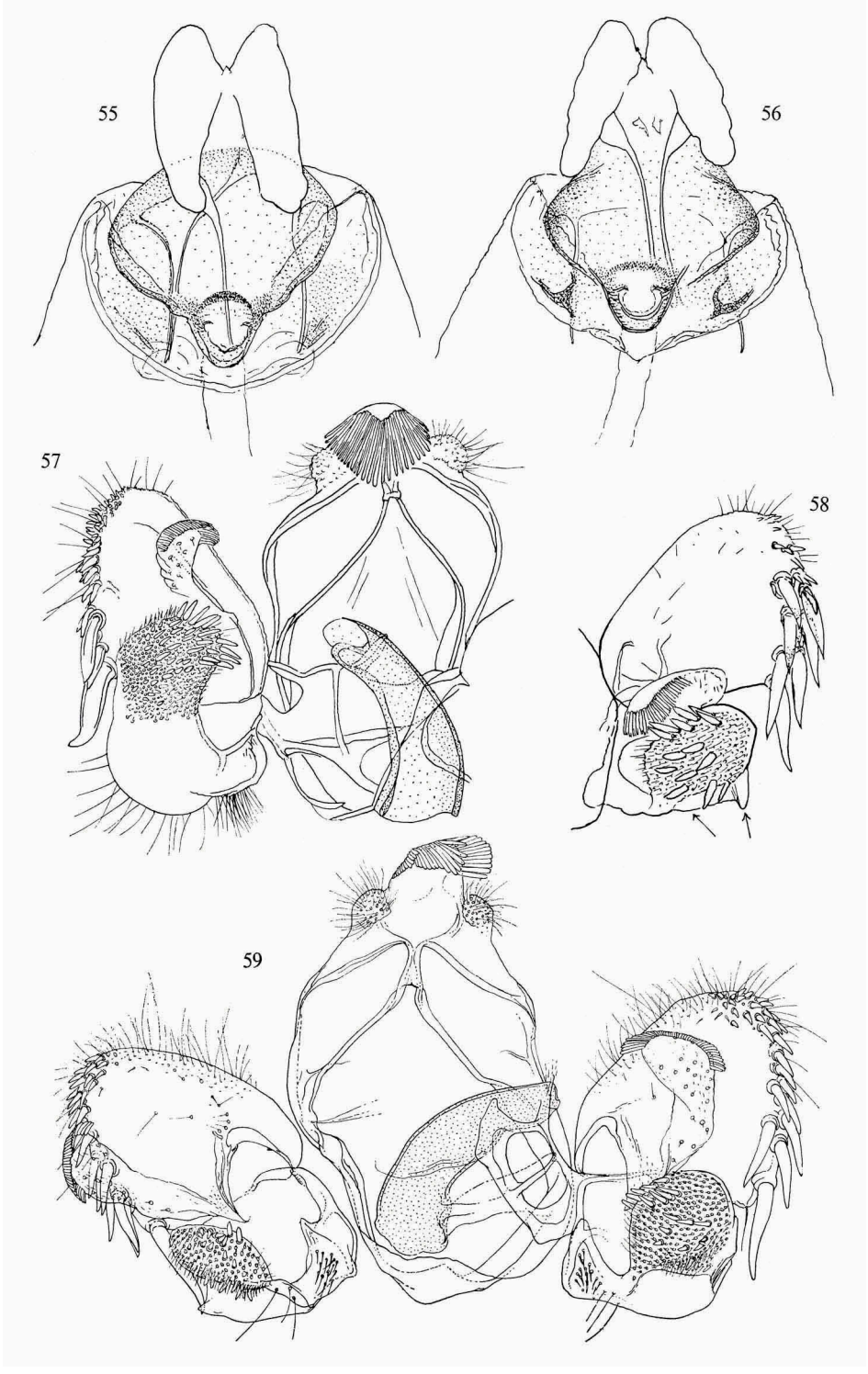
Bactra (Nannobactra) leonina Diakonoff, 1959, Bijdr. Dierk. **29**: 185, fig. 8 (♀, Thailand). **Syn. nov.**

Distribution. Japan; Thailand.

After study of the additional material cited below I am satisfied of the above synonymy. The ostium bursae in *B. "leonina"* appears smaller than in the other species but this is simply due to the mount being slightly less compressed.

The species is intermediate between the New World *verutana* group with the strongly sclerotized genital segment and the *phaulopa* group with the ring of the genital segment (segments 8 + 9) hardly or not at all sclerotized.

Material studied. Bombay, Dharwar, 28.I.1916 (P.M.), 1 ♀, gen. no. 4755. Hainan Island, 1906 (R.). (Meyrick Coll., unnamed, B.M.)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Okinawa Island, Chizuka, 1-10.IX.1945 (G. E. Behart & C. L. Harpage), 1 ♀, gen. no. 5525. (U.S.N.M.)

China, Hagien Gebirge, "*Bactra lanceolana* Hb., det. E. Meyrick", 2 ♂, gen. nos. 4489, 4490. (V.M.)

Bactra (Nannobactra) legitima insignis Diakonoff

Bactra (Nannobactra) legitima insignis Diakonoff, 1963, Ann. Naturhist. Mus. Wien **66**: 473, fig. 1-2 (♂ ♀, Nubia).

Distribution. Nubia, Sudan.

Material studied. Angola, Amboim district, Congolu, Fazenda, 700-800 m, 12-16.IV.1934, 1 ♂, gen. no. 4742. (Rothschild Bequest, B.M.)

Bactra (Nannobactra) phaulopa Meyrick

Bactra phaulopa Meyrick, 1911, Proc. Linn. Soc. N.S. Wales **36**: 253 (♀, Kei Ids.). — Diakonoff, 1950, Bull. Brit. Mus. Ent. **1**: 288, pl. 8 fig. 42 (lectotype selected, genitalia figured).

Bactra (Nannobactra) phaulopa: Diakonoff, 1956, Zool. Verh. **29**: 52, fig. 50-51.

Distribution. Kei Islands, Java, Sumatra, Celebes, North Moluccan Islands, Philippine Islands.

The following material came to my notice since my 1956 publication. Philippine Islands, Luzon, Dau, Pampanga, 9.II.1945 (J. G. Franclemont), 1 ♀, gen. no. 1997. Palawan, Tay Tay, plains, 20.IV.1913 (A. E. Wileman), 1 ♂, gen. no. 3695. The same, 13.IV.1913, 1 ♀, gen. no. 3698. (B.M.)

Java, Bogor, 250 m, 7.VI.1955 (F. C. Drescher), 1 ♀, gen. no. 4911. (L.M.)

Bactra (Nannobactra) minima minima Meyrick (fig. 57-58)

Bactra minima Meyrick, 1909, Journ. Bombay Nat. Hist. Soc. **19**: 586 (♂, Barberyn Id. off Ceylon). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 288, pl. 6 fig. 25 (lectotype selected, genitalia described, figured).

Bactra (Nannobactra) minima Diakonoff, 1956, Zool. Verh. **29**: 55, fig. 52, 53 (genitalia ♂, ♀ figured; *B. phaeopis* synonym).

Bactra phaeopis Meyrick, 1911, Proc. Linn. Soc. N.S. Wales **36**: 254 (♂ ♀, Sudest Id., N. Guinea). — Diakonoff, 1950, Bull. Brit. Mus., Ent. **1**: 288, pl. 6 fig. 28, pl. 8 fig. 41 (lectotype selected, genitalia ♂, ♀ figured).

Bactra anpingiana Strand, 1920, Arch. Naturgesch. **84** (A) (12): 192 (Formosa). **Syn. nov.**

Distribution. Ceylon, Barberyn Island; Formosa, New Guinea, Sudest Island, Solomon Islands.

Fig. 55. *Bactra (Nannobactra) erasa* Meyrick, ♀, genitalia (3245). Fig. 56. The same, ♀, genitalia (3244). Fig. 57. *B. (N.) minima* Meyrick, ♂, genitalia (2987) (after Diakonoff, 1956). Fig. 58. The same, ♂, lectotype, right valva, in slightly changed position, slightly more enlarged (7145). Fig. 59. *B. (N.) hostilis* Diakonoff, ♂, genitalia (4490).

Material studied. *B. (N.) minima* Meyrick: Guam Island, Agat, 20.V.1936, ex Nutgrass (O. H. Swezey), 1 ♂, gen. no. "9495 J. F. G. C."(larke). (U.S.N.M.)

British Solomon Islands, New Georgia, Munda Point area, 8.IV.1944 (J. G. Franclemont), 1 ♂, gen. no. 2000. (C.U.M.)

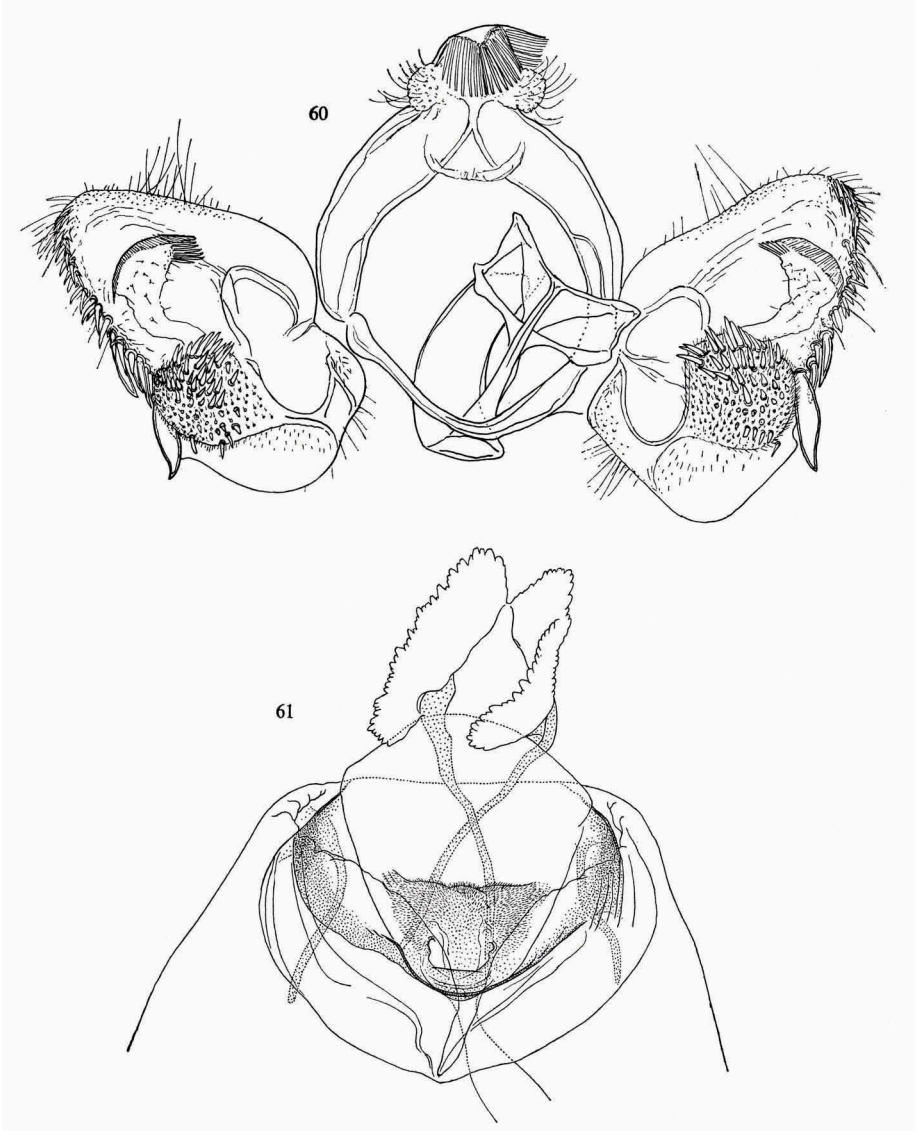


Fig. 60. *Bactra (Nannobactra) minima psila* subsp.n., ♂, paratype, genitalia (3320).
Fig. 61. The same, ♀, allotype, genitalia (3705).

B. (N.) "anpingiana" Strand: Formosa, Anping, 1 ♂, holotype, gen. no. 2986; the same locality, 1 ♂, paratype, gen. no. 2987. (D.E.I.)

Bactra (Nannobactra) minima psila subsp. nov. (fig. 60-61)

Bactra lanceolana Walsingham [nec Hübner], 1908, Proc. Zool. Soc. Lond. **1907**: 100 (Tenerife).

Bactra (Nannobactra) minima Diakonoff [nec Meyrick], 1963, Tijdschr. Ent. **106**: 349 (Tenerife).

♂ 15 mm, ♀ 16 mm. Head light ochreous, palpus light ochreous, median segment with a lateral transverse fuscous stripe, terminal segment pale greyish. Thorax light ochreous. Abdomen pale ochreous.

Fore wing lanceolate, narrow, costa straight, slightly curved posteriorly in ♂, gently curved at the extremities in ♀, apex pointed, termen almost straight, very oblique. Pale ochreous, finely and evenly infuscated, more so in male, and indistinctly marbled with light ochreous-olive to fuscous. Costal markings dark fuscous, short, ill-defined in male, more distinct in female; first and second discal spots similar, greyish, not very distinct, rounded; dark fuscous marginal marks along dorsum. Cilia tawny-ochreous-olive, with a white basal band.

Hind wing pale grey, towards apex becoming pale fuscous with a distinct purplish gloss. Cilia pale with a darker subbasal line and a white base.

Male genitalia. As in nominate form but with the following minor differences which, however, justify the separation of this form. Corona spines inequal, the single large ultimate spine much larger than the three penultimate spines, spindle-shaped, with point only slightly curved. Spines of the punctulate area of the sacculus spread over the whole width of that area. Edge of sacculus rather angularly prominent, forming a moderate blade with but moderately projecting upper angle.

Female genitalia. Resemble those of *B. (N.) hostilis* Diak. most, but the genital segment (8 + 9) less sclerotized and only so along its lower part; mould of sterigma smaller.

Canary Islands, Tenerife, 4.III.1907, no. 78866 (Walsingham), 1 ♂, holotype, gen. no. 3700; no. 78864, 1 ♀, allotype, gen. no. 3705. (Walsingham Collection, B.M.)

Azores Islands, St. Miquel, 1 ♂, gen. no. 3320. (H.M.)

After a close re-investigation I am satisfied that this material is not similar to that of the nominate form as I thought previously.

Bactra neuricana Zeller

Bactra neuricana Zeller, 1877, Horae Soc. ent. Ross **13**: 144 (♂, Bogotá).

Distribution. Colombia.

The type of this species seems to be lost. This may also be *cultellana*.

APOCRYPHAL SPECIES OF BACTRA

Noteraula sideritis Meyrick, 1905, Trans. Ent. Soc. Lond.: 232 (♂, N. Zealand, Wellington).
Bactra sideritis: Meyrick, 1911, Trans. N. Zeal. Inst. **43**: 89.

The unique holotype, ♀, labelled "New Zealand, C.V.H. 1900" (in Meyrick's hand), "*Bactra sideritis* Meyr., $^1/_1$, E. Meyrick det., in Meyrick Coll." is not a *Bactra* at all. It possesses two hooked signa.

APPENDIX

After the manuscript of the present paper had been sent to the press I received the following additional material, interesting enough to be incorporated.

Bactra (Chiloides) tylophora Diakonoff

Bactra (Chiloides) tylophora Diakonoff, 1963, Tijdschr. Ent. **106**: 319, fig. 32-34 (♂ ♀, South Africa).

Distribution. South Africa: Transvaal, Orange Free State.

Uganda, Ruwenzori Range, Semliki Forest, 2850 ft., 22.VIII-3.IX. 1952 (D. S. Fletcher, Ruwenzori Exped. 1952-566, B.M.), 1 ♀, gen. no. 4943.

Bactra (Chiloides) triceps Diakonoff

This paper, page 60.

Madagascar, "Diego Suarez", 17-26.VIII.1917 (G. Melou, Rothschild Bequest, B.M.), 1 ♂, gen. no. 4940.

Note. I have been informed that material labelled "Diego Suarez", must have been collected by C. Melou all over the island of Madagascar, and not only at this extreme northern locality.

Bactra (Chiloides) stagnicolana Zeller

This paper, page 36.

Angola, Quirimbo, 75 km E. of P. Amboim, 300 m, 7-12.V.1934 (Rothschild Bequest, B.M.), 1 ♀, gen. no. 4939.

Bactra (Chiloides) nea spec. nov.

This paper, page 52.

South Angola, Humpata, 9.II.1902 (Pemberton, B.M.), 1 ♀, paratype, 24.5 mm, gen. no. 4938.

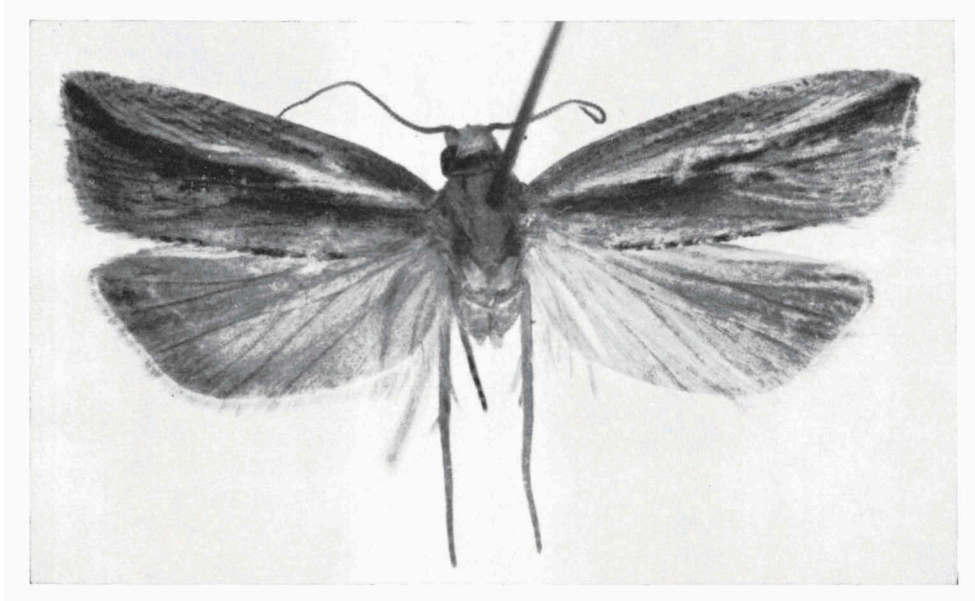
Bactra (Chiloides) philocherda spec. nov.

This paper, page 31.

Uganda, Ruwenzori Range, Ibanda, 4700 ft., 20-21.VIII.1952 (D. S. Fletcher, Ruwenzori Exped. 1952-566, B.M.), 1 ♀, paratype, gen. no. 4942.

The species is distributed through tropical and subtropical North America, and is known from Angola. This second African record is therefore interesting.

INDEX TO SPECIES



Protobactra diachorda (Meyrick, 1932), holotype, ♂ (about 6 x).
(Photo Leiden Museum)