

Ryszard BIELAWSKI

Contribution to the knowledge of *Coccinellidae* (Coleoptera). IV

Materialy do poznania *Coccinellidae* (Coleoptera). IV

Материалы к познанию *Coccinellidae* (Coleoptera). IV

(With 87 text figures)

The present paper is a study on 15 Indomalayan and Australian species with the description of two new species of the subfamily *Epilachninae*. Basing on types two pairs of species have been synonymized: *Epilachna vigintinomaculata* MADER, 1954 with *Henosepilachna undecimvariolata* (BOISDUVAL, 1835) and *Epilachna semifasciata* DIEKE, 1947 with *Henosepilachna semifasciata* (WEISE, 1923). I also give, on the basis of type specimens, redescrptions of several species either inadequately known or known only from the original descriptions. A certain discussion of genitalia characters and the individual variability of several features as well as supplementary data with respect to the distribution of particular species were also included in the paper.

The material used has been borrowed from the following institutions: Bernice P. Bishop Museum, Honolulu, Deutsches Entomologisches Institut, Berlin, Institute of Zoology of the Polish Academy of Sciences, Warszawa, Museum G. Frey, Tutzing, Naturhistorisches Museum, Vienna, Staatliches Museum für Tierkunde, Dresden, and Zoologisches Museum der Humboldt-Universität, Berlin.

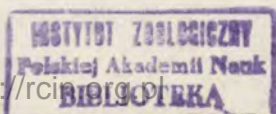
To all persons who kindly helped me in obtaining the material mentioned I express my warmest thanks.

*Henosepilachna sparsa* (HBST.)

DIEKE, 1947, recognised here four subspecies, one - *H. sparsa orientalis* (DIEKE) being from China. LI et COOK, 1961, questioned such division regarding DIEKE's forms as merely variations.

Examined by me specimen from China (Kouangsi, ex Mus. Frey) which undoubtedly belongs to the species in question, has only six spots on each elytron, of which, spots known as 3,4,5 and 6 are merged (fig. 1). According to DIEKE's criteria this form should belong to the subspecies *H. sparsa sparsa* (HBST.) and also would come fairly close to v. *trijuncta* DIEKE. Thus a supposition is that either two subspecies occur in China or both forms are to be regarded as belonging to only one subspecies. On the other hand, as far as *H. sparsa vigintisexpunctata* (BOISD.) is concerned, for reasons given in my work (BIELAWSKI, 1963b), I still regard this form as distinct subspecies.

P. 255.



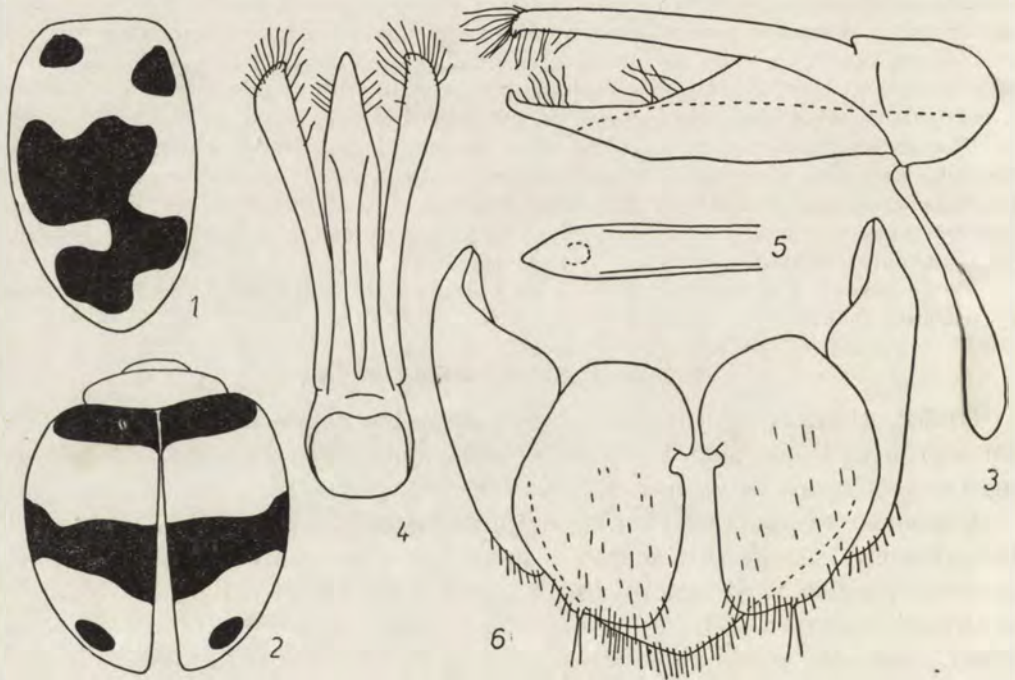
***Henosepilachna undecimvariolata* (BOISD.)**Syn. nov.: *Epilachna vigintiunomaculata* MADER

I had opportunity to check the type of *Epilachna vigintiunomaculata* MADER described by MADER, 1954 from New Guinea. It is a female and is labelled as follows: „N. Guinea, coll. PLASON, Holotype”.

In my paper on Australian *Epilachninae* (BIELAWSKI, 1963b) I supposed this species to be identical with *H. undecimvariolata* (BOISD.). The examination of the type corroborates this view, and by the same token the name introduced by MADER, 1954 – *Epilachna vigintiunomaculata* MADER becomes a synonym of *Henosepilachna undecimvariolata* (BOISDUVAL, 1835).

***Henosepilachna bifasciata* (F.)**

This species was described by FABRICIUS in 1781 from Java. Apart from a record in the KORSCHESKY catalogue (1931) there are no other published data concerning this species. According to the nomenclature employed by LI et COOK, 1961, this species belongs to the genus *Henosepilachna* LI et COOK (*Epilachna* CHEVR. sensu DIEKE, 1947).



Figs. 1-6.

1 – *Henosepilachna sparsa* (HBST.), elytron; 2-6 – *Henosepilachna bifasciata* (F.), 2 – Body outline, dorsal view, 3 and 4 – copulatory apparatus of male, 5 – apex of syphon, 6 – copulatory apparatus of female.

In 1947 DIEKE described also from Java *Epilachna parafasciata* DIEKE which does not differ from the species described by FABRICIUS in 1781. On comparison of determined by WEISE specimens with the description and figures of male genitalia given by DIEKE in 1947, it becomes apparent that *Epilachna parafasciata* DIEKE, 1947, is mere a synonym of *Henosepilachna bifasciata* (F.).

Material examined: "Holland. Indien, *E. bifasciata* F., det. Weise", 1 specimen. "Java, Tjibodas, Oct. 1906, 1 specimen. "Java Tjibodas, KARAVAJEV, 1898-9", 1 specimen. "Java, FRUHSTORFER, *Epilachna flavicollis* v. *incauta*", 1 specimen.

Head, pronotum, scutellum as well as ground colour of elytra, orange brownish. There are two transverse bands and a single spot on the posterior part of elytra (fig. 2). One band situated near elytra base, the other about half their length. Spot situated in the posterior part of elytra may reach their lateral margin. Elytra very feebly rounded posteriorly with fairly distinctly angulate apex. Underside pale brownish, except middle part of first four sternites slightly darkened. Last abdominal sternite of male with posterior margin broadly incised. Last abdominal sternite of female bifid.

Male genital armature and posterior part of syphon as on figs. 3-5.

Female genital armature presented on fig. 6. At interior margin of genital plates in about one third from base there is a deep incision with a distinct, large tooth.

#### *Henosepilachna subfasciata* (Ws.)

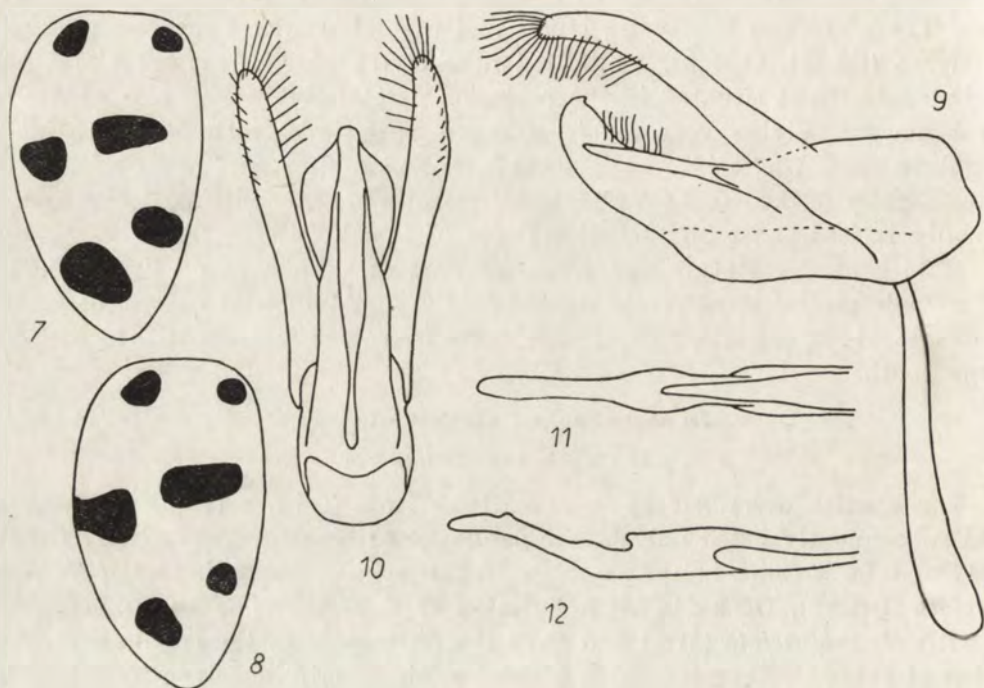
Syn. nov.: *Epilachna semifasciata* DIEKE

The species described by WEISE, 1923 from Taiwan (Kankau, Anping) and subsequently listed only in the catalogue of KORSCHESKY, 1931. DIEKE, 1947 and LI et COOK in 1961 mentioned this species when discussing *H. semifasciata* (DIEKE). DIEKE in his description of *E. semifasciata* DIEKE compared it with *H. subfasciata* (Ws.) and gave the differences in the copulatory apparatus of these two species, using a short penis description given by WEISE in 1923. WEISE most probably examined the penis without preparing it, since the diagnosis given by him does not seem to be accurate. After examining throughly the genital armature of four male syntypes of *H. subfasciata* (Ws.) I decided that it is not basically different from that given by DIEKE, 1947 and LI et COOK, 1961 for *H. semifasciata* (DIEKE), and these two names must be regarded therefore as synonyms.

The above said may illustrate how important it is in a taxonomic study to present not only descriptions but the figures of genitalia as well, and that they should be drawn always from properly prepared, carefully mounted structures, in order to avoid misinterpretations. The genitalia, because of a complicate structure of these organs, are difficult to describe, and the descriptions are frequently subject to different interpretation by various authors.

Material examined: "Kankau (Koshun), Formosa, 7. IV. 1912, H. SAUTER, Typus, *Epilachna subfasciata* m.", 3 males. "Kankau (Koshun), Formosa, V. 1912, H. SAUTER, Typus, det. WEISE", 1 male. Genitalia in all syntypes were found to be identical. All four syntypes are kept in the Deutsches Entomologisches Institut in Berlin.

Dorsal side of body brownish orange. Pronotum without markings or with only small darkening in the middle, or with a small distinct black spot. Each elytron with six spots (figs. 7-8), of which the spot known as 4 may or may not reach lateral margin. Spot 3 strongly transversely elongated. Apex of elytra rounded. Legs brownish. Tarsal claws bifid with a tooth at base.



Figs. 7-12. *Henosepilachna subfasciata* (Ws.).

7 and 8 — elytra, 9 and 10 — copulatory apparatus of male, 11 — apex of syphon, ventral view, 12 — apex of syphon, lateral view.

Copulatory apparatus of male (figs. 9-10). Penis shorter than parameres, and, when viewed laterally, broad, massive, bent at apex toward parameres; apex itself tapering to a short sharp point. Penis surface with fairly long hairs. Viewed ventrally, shortly before apex, penis strongly dilated laterally nearly in form of two lateral lobes. Penis lateral edges curved S-like. Parameres arched in their apical part, broad, with a fairly short but dense hairs; basal part of parameres of equal breadth and length. Trabes length nearly equalling that of penis. Syphon massive with a large syphonal sac. Distal part of syphon shaped as on figs. 11-12.

The species belongs to *H. enneasticta* (MULS.) group (DIEKE, 1947) and is more closely related to *H. indistincta* (DIEKE). The group in question includes besides *H. subfasciata* (WS.) (TAIWAN), four more species: *H. enneasticta* (MULS.) from Jawa, *H. indistincta* (DIEKE) from Sumatra, *H. buhleri* (BIEL.) from Flores and *H. sauteri* (BIEL.) described from Sumba (BIELAWSKI, 1959).

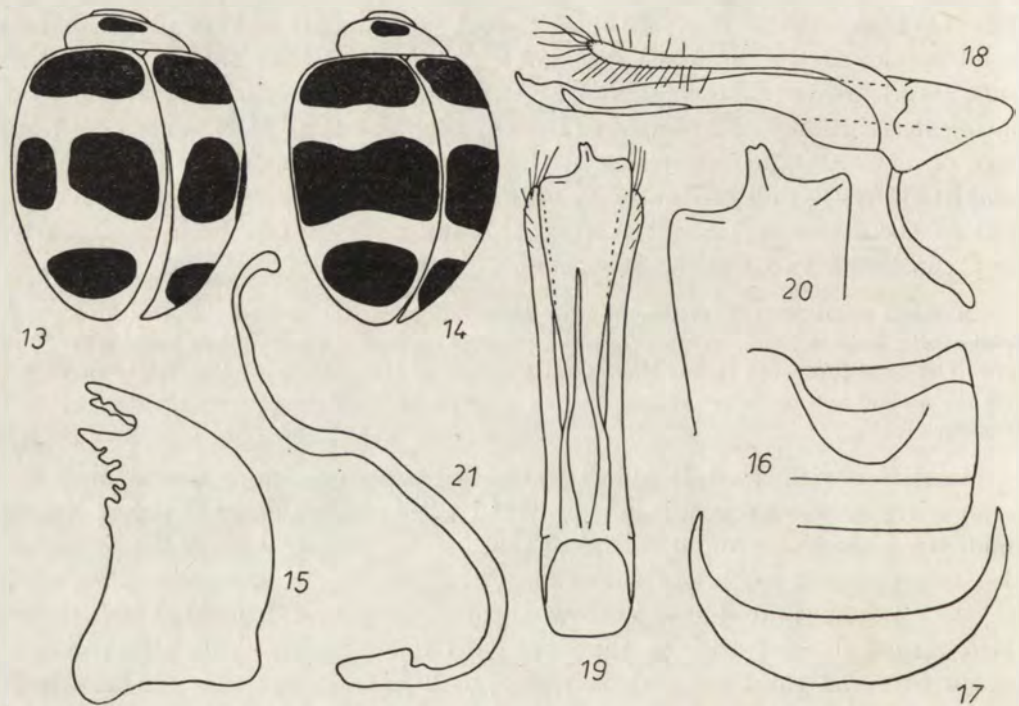
#### *Epilachna lenta* (Ws.)

Described by WEISE, 1902 from Tonkin, and later placed by KORSCHIEFSKY, 1931 in his catalogue; there are no other published data concerning this species. DIEKE describing in 1947 a new species from China — *Afissa completa* DIEKE (this species should be placed in the genus *Epilachna* CHEVR., sensu LI et COOK, 1961) mentioned that it is similar to *E. lenta* (WS.). Exteriorly these two species are almost identical. Unfortunately, DIEKE, 1947 described a female, and examined by me type of *E. lenta* (WS.) turned out to be a male, thus it is impossible to compare these two. A very similar male genital armature in all species of the discussed group, besides the fact that the genitalia of *E. lenta* (WS.) are not known, may also account for this difficulty. While comparing description of *E. completa* (DIEKE) with the type of *E. lenta* (WS.) one may observe certain differences in the femoral line which is complete in *E. completa* (DIEKE) and broken in *E. lenta* (WS.). Similarly, the body size is different in these two species. It is very probable that despite habitus similarity they constitute two distinct forms.

Material examined: "Tonkin, Montes Mauson, April-Mai, 2-3000, H. FRUHSTORFER, *Solanophila lenta* m., coll. WEISE, Typus", male. Also one male from the same locality as type. The type preserved in the Zoological Museum of the Humboldt University in Berlin, and the second specimen in the Institute of Zoology of the Polish Academy of Sciences in Warszawa.

Mandibles with a triple apical tooth and with one large lateral one. Exterior margin, below apical tooth, provided with small, numerous teeth; similar small teeth are to be found on apical tooth itself. Numerous, small teeth occur also below lateral tooth. Antennae long, reaching up to pronotum base, their length 2.4 mm. Club joints narrow at base, long and truncated anteriorly; third antennal joint shorter than the two following ones; flagellum joints, except first and third ones, shorter than club joints. Punctures on head large and dense. Pronotum narrow with lateral margins nearly straight, posterior angles feebly rounded, obtuse; anterior angles rounded and feebly protruding; anterior margin convex; part of posterior margin joining scutellum, straight; punctures on pronotum large, of similar size as on head and very densely distributed and adjoining one another. Interspaces with tiny, sparse, irregular cuts. Scutellum slightly elongated. Apical angles very broadly, almost semi-circularly, rounded. Lateral, bent part of elytra narrow, confined only to a thickened edge. Humeral tubercles large, very feebly protruding. Each ely-

tron with five large marks, of which the first one situated near base and band-shaped (type) (fig. 13). In the second examined specimen with identical genitalia to those in type specimen, two median spots are merged, thus, here two bands and one posterior separated spot are found on each elytron (fig. 14). Punctuation on elytra consisting of sparsely distributed, large but very shallow punctures, as well as densely scattered small ones; adjoining the small punctures are short, tiny cuts arranged radially round them. Legs yellow brownish. Underside yellow brownish, only sides of metasternum black; middle part of first sternit darkened. Femoral line (fig. 16) not complete, regularly curved, semicircular and reaching with its curve beyond  $3/4$  of segment length. Last sternite of male (fig. 14) narrowed anteriorly, broadened posteriorly, short with posterior edge slightly concave, covered by dense, fairly long hairs. Last tergite long with basal processes very short and broad and with dense and long hairs.



Figs. 13–21. *Epilachna lenta* (Ws.).

13 and 14 — body outline and colour pattern, 15 — mandible, 16 — femoral line, 17 — last abdominal sternite of male, 18 and 19 — copulatory apparatus of male, 20 — apex of penis, ventral view, 21 — syphon.

Copulatory apparatus of male (figs. 18–19). Penis slightly longer than parameres, 1.7 mm long, straight, strongly broadened at base, of equal breadth up to one fifth of its length (this breadth is twice smaller than that of dilated

basal part), when viewed laterally. Apical part of penis narrowed and inconspicuously bent toward parameres. Viewed ventrally, its maximum width seems to be in apical part and the part from base up to one third of length is of equal breadth; further on, there is a fairly strong narrowing, passing into dilated distal part, with a truncated apex bearing only a short point in the middle. Apex assymmetrical (fig. 20). Parameres narrow, almost straight with not particularly long and rather scarce hairs. Basal part of penis elongate. Trabes narrow and short, half as long as penis. Syphon as in fig. 21.

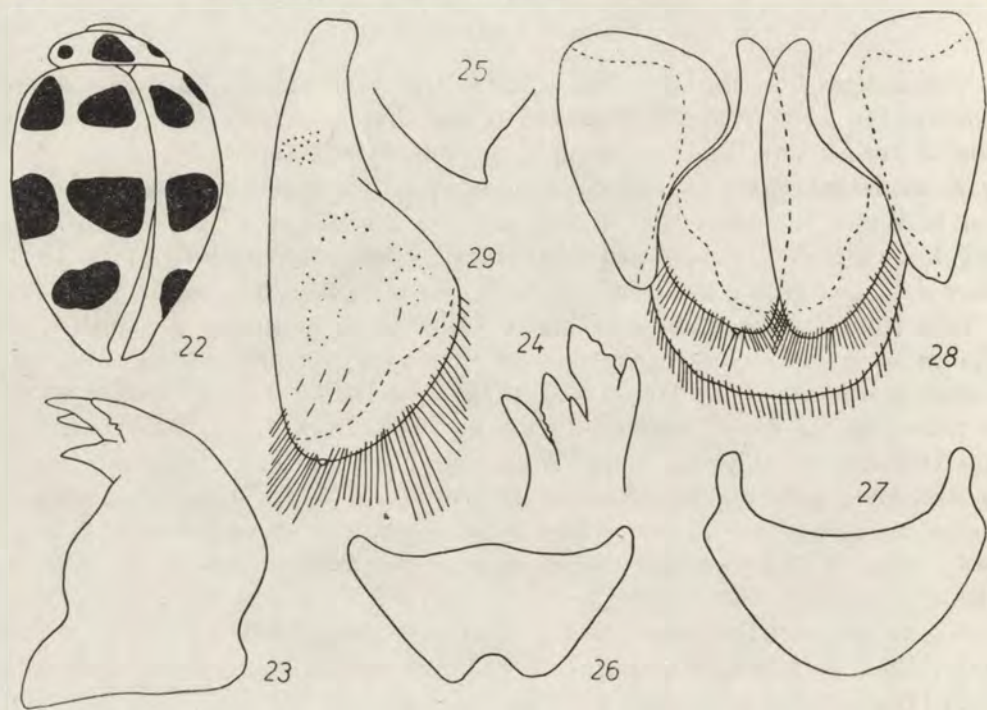
#### *Epilachna acuta* (Ws.)

The species described by WEISE, 1889 under the name *Epilachna acuminata* Ws. In 1900 WEISE introduced a new name — *Solanophila acuta* Ws., since it turned out that the name *E. acuminata* WEISE, 1889 is preoccupied by *E. acuminata* MULSANT, 1853. Another synonym appears to be *Solanophila acutula* WEISE introduced by WEISE in 1902. *Epilachna acuta* (Ws.) is so far only known from China. Apart from short, inaccurate records there are no other data concerning its distribution. It has been recorded by KORSCHESKY in 1933 from Taiwan, but according to LI et COOK, 1961, the specimen found belongs to a new species described as *Epilachna angusta* LI. DIEKE, 1947, describing *Afissa convexa* DIEKE and *A. subacuta* DIEKE (both at present should be placed in the genus *Epilachna* CHEVR., sensu LI et COOK, 1961) mentions that they are allied to *E. acuta* (Ws.), but differ, however, from this species by size, body form and by colour pattern of elytra. Still these species are very similar to each other as far as the female genitalia are concerned. *E. acuta* (Ws.) seems to be more related to *E. convexa* (DIEKE) than to *E. subacuta* (DIEKE), thus, one may wonder if *E. convexa* (DIEKE) and *E. acuta* (Ws.) should belong to one and the same species. Similarly, the species described by LI et COOK, 1961, as *E. angusta* LI has very similar female genitalia to those of *E. acuta* (Ws.), and it is equally possible that both are the same species. Unfortunately, this problem may not be resolved until a sufficient knowledge of the male genitalia of these species is acquired, since several *Epilachna* species despite well defined differences in the male copulatory apparatus show considerable similarities in the genital armature of females. An additional difficulty arises from the fact that neither DIEKE, 1947, nor LI et COOK, 1961 indicate the form of elytral apex which is a very characteristic feature of *E. acuta* (Ws.).

Material examined: "Kan-su, 1850, G. POTANIN, coll. WEISE, Typus, *acuminata* Ws., 89, *acutula* m., 99", female. Type preserved in the Zoological Museum of the Humboldt University in Berlin.

Body strongly convex, its broadest part slightly behind humeral tubercles, gradually narrowing posteriorly. Apical part of elytra bent upward, apex strongly pointed, its terminal part bent exteriorly (fig. 25). Dorsal side brow-

nish with three spots on pronotum and five spots on each elytron (fig. 22). Antennae long, reaching beyond half of pronotum length, but never beyond its base. Length of antennae — 2.2 mm. Club joints elongate, broadest at base, their anterior face oblique. Third antennal joint shorter than two following ones. Mandibles with triple apical and single lateral tooth (fig. 23). Apical tooth with small single teeth situated on its interior face and on the exterior branch (fig. 24). Below lateral tooth additional teeth are lacking. Punctures on head small and numerous, densely distributed, particularly at



Figs. 22-29. *Epilachna acuta* (Ws.).

22 — body outline and colour pattern, 23 — mandible, 24 — apex of mandible, dorsal view, 25 — apex of elytra 26 — last abdominal sternite of female, 27 — last abdominal tergite of female, 28 — copulatory apparatus of female, 29 — genital plate.

sides of head. Anterior angles of pronotum broadly rounded, not protruding. Posterior angles of pronotum obtuse, feebly rounded and only slightly protruding posteriorly. Lateral margin of pronotum regularly arched, anterior one concave. Punctures in the middle of pronotum fairly large and densely distributed, those on sides larger and very densely scattered, interspaces with distinct perforations and scratches. Scutellum brownish, equilateral. Lateral borders of scutellum on half of length slightly emarginated. Lateral bending of elytra fairly broad and conspicuous. Humeral tubercles large and distinctly protruding. Apical angle distinct. Elytra mat. Puncturation on elytra strongly



effaced. Large punctures very shallow and sparsely distributed, small ones extremely tiny, shallow, sparsely distributed and barely visible; interspace with a strong, well developed microsculpture. Legs brownish. Underside brownish, except black metasternum and strongly darkened abdominal segments. Femoral line not complete, reaching with its bent up to  $\frac{4}{5}$  of length and terminating at half of segment length. Fifth abdominal sternite strongly and broadly incised, this incision reaching up to half of sternite length; when sternite not prepared the incision appears to reach the base. Last abdominal sternite (fig. 36) long, with lateral margins straight; posterior margin strongly and broadly incised, pilosity very short and rather not particularly dense. Last abdominal tergite (fig. 27) very long with basal processes rather narrow and fairly long, its posterior margin regularly, almost semicircularly curved; pilosity consisting of densely distributed but short hairs.

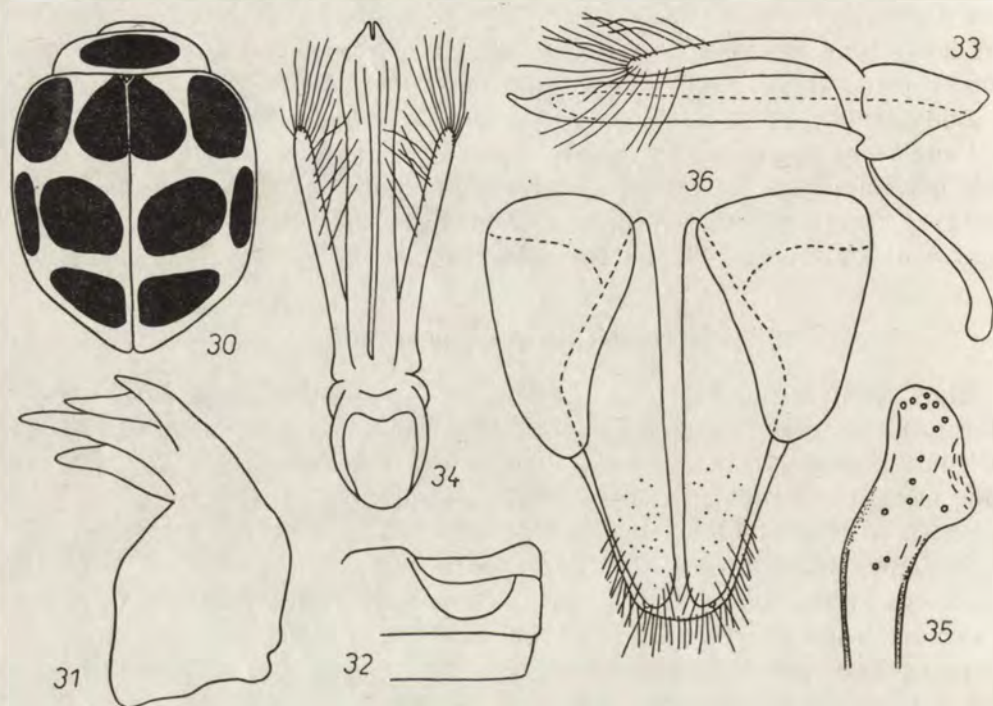
Body length 9.3 mm.

Copulatory apparatus of female (fig. 28). Genital plates (fig. 29) covered with not numerous, irregularly scattered punctures with basal part elongate and very feebly sclerotised. Length of each genital plate — 1.05 mm, maximum width 0.45 mm. Sexual tubercles very short, pilosity long and dense.

#### *Epilachna freyana* sp. n.

Body fairly strongly convex, broadly oval in outline. Head black, except lateral and anterior margins which are brownish. Labrum, mouth parts and antennae brownish, apex of mandibles black. Antennae long (1.25 mm) reaching beyond half of length of pronotum. Third antennal joint equalling fourth and fifth in length. Last joint of antennal club elongate with anterior margin straight. Mandibles with four large teeth, without any of small teeth (fig. 31). Teeth arranged alternatively so that when viewed dorsally only the base of two teeth are visible. Punctures on head fairly large and very dense; interspaces narrower than punctures diameter, glabrous. Pronotum brownish with a large black transverse spot. Lateral margins of pronotum very feebly arched, anterior margin slightly convex. Posterior angles of pronotum feebly rounded, obtuse; anterior angles strongly rounded, feebly protruding. Punctures on pronotum fairly large, of similar size as on head and similarly densely distributed; interspaces glabrous, strongly shining. Scutellum brown, equilateral. Elytra brownish each elytron with five very large, black spots (fig. 30). Second spot situated on humeral tubercle, reaching nearly elytral lateral margin and base, only edge of elytron remaining brown. First spot elongate, reaching the suture and forming together with a corresponding spot one large band surrounding scutellum from both sides; second spot may be narrow and merged with the first one. Two following spots are situated about a half of elytra length and are situated very close to the suture and lateral margin, elytron edge remaining brown. Distance between the two spots is a very small one

and may vary slightly with various specimens. Sometimes these spots adjoin each other with their middle part, however, I never was able to see any specimen with these spots forming a band and which happened to be of equal breadth all along their length. Fifth spot situated in apical part of elytra and distance between the spot and apex exceeding by almost three times that between spot and lateral margin or suture, the latter two distances being about equal. Humeral tubercles very large and strongly protruding. Lateral bending of elytra very narrow and actually confined only to a thickened edge. Apex of each elytron slightly elongate, apical angle rounded, thus two apices



Figs. 30-36. *Epilachna freyana* sp. n.

30 — body outline, dorsal view, 31 — mandible, 32 — femoral line, 33 and 34 — copulatory apparatus of male, 35 — apex of syphon, lateral view, 36 — copulatory apparatus of female.

does not fit each other. Puncturation on elytra composed of not numerous, irregularly scattered large punctures, and small punctures of similar size as in pronotum; small punctures very densely distributed, the interspaces being about half as broad as the punctures diameter; interspaces glabrous and shining, only areas around punctures with tiny cuts arranged radially. Pubescence on elytra fairly scarce, short and adherent, goldish on pale ground-colour, and black on spots. Epipleures of pronotum and elytra brownish.

Legs brownish with femora darkened to a various degree in particular specimens, never wholly dark. Tarsal claws bifid without teeth at base. Inner tooth slightly shorter, but broader than the outer. Underside black. Abdominal segments black, only margin of four last segments brown. Femoral line (fig. 32) complete, in form of a semicircular arch, its curvature reaching up to  $3/4$  of segment length. Last abdominal sternite of male semicircularly bent, its posterior margin regularly arched with fairly long but rather sparse hairs. Last abdominal tergite of male long with short and narrow basal processes, and with rather long and not very numerous hairs. Last abdominal sternite of female split, almost semicircularly curved with long and numerous hairs. Last abdominal tergite of female long with basal processes directed slightly laterally, with posterior margin almost semicircularly arched; hairs long and dense.

Body length 4.3–4.7 mm.

Copulatory apparatus of male (figs. 33, 34). Length of penis 0.95 mm, breadth when viewed laterally 0.12 mm. Penis straight, and when viewed laterally nearly equally broad on its whole length, except at its apex where strongly tapering to a point and bent toward parameres. When viewed ventrally it appears to be narrow, almost of equal breadth on its whole length, except just before apex where it is slightly enlarged, its apex narrowed to a short bifid point. Parameres shorter than penis, straight, narrow; hairs very long but sparse. Syphon narrow and very long (length over 2 mm) at  $2/3$  from apex strongly semicircularly arched. Syphonal sack small. Termination of syphon as on fig. 35.

Female copulatory apparatus (fig. 36), of similar structure as in *E. flavicollis* (THBG.). Length of genital plates 0.85 mm, maximum breadth 0.24 mm. Sexual tubercles very small, pilosity long and profuse.

Holotype: "China, W. Szechwan, Sankiangkou, Wolung 2000 m, Wassuland, 7. 10. 1934, leg. FRIEDRICH", male. Preserved in the Museum G. Frey in Tutzing.

Paratypes. From the same locality as holotype. 46 specimens, kept in the Museum G. Frey in Tutzing and in the Institute of Zoology of the Polish Academy of Sciences in Warszawa.

I name this species in honour of Dr. G. FREY.

By its external appearance as well as its size *E. freyana* sp. n. stands very close to *E. expansa* (DIEKE), described also from Szechwan. These two species differ from each other by their male genitalia as well as by the form of syphon. Penis in *E. expansa* (DIEKE) when viewed laterally (DIEKE, 1947, fig. 160) is distinctly broadened at base and at its anterior part and fairly short (length 0.65 mm), whereas when viewed ventrally it appears to be relatively large. In the described by me species the penis in lateral view is equally broad along its whole length and it seems to be rather elongate (length 0.95 mm), while it is narrow in ventral view. In *E. expansa* (DIEKE) the syphon seems to be short (length 1.2 mm) nearly straight and endowed with a large syphonal

sack, whereas in *E. freyana* sp. n. this organ is comparatively long (length over 2.0 mm) and slightly arched and has a small syphonal sack.

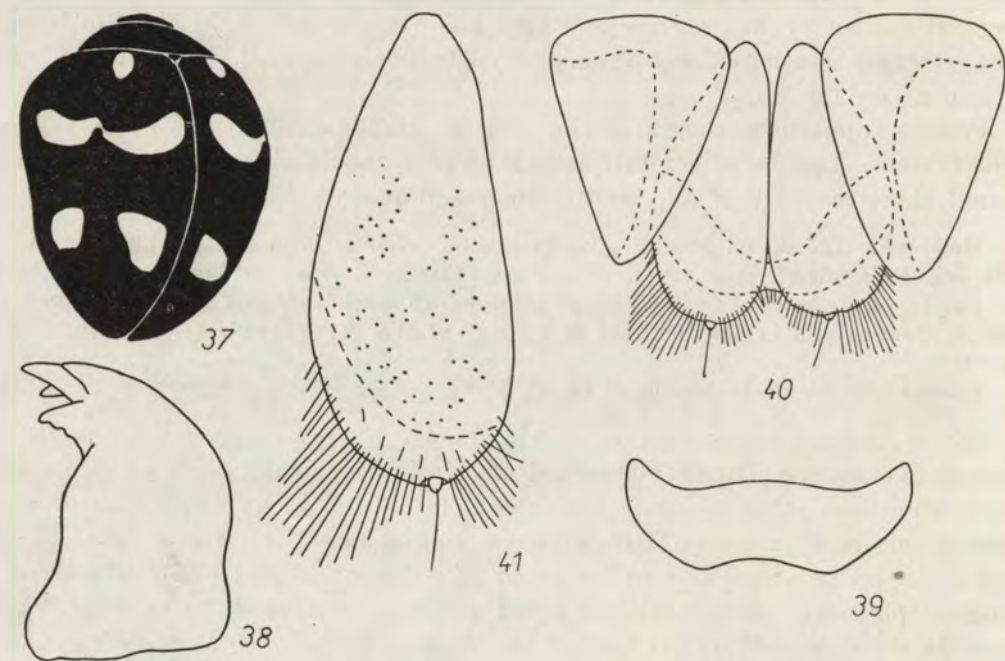
*E. freyana* sp. n. resembles also *E. provisoria* (DIEKE), it differs from this species by the arrangement of elytral spots, by its size, and by its genital armature of male.

Female copulatory apparatus of *E. freyana* sp. n. appears to have more in common with *E. provisoria* (DIEKE) than with *E. expansa* (DIEKE), and is definitely of *E. flavicollis* (THBG.) type. Therefore I am inclined to place this species in *E. flavicollis* (THBG.) group as proposed by DIEKE, 1947.

#### *Epilachna hauseri* (MADER)

The species described by MADER in 1930 from China (Yunnan, Shantung) as *Solanophila hauseri* MADER. It was recorded by KORSCHESKY, 1931, in his catalogue, but only, from Yunnan, and subsequently by MADER, 1935, from Yunan and Shantung, and by DIEKE in 1947, from Szechwan. The male genitalia figures are given by DIEKE, 1947.

Material examined: "Szechwan mer., Mts. Kinfushan, 2000 m. Sung-Kanho., *Solanophila hauseri* MAD., det. MADER", 1 female kept in the collection of the Institute of Zoology in Warszawa.



Figs. 37-41. *Epilachna hauseri* (MADER).

37 - body outline and colour-pattern, 38 - mandible, 39 - last abdominal sternite of male, 40 - copulatory apparatus of female, 41 - genital plate.

Each elytron with five black brownish spots on black background, of which two median are merged (fig. 37). Mandibles with triple apical tooth and one lateral tooth (fig. 38). Apical tooth provided on its inner surface with tiny, single teeth; they occur also on the lateral tooth. Punctures on head large, deep and dense, interspaces with a distinct microsculpture in form of irregular cuts partly connected together. Punctures on pronotum of similar size as on head but very densely distributed, deep. Distance between particular punctures, smaller than half of their diameter. Interspaces with irregular cuts. Scutellum strongly convex with sides inconspicuously S-curved. Apical angle of elytra rounded. Lateral bending of elytra broad. Humeral tubercles very large and strongly protruding. Large punctures on elytra irregularly and scarcely distributed; small punctures very dense. Interspaces with a distinct microsculpture in form of irregular cuts partly connected together. Fifth abdominal sternite with its posterior margin broadly and deeply incised. Last abdominal sternite of female (fig. 39) long, with posterior margin strongly arched, its pubescence short and profuse.

Length of body 7 mm.

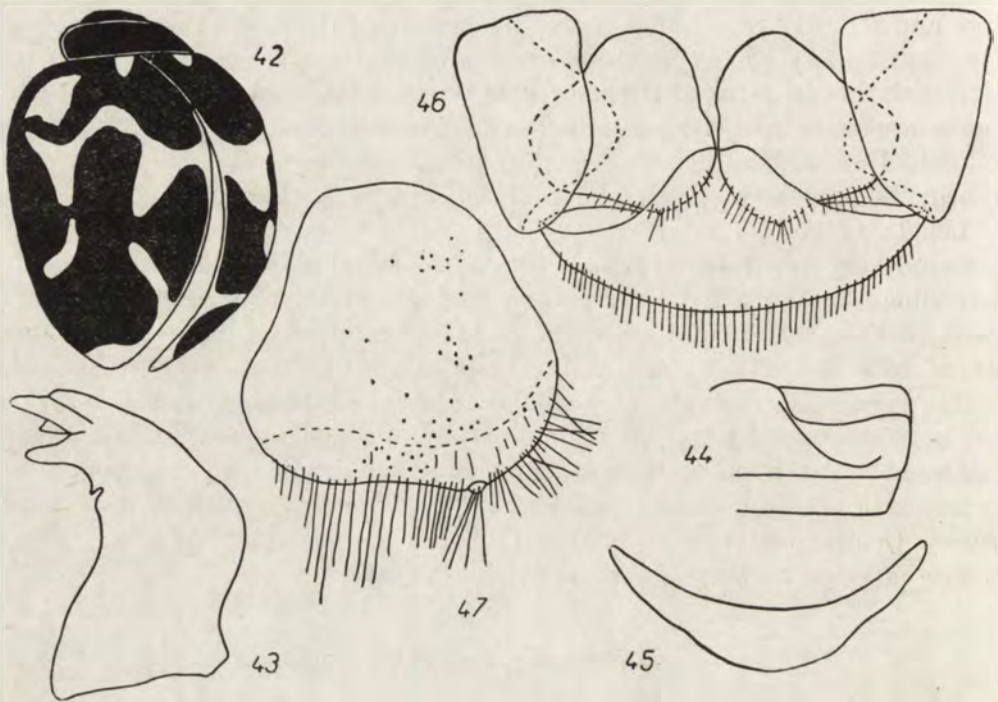
Copulatory apparatus of female (fig. 40). Genital plates elongate, gradually distending through a little more than half of length, and bent arch-like in apical part (fig. 41). Length of genital plate 0.72 mm, maximum width 0.34 mm. Sexual tubercles rather small, hairs dense and long. Base of plates rounded.

The species is exteriorly very similar to *E. exornata* sp. n. It differs, however, beyond doubt by its last abdominal sternite and by genital armature of female. Last abdominal sternite of female in *E. hauseri* (MADER) has very strongly concave posterior border, whereas in *E. exornata* sp. n. it is convex and arched. Genital plates in *E. hauseri* (MADER) are strongly elongate, while in *E. exornata* sp. n. they are of equal length and breadth.

#### *Epilachna exornata* sp. n.

Body strongly convex, almost round in outline. Head black, except brownish anterior part. Antennae and mouth parts brown, apical part of mandibles black. Antennae fairly long, reaching up to half of pronotum length. Third antennal joint shorter than following two; joints of club feebly elongate, last joint truncate anteriorly. Mandibles with a triple apical tooth and one single lateral tooth (fig. 43). Apical tooth and its exterior branch provided with small, single teeth. There is one small, shorter tooth below lateral one. Punctures on head large, very deep and dense, interspaces smaller than half of punctures diameter, and with a distinct microsculpture in form of irregular, partly connected together cuts. Pronotum black, with brown anterior and lateral margins; lateral margin of pronotum feebly arched, anterior margin strongly arched; anterior angles broadly rounded and protruding. Punctures on pronotum large, of similar size as on head, deep and very densely distributed, the

distances between them being smaller than half of punctures diameter; interspaces with cuts arranged radially round each puncture, and connecting their outer margins. Scutellum black, strongly elongate. Elytra black with dark reddish, irregularly elongated spots which are partly marged as presented on fig. 42. Spots margins blurred and confluent with ground colour. Lateral bending of elytra fairly broad and distinct, edge thickened. Apical angles rounded. Humeral tubercles large and strongly protruding. Large punctures on elytra deep, irregular and sparse, small punctures very minute, deep and densely distributed; interspaces with a distinct microsculpture in form of irre-



Figs. 42-47. *Epilachna exornata* sp. n.

42 - body outline and colour-pattern, 43 - mandible, 44 - femoral line, 45 - last abdominal sternite of female, 46 - copulatory apparatus of female, 47 - genital plate.

gular cuts connected together. Elytra pilosity long, surface clinging, not particularly dense, goldish in colour on the whole surface. Legs blackish, except apical part of femora and tibiae which are brownish. Tarsal claws bifid without a tooth at base. Underside black, except for sides, prosternum and mesosternum which are brownish. Epipleures of elytra with distinct depression to fit the apical part of femora. Femoral line (fig. 44) not complete, feebly arched, its bending reaching near the posterior margin. Distance between the posterior end of femoral line and the lateral margin twice smaller than the distance between this end and anterior margin. Fifth sternite without incision. Last

abdominal sternite (fig. 45) very short, feebly bent, with posterior margin arched, narrowed, its pilosity short and rather poor. Last abdominal tergite not particularly long with basal processes broad and long, its pilosity short but profuse.

Body length 7.5–7.7 mm.

Copulatory apparatus of female (fig. 46). Genital plates irregular in form, the broadest part being at posterior end (fig. 47). Length of genital plate 0.5 mm, maximum breadth 0.5 mm. Sexual tubercles small, with long and dense hairs. Genital plates with scarce punctures. Tenth abdominal tergite strongly bent posteriorly, strongly sclerotised, elongated in its posterior half and with slightly emarginated apex.

Holotype: "China, Yunan, ex. coll. Sz. TENENBAUM, *Epilachna* 28-*maculata* v. *contaminata* MADER", female. 1 paratype, female, with the same label as holotype. Holotype and paratype kept in the collection of the Institute of Zoology of the Polish Academy of Sciences in Warszawa.

The species, because of its strongly bent tenth abdominal tergite and the presence of depression on elytral epipleures, should be placed in the *E. chapini* (DIEKE) group (DIEKE, 1947). Among the species of the group mentioned it resembles most *E. militaris* (DIEKE), from which it differs, among other characters, by its colouring of elytra and the form of femoral line; exteriorly it is similar to *E. hauseri* (MADER), the genital plate and structure of abdominal segments, however, allows an easy separation of these two species.

#### *Coelophora moseri* Ws.

The species was described by WEISE in 1902 from Tevor I. and Mysol I., subsequently it was recorded by WEISE in 1908, and KORSCHESKY in 1932 but only from the islands mentioned.

WEISE, 1902, describing the species gives its elytra as rusty reddish with a large black spot. The examined by me material, however, displays, besides the specimens coloured as in the description (fig. 55), also those with a different, so far unknown colour pattern: the specimens from New Guinea have fully black elytra or at most with a small red spot at apex (fig. 56). KORSCHESKY set apart a certain number of dark coloured specimens in the collection of the Deutsches Entomologisches Institut as a „subspecies”, which he, however, did not describe. It seems, that this variety can not be considered as a distinct subspecies, as it does not differ, apart from colour, from the typical form. Therefore, having examined the KORSCHESKY specimens designated by him as „types”, I treat them merely as colour varieties without giving a name.

General distribution: Tevor, Mysol, Key, New Guinea.

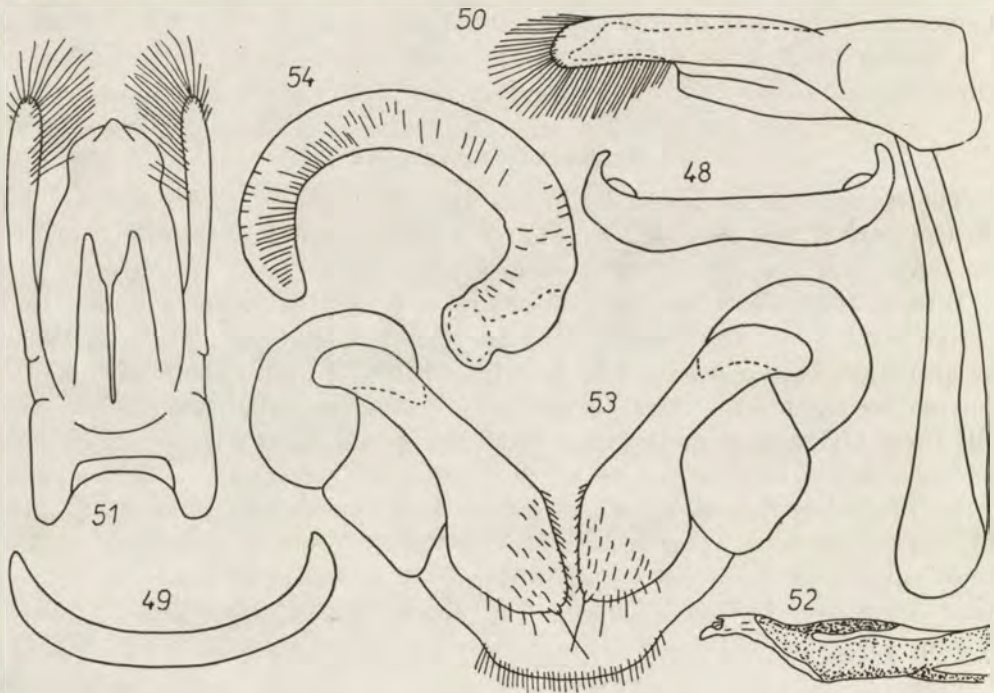
Material examined: Key Ins., 1 specimen. Mysol Insel, 1 specimen. NW New Guinea: Hollandia, 24. VII. 1955, 100 m, J. L. GRESSITT coll., 1 specimen. NE New Guinea: Wahnes, FRANKLIN MÜLLER, 2 specimens; Bulolo, 1020 m, 15. VIII. 1956, E. J. FORD, Jr.,

coll., 1 specimen; Bulolo, 730 m, 21. VIII. 1956, E. J. FORD, Jr. coll., 1 specimen; Busu R., E. of Lae, 100 m, 13. IX. 1955, J. L. GRESSITT coll., 1 specimen; Adelbert Mts., Wanuma, 800-1000 m, 24. X. 1958, J. L. GRESSITT coll., 1 specimen. SE New Guinea (Papua): Kiunga, Fly River, 11-13. VIII. 1957, W.W. BRANDT coll., 1 specimen; Daradae, nr. Javarare, Musgrove R., 4. X. 1958, J. L. GRESSITT coll., 1 specimen.

5 specimens are in the Bernice P. Bishop Museum in Honolulu, 2 specimens in Deutsches Entomologisches Institut in Berlin and 4 specimens in the Institute of Zoology of the Polish Academy of Sciences in Warszawa.

Body fairly strongly convex, round in outline. Head brownish or brown, with a dark spot across the middle. Pronotum wholly reddish brown or black, with anterior angles yellowish, or with a large, round spot at sides; this spot not reaching lateral margins (anterior angles remain yellow). Underside either pale brownish including epipleures, or pale brownish with black epipleures and a yellow spot situated in their anterior half, or wholly black. In one examined specimen pro- meso- and metasternum black brownish. Legs always pale brown.

Antennae long, slender, strongly pilose, their length 1.37 mm. Ratio of antenna length to frons breadth 1.85:1. Particular antennal joints fairly strongly elongated; club exteriorly serrate, its last joint with interior face



Figs. 48-54. *Coelophora moseri* Ws.

48 - last abdominal sternite of male, 49 - last abdominal sternite of female, 50 and 51 - copulatory apparatus of male, 52 - apex of syphon, lateral view, 53 - copulatory apparatus of female, 54 - receptaculum seminis.



almost straight and anterior one convex (fig. 57). Labrum large, covering a greater part of mandibles. Anterior margin of frons straight. Punctures on head fairly large but sparse; interspaces with a tiny but distinct microreticulation. Punctures on pronotum of similar size as on head but deeper and denser; interspaces with a fairly distinct microreticulation. Punctures of elytra smaller than those on pronotum, shallow and sparse; interspaces covered by tiny perforations, so densely distributed that forming almost a microreticulation.

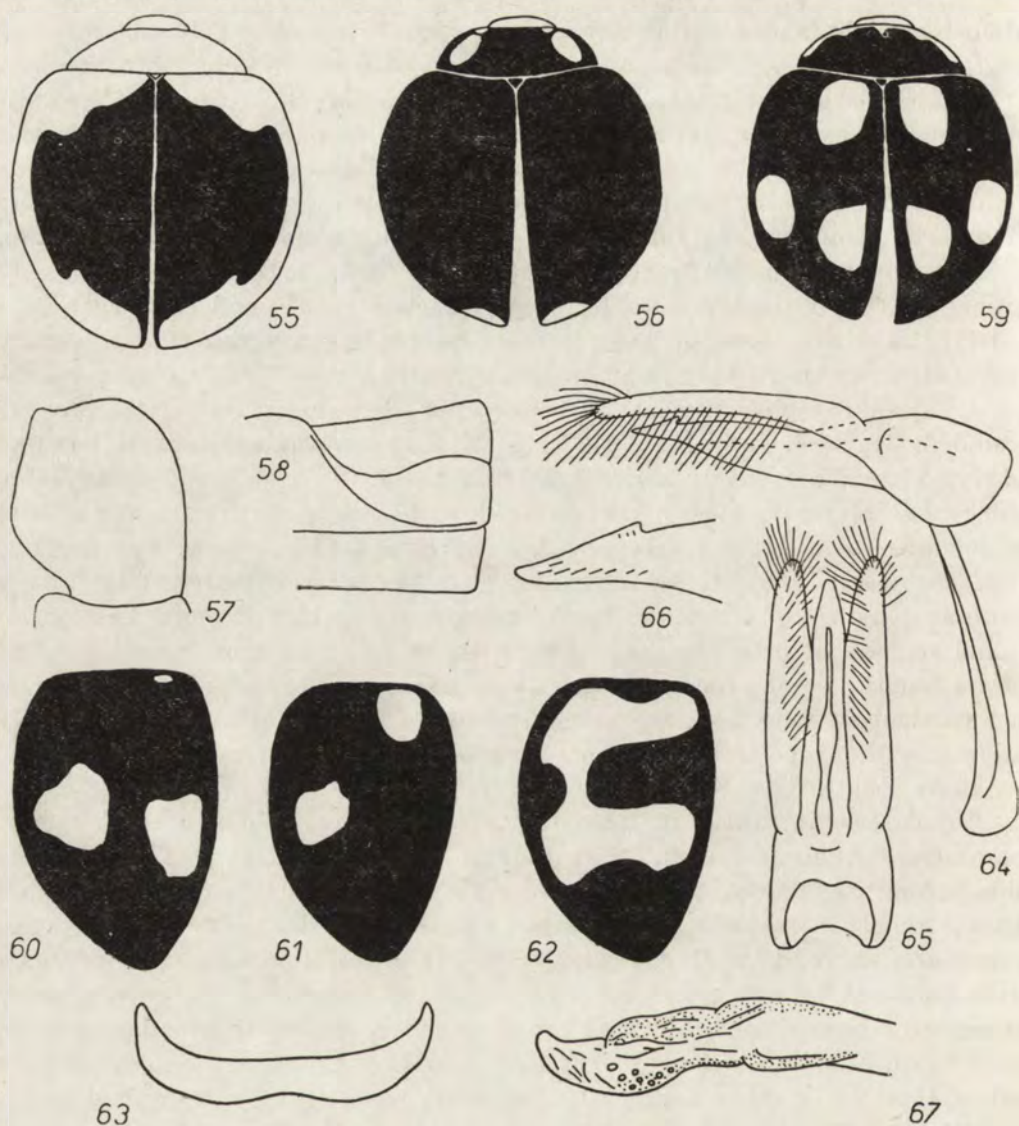
Anterior margin of pronotum strongly arched. Lateral margins feebly arched and before anterior angles slightly incised. Its lateral edge very delicately thickened. Anterior angles feebly protruding anteriorly and broadly rounded. Pronotum feebly bent on sides. Scutellum reddish or black, equilateral, sides inconspicuously incised before apex. Apical angles of elytra broadly rounded. Humeral tubercles large and strongly protruding. Lateral bending of elytra broad and nearly horizontal. Lateral edge of elytra broadly but feebly thickened. Elytra epipleures with a shallow depression to fit the distal part of femora. Tarsal claws single with a fairly large tooth at base. Femoral line (fig. 58) reaching by its bending almost up to posterior margin and further running parallel to it towards lateral margin near which it ends. Last abdominal sternite of male (fig. 48) short, with posterior margin incised on half of its length, basal processes fairly long, narrow, pilosity profuse but hairs not particularly long. Last abdominal sternite of female (fig. 49) short, strongly arched, without posterior incision, its pilosity short and poor.

Body length 5.5–6.8 mm.

Copulatory apparatus of male (figs. 50, 51). Penis slightly shorter than parameres, situated between them. Viewed laterally, a small part of its upper side before apex fairly strongly convex. Viewed ventrally, very broad, before apex strongly narrowed, its broadened apex provided with a short process. Parameres viewed laterally, broad, straight, their distal part regularly rounded with long and profuse pubescence. Basal part of parameres truncate, slightly elongated towards trapes. Trapes broad, massive, gradually broadening from base towards apex, its length exceeding length of parameres and basal part taken together. Syphon large, massive, bent semicircularly from half of its length on, syphonial sack small, its apex as on fig. 52.

Female genital armature (fig. 53). Genital plates in form of a club, their basal part of almost equal breadth along its whole length; apex curved. Apical part of genital plate terminated by a small sexual tubercle and covered by short but numerous setae. Receptaculum seminis (fig. 54) strongly and regularly arched, almost equally broad on its whole length, its surface, particularly in distal part with delicate but numerous grooves.

The species, particularly its darkly coloured forms, resembles exteriorly specimens of *Synia seminigra* (Ws.), which, until recently, has been placed within the genus *Coelophora* MULS. (BIELAWSKI, 1964). These two species differ, however, noticeably by the head structure.



Figs. 55-67.

55-58 - *Coelophora moseri* Ws., 59-67 - *Coelophora sexguttata* Ws., 55, 56, 59 - body outline, dorsal view, 57 - last joint of antennal club, 58 - femoral line, 60-62 - elytra, 63 - last abdominal sternite of male, 64 and 65 - copulatory apparatus of male, 66 - apex of penis, lateral view, 67 - apex of syphon, lateral view.

***Coelophora sexguttata* Ws.**

The species known so far only from the Philippines and Batam Islands (KORSCHESKY, 1932).

The examination of the material borrowed from the Museum für Tierkunde

in Dresden, permitted me to check the variability of the colour pattern on elytra.

They are black with three orange yellowish spots on each elytron (fig. 59). Particular spots may vanish or may tend merge with each other. In one examined specimen the mark situated near scutellum is reduced to a very small spot (fig. 60). In another one the spot at suture (fig. 61) disappears completely, and in still another all three spots merge into one big spot (fig. 62).

Head in all specimens yellow. Head and pronotum with a distinct microreticulation among punctures. Elytra with microsculpture reduced to distinct, irregular cuts. Femoral line not complete, its curvature reaching almost the posterior margin and further running parallel toward the lateral margin and ending near it. Last abdominal sternite of male (fig. 63) short, feebly arched, with posterior margin slightly concave. Pubescence fairly long but sparse. Last abdominal tergite of male with posterior margin very feebly arched; basal processes short and fairly narrow; pubescence scarce, consisting of alternately short and long hairs.

Male copulatory apparatus (figs. 64, 65). Penis shorter than parameres. Length of penis 0.7 mm, its maximum width 0.15 mm. Viewed laterally it bears, from the parameres sides, a small hook (fig. 66), viewed ventrally, it is short, narrowed in apical part, with a rounded point, and almost of equal breadth on its whole length. Parameres narrow, arched with a profuse and long pubescence; hairs occur, apart from apex, on the lateral margin facing penis at one third of length from base. Basal part slightly elongated. Trabes narrow, broadened in apical part, shorter than penis and basal part taken together. Syphon strongly arched with a small syphonal sack. Apex of syphon as on fig. 67.

Material examined: Luzon, Manila, W. SCHULTZE, 2 specimens. Luzon, Benguet, Beguio, 1600 m, coll. W. SCHULTZE, 2 specimens. Palawan, Bucuit, 1909, C. M. WEBER, 1 specimen.

Four specimens kept in the Museum für Tierkunde in Dresden, and one specimen in the Institute of Zoology of the Polish Academy of Sciences in Warszawa.

#### ***Neda bourgeoisi* KERV.**

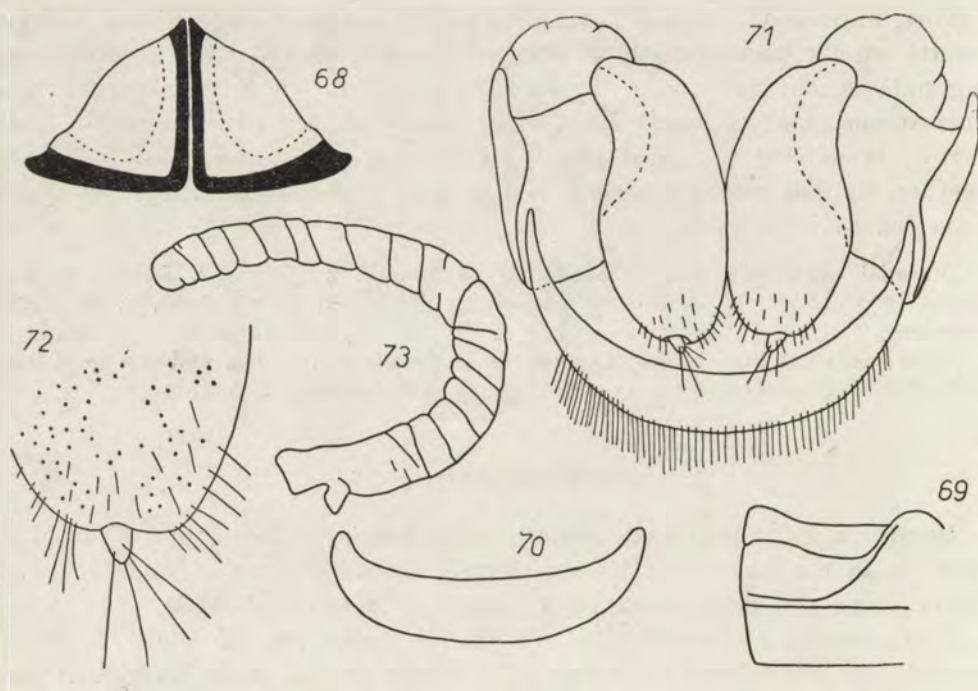
In my paper (BIELAWSKI, 1963a) on the species of the genus *Neda* MULS. occurring in the Australian Region, I gave the description of *Neda bourgeoisi* KERV. using the description by GADEAU de KERVILLE, 1884.

Now, having examined 1 female of the collection of the Zoologisches Museum der Universität in Berlin („N. South Wales, *Neda Bourgeoisi* KERVILLE”).

I give the supplement to the description of this species.

Body strongly convex, almost round in outline. Convexity of elytra in posterior view pointed (fig. 68). Punctures on head large and not particularly

dense, interspaces with a deep and distinct microreticulation. Anterior and posterior angles of pronotum broadly rounded, the anterior ones feebly protruding. Lateral margin of pronotum feebly arched. Sides of pronotum with a depression. Punctures on pronotum large and fairly densely distributed, interspaces with a distinct microreticulation. Scutellum black with its base longer than sides, posteriorly produced in a short point. Humeral tubercles fairly large but feebly protruding. Lateral bending of elytra very broad, the edge not bordered. Puncturation on elytra consisting of both very large and smaller punctures, arranged very densely, so that the distance between them is shorter than half of their diameter. Interspaces with very tiny perforations and distinct scratches. Tarsal claws single with a short tooth at base at half their length. Underside black, only posterior angles of prosternum and epimeres of mesosternum white. Femoral line (fig. 69) interrupted, its curvature reaching near the posterior margin, further running parallel to it and ending almost at the lateral margin. Last abdominal sternite of female (fig. 70) with posterior margin regularly but feebly arched and at about half of width on almost whole length very slightly sclerotised. Pubescence fairly well developed but short.



Figs. 68–73. *Neda bourgeoisi* KERV.

68 — body convexity, posterior view, 69 — femoral line, 70 — last abdominal sternite of female, 71 — copulatory apparatus of female, 72 — apex of genital plate, 73 — receptaculum seminis.

Length of body 10.4 mm, maximum width 9.6 mm, height 4.8 mm.

Female copulatory apparatus (fig. 71). Length of genital plate 0.75 mm, maximum width 0.34 mm; they are pear-shaped with exterior margin bent S-like; inner angle at posterior end of plate rounded (fig. 72). Sexual tubercles fairly large, pubescence short, hairs not numerous; surface of genital plates densely punctured. Receptaculum seminis (fig. 73) bent U-like, narrow, ramus narrow and short, nodulus broad. Grooves on receptaculum seminis surface numerous.

The species distinctly differ from other species by its colouring of dorsal side of the body. Its genital plates place it close to *N. fuerschi* BIEL., while its femoral line is similar to that of *N. maai* BIEL., and the convexity of elytra resemble that of *N. karubakana* BIEL. (BIELAWSKI, 1963a).

### *Menochilus sexmaculatus* (F.)

The species is very widely distributed. It ranges from New Guinea to Iran (BIELAWSKI et CHÛJÔ, 1961), and has also been recorded from Australia (WEISE, 1908).

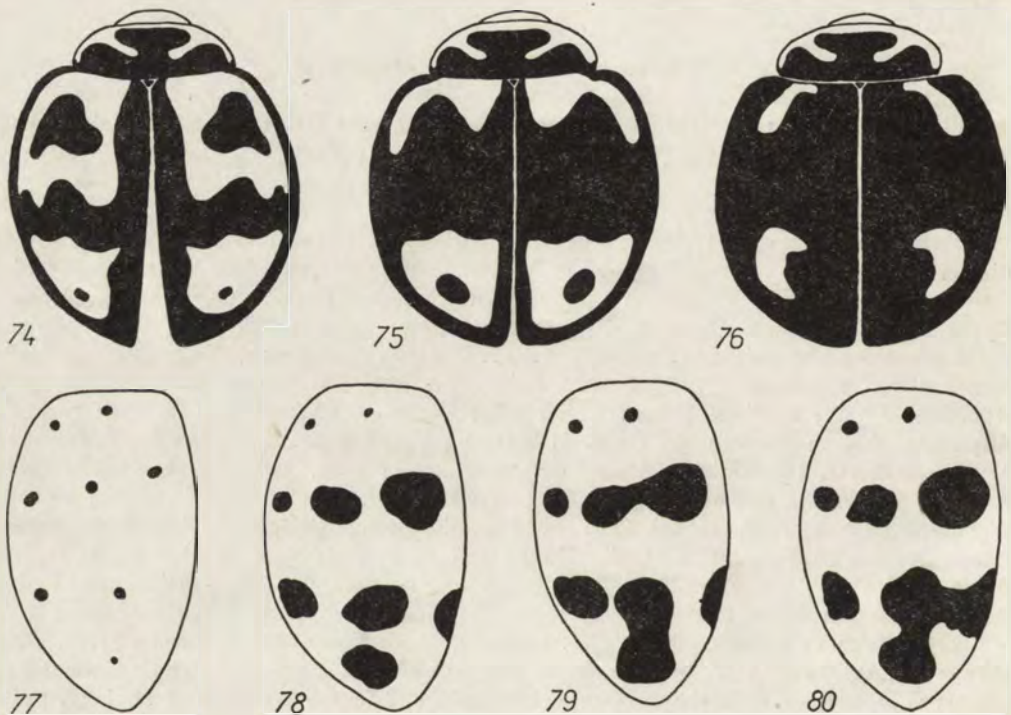
Material examined: NW New Guinea: Waris, S. of Hollandia; Biak I, Mangrowana; Biak I (Central); Wamena; Kulima; Star Mts., Sibil Val. NE New Guinea: Goroka; Numbu Upper Chimbu V.; Upper Chimbu V.; Nondugl; Wana, Upper Iimi V.; Kumur, Upper Iimi V.; Tsenga, Upper Limi V.; Lao; Bulolo; Gewang Salawaket Range; Waghi V.; Kerowagi area; Minjarea; Wampit V., nr. Gurakor Village, nr. Wau; W. Highlands, Hagen, SE of Korufarm; W. Highlands, Baiyer R.; W. Highlands, Koru Farus; Torricelli Mts., Mokai Vill.; Torricelli Mts., Sugoitei Vill.; Korifeigu, 22 km SE of Soroka; Feramin; Eliptamin Valley; Kassam, 48 km E of Kainantu; Banz; Sinofi, 30 km S of Kainantu; Aiyara; Bainyik, 150 km S of Maprik; Bulldog Road; Wau, Morobe distr.; Nami Creek, 6 km W of Wau. SE New Guinea (Papua): Bisianumu, E of Port Moresby; Kokoda, Woodlark (Murua), Kukumadau Hill; Owen Stanley Range Goilala, Tapini; Owen Stanley Range Goilala, Loloipa; Owen Stanley Range Goilala, Tororo; Owen Stanley Range Goilala, Bome; Koitake; S. Highlands, Mendi; Goroka; Kapagere nr. Rigo; Eliptamin Valley; Doradae, 80 km N to Port Moresby.

297 specimens collected by W. W. BRANDT, E. J. FORD, JR., J. L. GRESSITT, D. E. HARDY, T. C. MAA, C. D. MICHENER, J. SEDLACEK from 1955-1961. The specimens are preserved in Bernice P. Bishop Museum, Honolulu and in the Institute of Zoology, Polish Academy of Sciences, Warszawa.

The overwhelming majority of the examined by me specimens from New Guinea have a transverse band on elytra merged with a spot situated in anterior half of elytra (fig. 75). Posterior part of elytra with a small spot which in certain specimens is separated, while in others it is merging with a black colour of elytral suture, still in others this spot disappears completely, such form being known as *Menochilus sexmaculata* v. *unifasciata* Ws. (WEISE, 1891). Since 95% of examined from New Guinea specimens belong to the latter form, we may presume that it constitutes a distinct subspecies. However, the simultaneous occurring of lightly coloured specimens, as well as those with a kind

of intermediate colouring, contradicts this assumption, all the more so as these specimens do not differ in any substantial way from those collected in Sunda Islands (BIELAWSKI, 1959). Among the specimens from New Guinea, there are also those having black colouring of elytra very extensive and covering almost whole elytra surface, while the reddish yellow ground-colour is confined only to two small spots. The specimens darkly coloured show also a certain extension of black colour, they display pronotum black with yellow borders and with two very small spots situated on both sides before scutellum.

In the latter case we may only state that in the New Guinean specimens the tendency toward melanism is particularly well pronounced. The size of the specimens examined varied from 4.0 to 6.4 mm.



Figs. 74-80.

74-76 - *Menochilus sexmaculatus* (F.), body outline, dorsal view, 77-80 - *Harmonia sedecimnotata* (F.), elytra.

#### *Harmonia sedecimnotata* (F.)

In the material of the Museum für Tierkunde in Dresden I examined, I found several specimens showing a peculiar variability in the colour pattern of elytra which has not been described so far (figs. 77-80). The variations which I recorded in my paper (BIELAWSKI, 1959) was confined only to certain

enlarging of spots and to disappearance of others. Merging of two spots was known only as far as the spots situated in the basal part of elytra are concerned. In the material examined I have seen also specimens with spots confluent in both anterior and posterior part of elytra. In the latter case both transverse and longitudinal connection of spots can be observed. In another specimen merging are three marks situated before apex and near suture. In still another there is no connection between spots, but the base is small in some of them and strongly enlarged in others; this latter form constitutes a certain intermediate stage between the type with small spots and that with all large ones. The occurrence of a spot on suture, with the presence, at the same time, of other ones, indicates that the colour-pattern in *Harmonia sedecimnotata* (F.) resulted from a modification of 9 spots on each elytron, not 8, as it is popularly believed.

Material examined: Luzon, Benguet, Mt. Santo Thomas, coll. SCHULTZE, 3 specimens. Luzon, Benguet, Baguio, 1600 m, coll. SCHULTZE, 15 specimens. Luzon, Baguio, 2 specimens.

Details with respect to both morphology and genitalia structure have been given in my earlier work (BIELAWSKI, 1959).

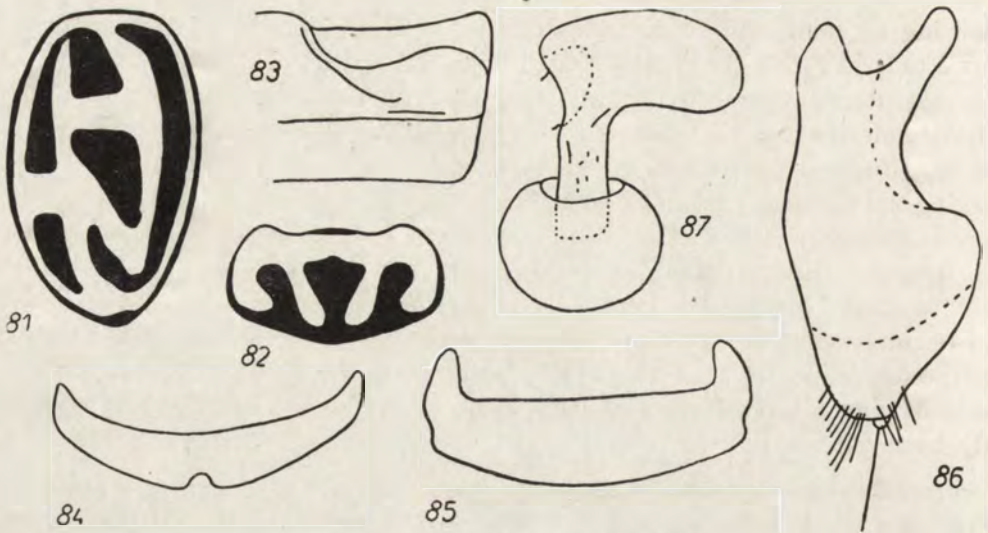
The species has been included, until now, into the genus *Callineda* CR.; TIMBERLAKE, 1943 transferred it to the genus *Harmonia* MULS.

#### *Egleis interrupta* Ws.

The species was described by WEISE, 1927 from Queensland and under the name *Egleis delta* Ws. – WEISE, 1923a; it is also mentioned in the KORSCHESKY, 1932 catalogue. No other data exist concerning this species. WEISE, 1927 in his description gives only the colouring of the body.

Material examined: Australien, Qld., Atherton Umg., 27. 12. 1961, leg. H. DAMARZ, female. Specimen kept in the Museum G. Frey in Tutzing.

Body feebly convex, broadly oval in outline. Pronotum and elytra colour pattern are given on figs. 81 and 82. Ground colour of elytra lemon yellow. Punctures on head small, sparsely distributed, interspaces with a distinct and deep microreticulation. Anterior angles of pronotum broadly rounded, feebly protruding. Lateral margins feebly arched, the anterior one distinctly convex. Sides of pronotum distinctly bent off. Punctures on pronotum slightly larger than on head, shallow, sparse, interspaces with a shallow and slightly blurred microreticulation. Scutellum black convex, equilateral. Lateral part of elytra narrowly but distinctly bent, their margin bordered. Humeral tubercles large and convex. Punctures on elytra large and deep, there are some smaller punctures between them; larger punctures set apart at a distance exceeding their diameter; interspaces strongly shining with barely visible few „scraches”. Legs black, with a single claw and a large, triangular tooth



Figs. 81-87. *Egleis interrupta* Ws.

81 - elytron, 82 - pronotum, 83 - femoral line, 84 - last abdominal sternite of female, 85 - last abdominal tergite of female, 86 - genital plate, 87 - receptaculum seminis.

at base. Epipleures of pronotum yellow. Epipleures of elytra yellow with a black outer and inner edge. Underside black. Segments of abdomen yellow, except middle part of the first one which is black. Femoral line (fig. 83) composed of two parts: its main part reaching  $4/5$  of segment length and slightly bent towards anterior margin; the second part not linked with the main one, running parallel to posterior margin. Last abdominal sternite of female (fig. 84) at a half of length strongly incised; pubescence short but fairly dense. Last abdominal tergite of female (fig. 85) with basal processes fairly broad but short, posterior margin feebly but regularly arched, pubescence not particularly long and scarce.

Body length 6.3 mm.

Copulatory apparatus of female. Genital plates irregular, elongate, bifid at base, broadened in posterior part (fig. 86) and their length 0.54 mm, maximum breadth 0.25 mm. Sexual tubercles small with a short and scarce hairs. Receptaculum seminis (fig. 87) with nodulus reduced and with ramus inserted into a large and spherical infundibulum; cornu broad and oval arranged perpendicularly to ramus. No grooves on surface.

The *Egleis* MULS. species of Australian region are easily separated by their peculiar colour-pattern of elytra.

#### LITERATURE

- BIELAWSKI R. 1959. *Coccinellidae* (Coleoptera) von Sumba, Sumbawa, Flores, Timor und Bali. Verh. Naturf. Ges. Basel, 69, No. 2: 145-166, 83 ff.



- BIELAWSKI R. et CHŪJŌ M. 1961. *Coleoptera* from Southeast Asia, *Coccinellidae*. Nat. Life Southeast Asia, Tokyo, **1**: 331-334, 9 ff.
- BIELAWSKI R. 1963a. Arten der Gattung *Neda* MULS. der Australischen Region (*Coleoptera*, *Coccinellidae*). Ann. zool., Warszawa, **20**, No. 21: 457-470, 45 ff.
- BIELAWSKI R. 1963b. Monographie der *Epilachninae* (*Coleoptera*, *Coccinellidae*) der Australischen Region. Ann. zool., Warszawa, **21**, No. 17: 295-461, 403 ff.
- BIELAWSKI R. 1964. Die Arten der Gattung *Synia* MULSANT (*Coleoptera*, *Coccinellidae*). Bull. Acad. pol. Sci., Warszawa, Cl. II, **12**, No. 1: 23-27, 17 ff.
- BOISDUVAL J. B. 1835. Voyage de découvertes de l'Astrolabe..., Faune entomologique. Paris, **2**, VIII+716 pp.
- DIEKE G. H. 1947. Ladybeetles of the genus *Epilachna* (sensu lato) in Asia, Europe, and Australia. Smiths. misc. Coll., Washington, **106**, No. 15, 183 pp., 6 ff., 27 tt.
- FABRICIUS J. Ch. 1781. Species insectorum..., Hamburgi et Kilonii, **1**, 552 pp.
- GADEAU de KERVILLE H. 1884. Descriptions de quelques espèces nouvelles de la famille des *Coccinellidae*. Ann. Soc. ent. Fr., Paris, **4** (6): 69-72, Pl. 4, ff. 6-9.
- KORSCHESKY R. 1931. *Coccinellidae* I. In: Junk W. „Coleopterorum Catalogus”, Pars 118, Berlin, 224 pp.
- KORSCHESKY R. 1932. *Coccinellidae* II. In: Junk W. „Coleopterorum Catalogus”, Pars 120, Berlin, 225-659 pp.
- KORSCHESKY R. 1933. Bemerkungen über Coccinelliden von Formosa. Trans. Nat. Hist. Soc. Formosa, Taihoku, **23**: 299-303, 17 ff.
- LI C. S. et COOK E. F. 1961. The *Epilachninae* of Taiwan (*Col.*: *Coccinellidae*). Pacific Insects, Honolulu, **3** (1): 31-91, 159 ff.
- MADER L. 1930. Neue Coccinelliden aus Yün-nan und Sze-tschwan (China). Ent. Anz., Wien, **10**: 161-184, 11 ff.
- MADER L. 1935 (1926-1937). Evidenz der paläarktischen Coccinelliden und ihrer Aberrationen. I Teil. Wien, 337-372.
- MADER L. 1954. Weiters über Coccinelliden aus der Sammlung des Naturhistorischen Museum in Wien. Kol. Rund., Wien, **32**: 123-131.
- MULSANT E. 1853. Supplément à la Monographie des Coléoptères Trimères Sécuripalpes. Ann. Soc. Linn. Lyon, Nouvelle série, **1**: 129-333.
- TIMBERLAKE P. H. 1943. The *Coccinellidae* or Ladybeetles of the Koebele Collection. Part I. Bull. Exp. Sta. Hawaiian Sug. Pl. Ass., Honolulu, Ent. Ser., **22**, 67 pp., 2 tt.
- WEISE J. 1889. Insecta, cl. G. N. Potanin in China et in Mongolia novissime lecta. IX. *Chrysomelidae* et *Coccinellidae*. Horae Soc. ent. ross., St. Petersburg, **23**: 560-653.
- WEISE J. 1891. Neue Coccinelliden. Dtsch. ent. Z., Berlin, **1891**, Heft 2: 282-288.
- WEISE J. 1900. Synonymische Bemerkungen. Dtsch. ent. Z., Berlin, **1899**: 384.
- WEISE J. 1902. Coccinelliden aus der Sammlung des Ungarischen National-Museums. Term. Füzetek, Budapest, **25**: 489-520.
- WEISE J. 1908. *Coccinellidae*. Nova Guinea, Leiden, **5**, No. 2: 305-310.
- WEISE J. 1923. H. Sauter's Formosa-Ausbeute: *Coccinellidae*. Arch. Naturg., Leipzig, Abt. A, **89**, H. 2: 182-188.
- WEISE J. 1923 a. Chrysomeliden und Coccinelliden aus Queensland. Ark. Zool., Stockholm, **15**, No. 12: 1-150.
- WEISE J. 1927. Über bekannte und neue Chrysomeliden und Coccinelliden aus dem Reichsmuseum zu Stockholm. Ark. Zool., Stockholm, **18**, No. 34: 1-34.

## STRESZCZENIE

W pracy niniejszej autor omawia 15 gatunków z Obszaru Indomalajskiego i Australijskiego, opisując przy tym dwa nowe gatunki z podrodziny *Epilachninae* – *Epilachna freyana* sp. n. i *Epilachna exornata* sp. n. W oparciu o typy opisowe synonimizuje autor dwa gatunki: *Epilachna vigintiunomaculata* MADER, 1954, jest synonimem *Henosepilachna undecimvariolata* (BOISDUVAL, 1835) oraz *Epilachna semifasciata* DIEKE, 1947, jest synonimem *Henosepilachna subfasciata* (WEISE, 1923). Poza tym autor podaje redeskrpcje szeregu gatunków słabo poznanych lub znanych tylko z pierwotnego opisu. Omówione są również genitalia i zmienność indywidualna, jak również uzupełniające dane do rozmieszczenia geograficznego poszczególnych gatunków.

## РЕЗЮМЕ

В настоящей работе автор рассматривает 15 видов из Индомалайской и Австралийской области, описывая в том два новых вида из подсемейства *Epilachninae* – *Epilachna freyana* sp. n. и *Epilachna exornata* sp. n. На основании дескрипционных типов автор синонимизирует два вида: *Epilachna vigintiunomaculata* MADER, 1954 является синонимом *Henosepilachna undecimvariolata* (BOISDUVAL, 1835) и *Epilachna semifasciata* DIEKE, 1947 является синонимом *Henosepilachna subfasciata* (WEISE, 1923). Кроме того, главным образом на основании типов, автор дает редескрипцию ряда видов слабо изученных или известных только из первичного описания.

Затем рассмотрены genitalia и индивидуальная изменчивость и даны тоже дополнительные данные по географическому распространению отдельных видов.

Redaktor pracy – prof. dr J. Nast