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Records of Epilachnine Crop Pests (Coleoptera, Coccinellidae) in Sumatera Barat, Sumatra, Indonesia[1,2)]

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Abstract Four species of epilachnine ladybirds, *Epilachna vigintioctopunctata*, *E. septima*, *E. dodecastigma* and *E. enneasticta*, were recorded from the Province of Sumatera Barat, Sumatra, Indonesia, with notes on the food plants and geographical distribution of each species in the surveyed area. In *E. vigintioctopunctata* were recognized two forms which were different in the body coloration (in particular, patterns of pronotal spots and abdominal color) and vertical distribution. *E. indistincta* was synonymized with *E. enneasticta*.

As in other tropical regions of the world, the beetles of the phytophagous coccinellid subfamily Epilachninae are rich and abundant in Indonesia, and many "species" have been recorded so far (MULSANT, 1850; KORSCHEFSKY, 1931; DIEKE, 1947; FÜRSCH, 1959). Some of them are serious pests of various important crops such as eggplant, potato and squash (GUNST, 1957; KALSHOVEN, 1981). In spite of such abundance and economical importance, however, the taxonomy of the epilachnine beetles in Indonesia is not yet in a satisfactory state. Since the revision by DIEKE (1947) of the Epilachninae of Eurasia and Australia, only a few reliable taxonomic works have been published for the species inhabiting Indonesia, i.e. a list of Palearctic and Indomalayan species by FÜRSCH (1959), a paper on the coccinellids of the Lesser Sunda Islands by BIELAWSKI (1959) and the recent revision of the *Epilachna vigintioctopunctata* complex by RICHARDS (1983). GUNST (1957) provided figures, diagnoses and a key to twelve forms of Indonesian epilachnines, but his paper is unfortunately of little use because of lacking descriptions of genitalia. Consequently, accurate identification of species, which is indispensable for any ecological study, is often very difficult. This was the situation when two of us (I.A.

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and K.N.) started in 1980 a comprehensive study on the biology and ecology, in particular population dynamics, of some epilachnine "species" in the Province of Sumatera Barat, Sumatra. During this study, we have discriminated several forms but their specific names were left undetermined in our previous papers (NAKAMURA *et al.*, 1984; ABBAS & NAKAMURA, 1985 a, b; ABBAS *et al.*, 1985). The purpose of the present paper is to report four common species which were abundant as crop pests in the rural areas and were the main subjects of our intensive ecological study. Taxonomic status of other forms is still under study and will be reported elsewhere. All the four species treated below have currently been assigned to the genus *Henosepilachna* by many authors. Recently, however, IABLOKOFF-KHNZORIAN (1980) and RICHARDS (1983) independently synonymized *Henosepilachna* with *Epilachna*, regarding that there is no reliable character discriminating these two groups. We accept their claim as reasonable and treated as such in the present paper.

Remarks to descriptions:

1) Synonymic lists cite only the original descriptions and some important papers.

2) Body size was measured only on a part of specimens. Body length is given by the distance from the tip of pronotum to the apices of elytra, and body width by the width of elytra.

3) Patterns of elytral and pronotal spots are described following the systems given in Figs. 2 and 3, respectively.

4) Specimens used in the present study were collected at various localities in the Province of Sumatera Barat (cf. Fig. 1) during October 1980 to March 1985 by I. ABBAS, K. NAKAMURA, A. HASYIM, S. SALMAH, AWALUDDIN and T. INOUE. Since the specimens treated are numerous, only the number of dissected specimens is given under the heading of "*Specimens dissected.*" Provenance of all the examined specimens is mapped for each species in Figs. 5 and 8. Most of the dissected specimens are deposited in the Zoological Institute, Faculty of Science, Hokkaido University. A part of them and some intact specimens are in the collection of the Museum Zoologicum Bogoriense, Bogor, Indonesia, and in the Department of Biology, Faculty of Science, Andalas University.

Epilachna vigintioctopunctata (FABRICIUS)

(Figs. 2, 4, 5, 6 A–B)

Coccinella 28-punctata FABRICIUS, 1775, 84.
Epilachna vigintioctopunctata: CROTCH, 1874, 87; KORSCHEFSKY, 1931, 26–27; KAPUR, 1967, 152–154; RICHARDS, 1983, 15–25.
Coccinella sparsa HERBST, 1786, 160.
Epilachna sparsa: DIEKE, 1947, 29–32.
Henosepilachna sparsa: LI & COOK, 1961, 10–42.

Structure. Abdominal line (=coxal line) angulate, incomplete, reaching about

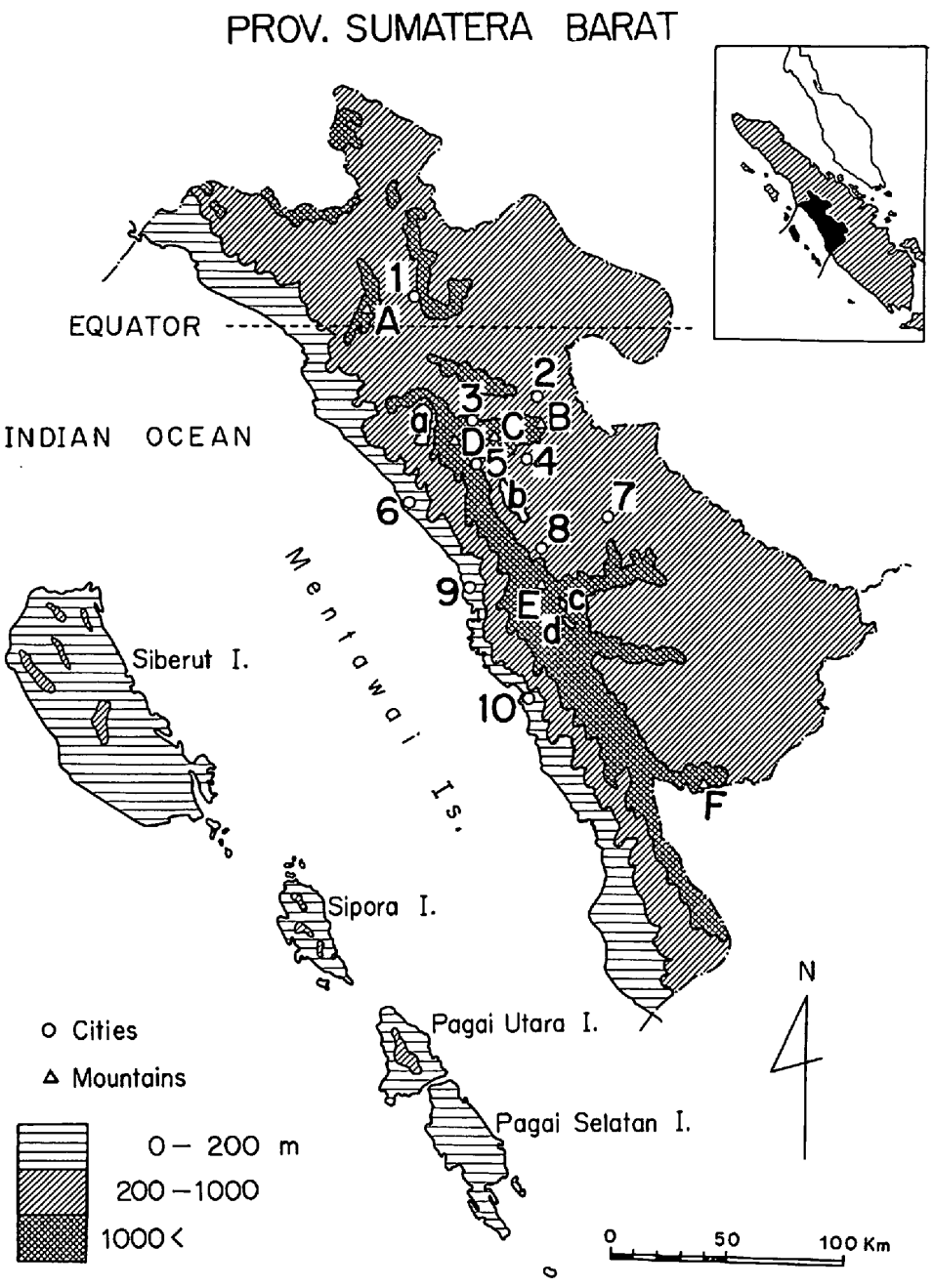

Fig. 1. Relief map of Sumatera Barat with indication of some high mountains (triangles and capital letters), lakes (small letters) and representative cities (circles and Arabic numerals). Mountains: A, Gunung Talamau (2,912 m above the sea level); B, G. Malintang (2,262 m); C, G. Merapi (2,891 m); D, G. Singgalang (2,877 m); E, G. Talang (2,597 m); F, G. Kerinci (3,805 m). Lakes: a, Danau Maninjau; b, D. Singkarak; c, D. Dibawah; d, D. Diatas. Cities: 1, Lubuk Sikaping; 2, Payakumbuh; 3, Bukittinggi; 4, Batusangkar; 5, Padang Panjung; 6, Pariaman; 7, Muara; 8, Solok; 9, Padang; 10, Painan.

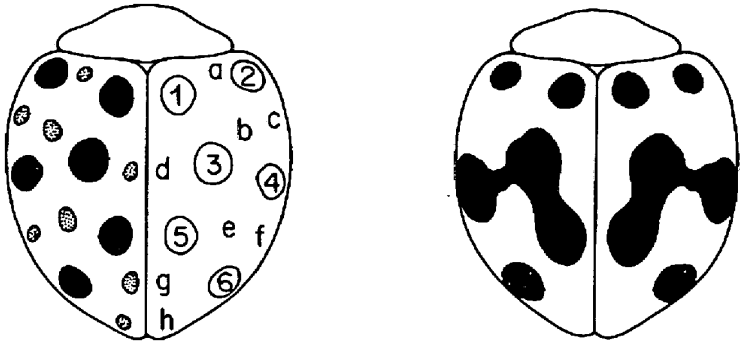

Fig. 2. Left: Standard elytral spot pattern of *Epilachna*, showing codes for persistent (1–6) and non-persistent (*a–h*) spots according to DIEKE (1947). Right: The confluence of spots, exemplified by 4+3+5. (Both represented by *E. vigintioctopunctata*).

1/5 to apical margin (Fig. 4 A). Elytral tip distinct. Abdominal sternite V apically straight in male, medially slightly pointed in female; sternite VI apically mildly outcurved in male, medially split and apical corners rounded in female (Fig. 4 B–C). Male genitalia as in Fig. 4 D–F; median lobe anteriorly sigmoid-curved, tip sharply bent upward, basal knife edge well developed; paramere with apical thorn; sipho simple. Female genital plates as in Fig. 4 G–H. Shape of inner emargination fairly variable (Fig. 4 H).

Within Sumatera Barat 2 forms are recognized, which are identical in structural characters given above but differ in color and vertical distribution as follows:

1) Forma A

Size. Length, male (N=70) 5.8–7.0 mm (mean 6.4 mm), female (N=61) 6.0–7.6 mm (mean 7.0 mm); width, male 4.8–5.7 mm (mean 5.2 mm), female 4.8–6.0 mm (mean 5.5 mm).

Shape. As in Fig. 2.

Color. Pronotum usually spotless (A in Fig. 3). Body generally pale. Elytra pale red to pale orange. Abdomen pale brown. Legs pale. Elytral spots very variable from twelve spots to 26 spots as shown in Fig. 6 A. Spot *a* did not appear in the specimens analysed in the figure but was very rarely found during the marking experiments conducted near Padang.

Specimens dissected. 23 ♂♂ 26 ♀♀ from 14 sites.

Distribution in Sumatera Barat. Most widespread (Fig. 5), altitudinally 0–1,000 m, predominantly below 400 m.

Food plants. Egg plant (*Solanum melongena*), "rimbang" (*S. torvum*), potato (*S. tuberosum*), thorn apple (*Datura metel*).

2) Forma B

Size. Length, male (N=24) 6.1–7.0 mm (mean 6.7 mm), female (N=26) 6.8–8.1 mm (mean 7.4 mm); width, male 4.9–5.8 mm (mean 5.5 mm), female 5.2–

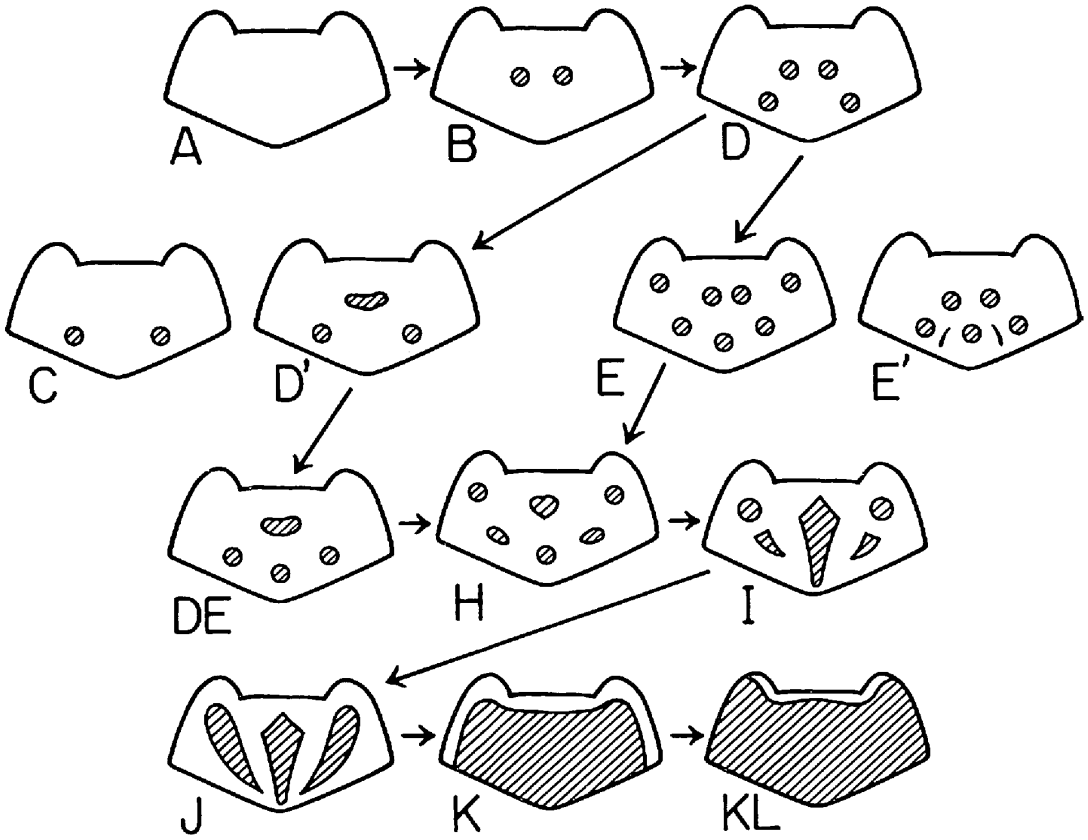

Fig. 3. Variation of the pronotal spot pattern in the epilachnine beetles, modified from DIEKE (1947) and KATAKURA (1981).

6.4 mm (mean 5.9 mm). Larger than forma A.

Shape. Similar to that of forma A.

Color. Pronotal spot pattern variable from I to KL in Fig. 3. Elytra deep reddish, seen darker than forma A as spots are larger and occupying more areas. Abdomen black, varying from entirely black to the margin paler. Legs dark, though not black. Elytral spots extremely variable, both non-persistent spots and confluences more frequent than in forma A (Fig. 6 B), with the occurrence of complicated pattern not found in forma A.

Specimens dissected. 26 ♂♂ 26 ♀♀ from 13 sites.

Distribution in Sumatera Barat. More restricted than in forma A (Fig. 5), ranging from 365 to 1,400 m, but typical specimens from above 700 m.

Food plants. Egg plant, "rimbang", potato.

Remarks. This species is widespread in South and East Asia to Australia and fairly variable in elytral patterns. Its taxonomy was recently thoroughly reviewed by RICHARDS (1983). The taxonomic status of the two forms of *E. vigintioctopunctata* described above is still ambiguous. They may be two distinct but closely related species, or they may merely represent altitude-linked forms of one and the

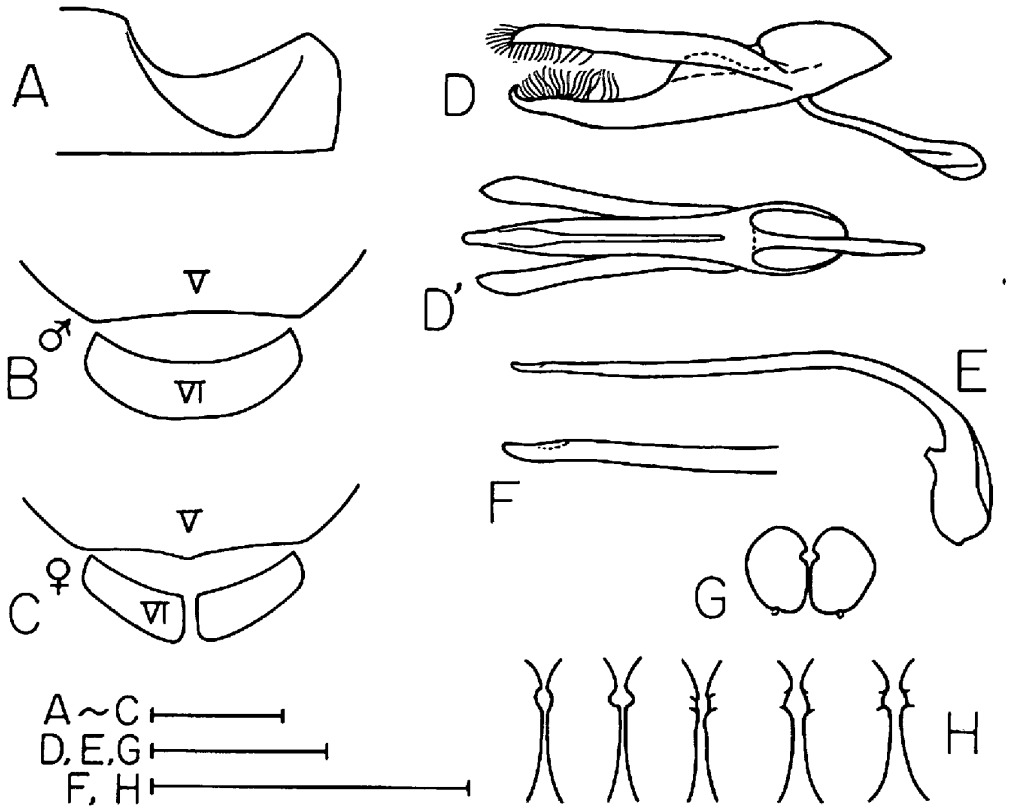

Fig. 4. Some morphological characters of *E. vigintioctopunctata* (FABRICIUS). A, Abdominal line; B-C, 5th and 6th visible abdominal sternites of male and female; D, male genitalia except for sipho, lateral view; D', ditto, ventral view; E, sipho, lateral view; F, tip of sipho, lateral view; G, female genital plates; H, inner emargination of genital plates. Bar scales, 1 mm.

same species. In addition to the above difference in color and distribution, the pubescence on both elytra and abdomen of forma B is much denser in most specimens. The same samples taken at the same localities occasionally include both forma A and forma B-like specimens. Such samples were included as forma B in Fig. 5 even when only one specimen was forma B-like. "Sp. A" in ABBAS *et al.* (1985) is forma A of the present species. RICHARDS (1983) recognized two subspecies, *E. vigintioctopunctata vigintioctopunctata* (FABRICIUS) and *E. vigintioctopunctata pardalis* (BOISDUVAL), on the basis of the difference in elytral maculation. But neither form of the present material could be identified subspecifically by the criteria provided by RICHARDS (1983, p. 17). Variation of elytral maculation in this species in Sumatera Barat is very conspicuous and will be reported in detail elsewhere (in preparation).

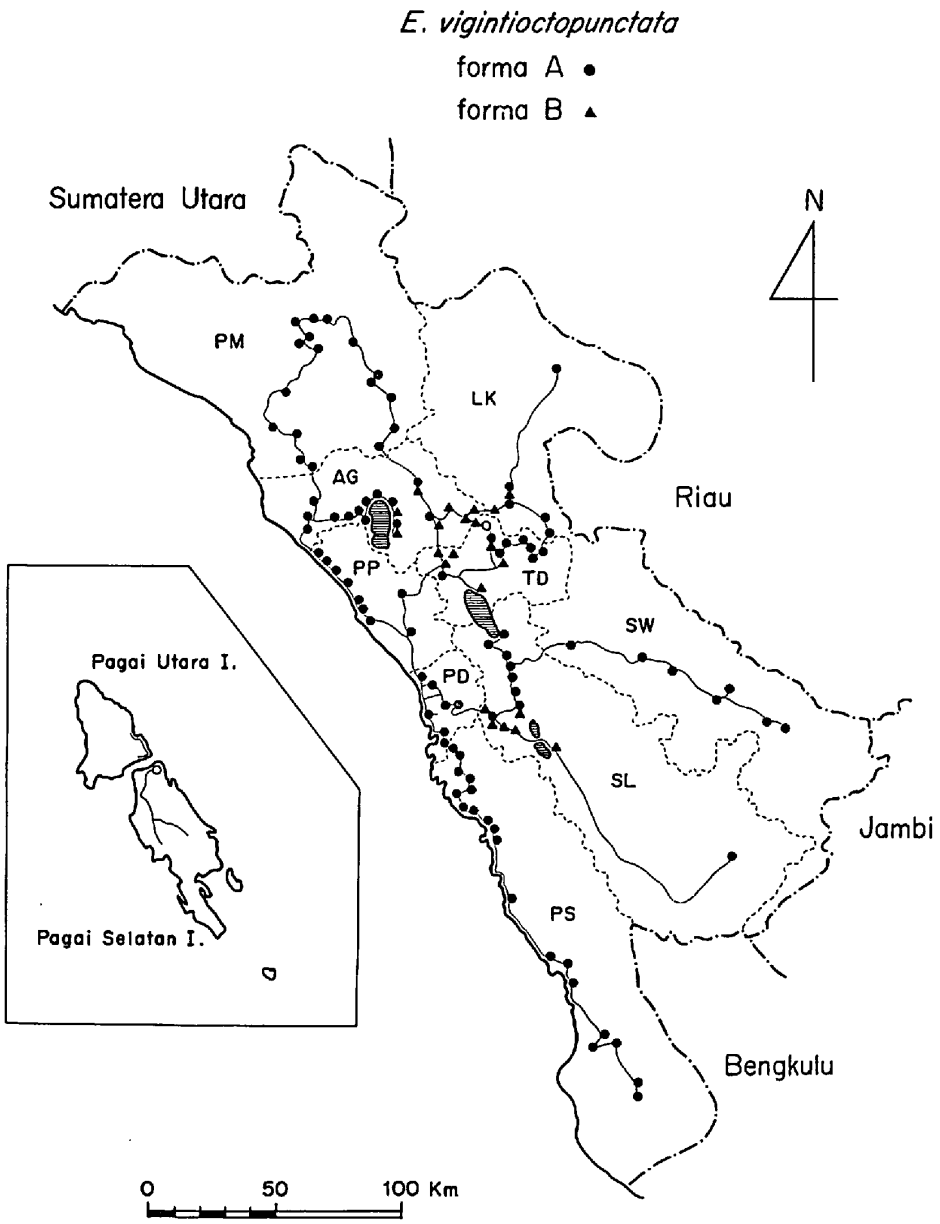

Fig. 5. Geographical distribution of two forms of *E. vigintioctopunctata* in Sumatera Barat. Open circles denote the localities where the beetles were not collected. Broken lines, borders of districts ("Kabupaten") and cities ("Kotamadya"). Thin lines, routes of field trips. Abbreviations for the names of districts and a city: PM, Kab. Pasaman; LK, Kab. Limapuluh Kota; AG, Kab. Agam; TD, Kab. Tanah Datar; PP, Kab. Padang Pariaman; PD, Kotamadya Padang; PS, Kab. Pesisir Selatan; SL, Kab. Solok; SW, Kab. Sawahlunto Sijunjung.

Epilachna septima DIEKE

(Figs. 6 C, 7–8)

Epilachna septima DIEKE, 1947, 58–59.
Epilachna septima: KAPUR, 1967, 151–152.
Henosepilachna septima: PANG & MAO, 1969, 110–111.

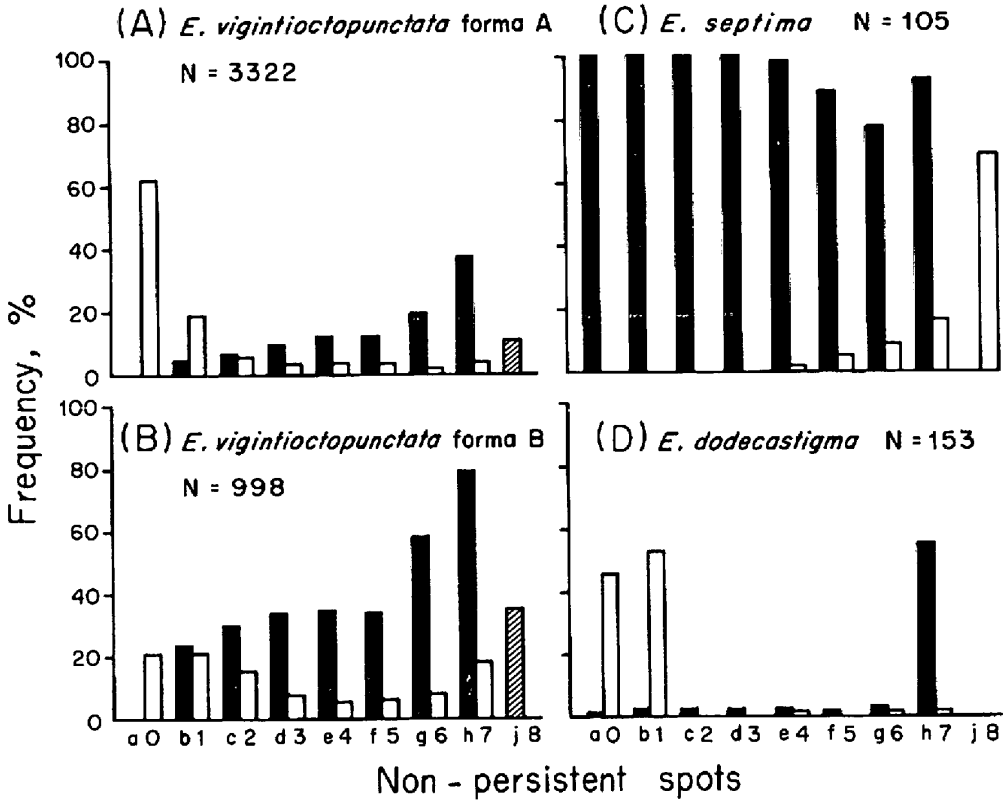

Fig. 6. Elytral spot variations in three species of epilachnine beetles in Sumatera Barat. A, *E. vigintioctopunctata* forma A; B, ditto, forma B; C, *E. septima*; D, *E. dodecastigma*. Letters *a–h* (closed column) show the frequency of each non-persistent spot and 1–8 (open column) the frequency of individuals bearing each number of non-persistent spots. Letter *j* (shaded column) shows the frequency of individuals showing confluence of spots.

Structure. Abdominal line angulate or rounded, incomplete, reaching 1/4–1/5 to apical margin (Fig. 7 A). Elytral tip rounded. Abdominal sternite V apically mildly incurved in male, medially minutely pointed in female; sternite VI apically with distinct median emargination in male, split, longer than in *E. vigintioctopunctata* and apical corners angulated in female (Fig. 7 B–C). Male genitalia as in Fig. 7 D–F; median lobe with developed basal knife edge; paramere with apical thorn; sipho with characteristic tip as in Fig. 7 F. Female genital plates as in Fig. 7 G; inner side with characteristic emargination (Fig. 7 H).

Size. Length, male (N=7) 6.5–7.2 mm (mean 6.9 mm), female (N=6) 7.0–7.7 mm (mean 7.4 mm); width, male 5.6–6.0 mm (mean 5.8 mm), female 5.9–6.4 mm (mean 6.2 mm).

Shape. Rather spherical with wider and higher elytra than in *E. vigintioctopunctata.*

Color. Pronotal spot pattern C, D and H in Fig. 3. Elytra pale chocolate brown, abdomen and legs pale. Elytral spots less variable; with many non-per-

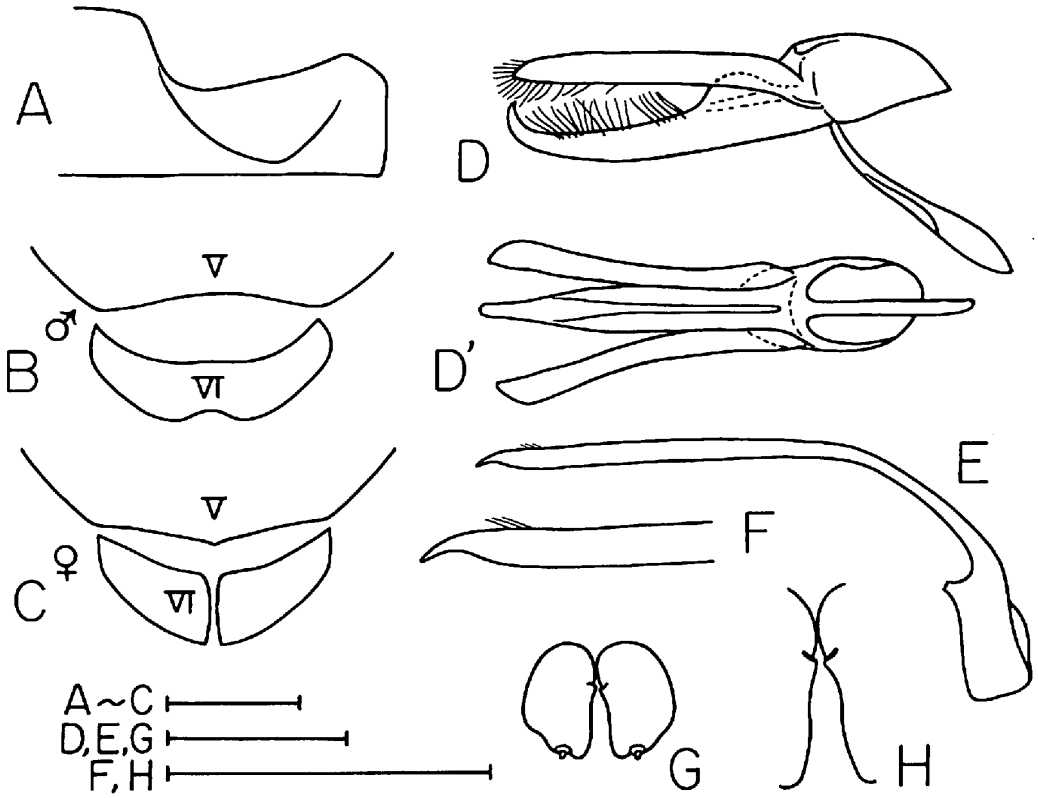

Fig. 7. Some morphological characters of *E. septima* DIEKE. See Fig. 4 for further explanations.

sistent spots (Fig. 6 C), which are as large as or larger than persistent spots. Spots 3–*d*–*b*–*c* and 5–*e*–*f* showing each linear arrangement. Confluences relatively rare (Fig. 6 C). Detailed variation of elytral spot patterns in ABBAS and NAKAMURA (1985 a) under the name "sp. C".

Specimens dissected. 13 ♂♂ 11 ♀♀ from seven sites.

Distribution in Sumatera Barat (Fig. 8). This species was common. Although localities shown in the figure are not many, it does not mean the rarity of this species but simply means that no intensive collection was made because variation of elytral spots was not conspicuous.

Food plant. Bitter cucumber (bitter gourd) (*Momordica charantia*).

Remarks. This species was referred to as "sp. C" in NAKAMURA *et al.* (1984) and ABBAS and NAKAMURA (1985 a, b). The present Sumatran material accords with the original description of *E. septima* by DIEKE (1947) except for the following two points (corresponding conditions given by DIEKE in parentheses): 1) the hind margin of the male abdominal sternite VI shallowly concave (convex); 2) the paramere of the male genitalia had an apical thorn (no distinct apical thorn). On the other hand, male and female genitalia of the Sumatran specimens well accord with those illustrated by KAPUR (1967) based on the specimens from the Andaman

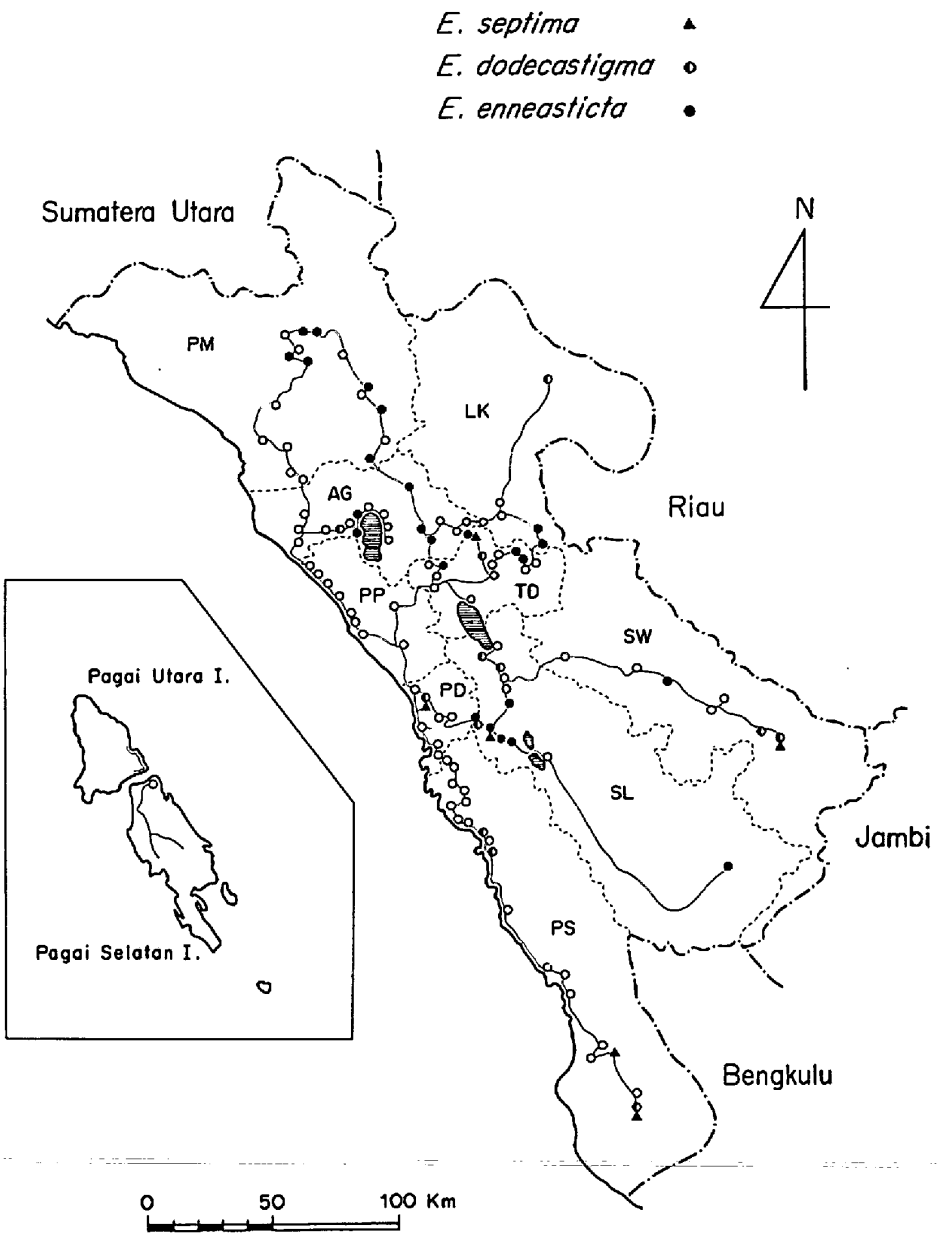

Fig. 8. Geographic distribution of *E. septima*, *E. dodecastigma* and *E. enneasticta* in Sumatera Barat. Further explanations, see Fig. 5.

Is. An Indonesian form cited as *Epilachna implicata* MULSANT by GUNST (1957) and KALSHOVEN (1981) is probably the present species. Further, GUNST (1957) treated *Epilachna septima* DIEKE as a junior synonym of *Epilachna implicata* without presenting any reason. According to CROTCH (1874), however, *E. implicata* is a mere variety of *E. vigintioctopunctata* (FABRICIUS) (also cf. KORSCHEFSKY, 1931). Such being the case, we prefer to call the present material *E. septima* unless the taxonomic position of *E. implicata* is clarified through a thorough study on the type material. According to KAPUR (1967), *E. septima* is widespread in India, infesting

bitter gourd, which is also the host plant of this species in Sumatera Barat. This species has been also recorded from South China (DIEKE, 1947; PANG & MAO, 1979).

Epilachna dodecastigma (WIEDEMANN)

(Figs. 6 D, 8–9)

Coccinella dodecastigma WIEDEMANN, 1823, 73–74.
Epilachna dodecostigma: MULSANT, 1850, 789. [Misspelling]
Epilachna dodecastigma: MUSLANT, 1853, 248; KAPUR, 1963, 6–7; KAPUR, 1967, 150–151.
E. dodecastigma: CROTCH, 1874, 86; KORSCHEFSKY, 1931, 28; FÜRSCH, 1959, 2.

Structure. Abdominal line subangulate or rounded, incomplete, reaching 1/5–1/6 to apical margin (Fig. 9 A). Elytral tip rounded. Abdominal sternite V straight in male; slightly expanded and mediapically pointed in females; sternite VI mildly outcurved in male, split and apical corners rather angulated in female (Fig. 9 B–C). Male genitalia as in Fig. 9 D–F; median lobe with some minute transverse ridges dorsomedially with small basal knife edge; paramere with apical thorn; sipho with tip slender seen laterally. Female genital plates as in Fig. 9 G, with characteristic semicircular emargination near the base of inner margin (Fig. 9 H).

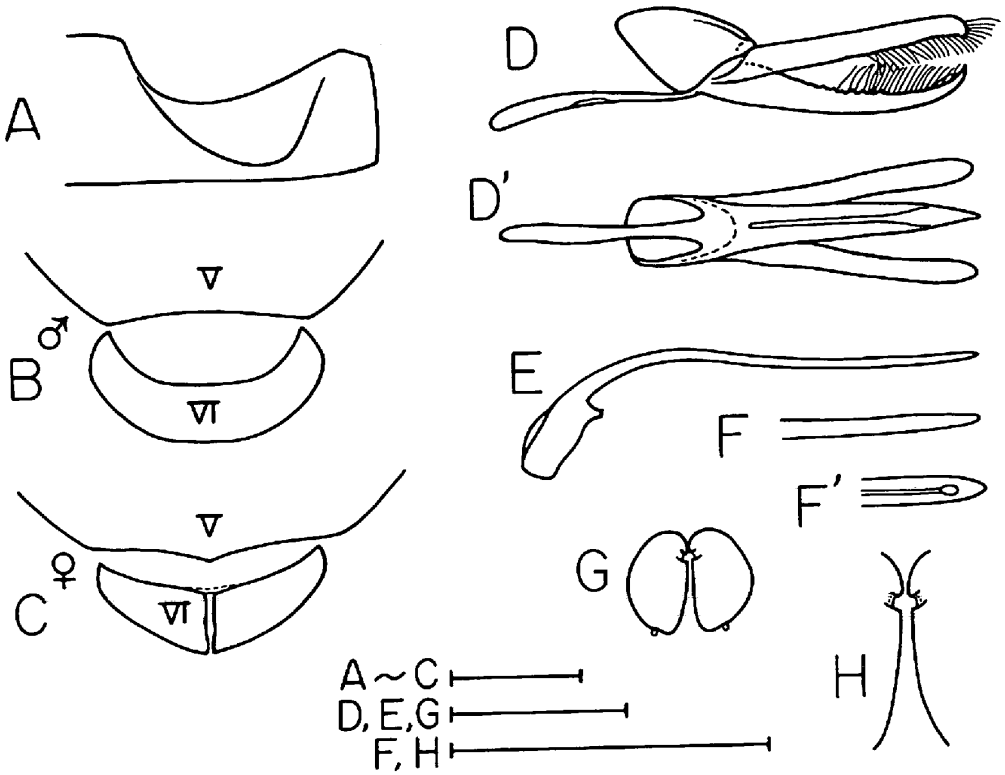

Fig. 9. Some morphological characters of *E. dodecastigma* (WIEDEMANN); F', tip of sipho from above. See Fig. 4 for further explanations.

Size. Length, male (N=8) 6.6–6.9 mm (mean 6.7 mm), female (N=5) 7.3–7.8 mm (mean 7.5 mm); width, male 5.3–5.9 mm (mean 5.6 mm), female 5.9–6.3 mm (mean 6.1 mm).

Shape. Similar to that of *E. vigintioctopunctata.*

Color. Pronotal spot pattern A–D in Fig. 3. Elytra pale orange, abdomen variable, pale to dark, legs pale. Elytral spots less variable, non-persistent spots rarely present except for *h* (Fig. 6 D), both 1–1 and 5–5 approaching closely.

Specimens dissected. 30 ♂♂ 24 ♀♀ from 17 sites.

Distribution in Sumatera Barat (Fig. 8). Common but localities shown in the figure are not many by the same reason as in the case of *E. septima.*

Food plants. Squash (*Cucurbita moschata*), wax gourd (*Benincasa cerifera*), cucumber (*Cucumis sativus*), loufah (*Luffa acutangula*).

Remarks. This species was referred to as "sp. D" in NAKAMURA *et al.* (1984). There is a problem about the nomenclature of the present form. Every essential detail of the male and female genitalia (except for the tip of sipho mentioned below) and the patterns of pronotal and elytral spots of the present material are nearly identical with those of *Epilachna dodecastigma* (WIEDEMANN), especially from Bengal (type area) and the Andaman Islands, described and figured by KAPUR (1963, 1967). Further, food plants of the present Sumatran material and those of *E. dodecastigma* in northeastern India (KAPUR, 1967) are also quite similar; both species are pests of cucurbitaceous plants including *Luffa* species. According to KAPUR (1967), *E. dodecastigma* has an eyelet laterally near the tip of the sipho, whereas the present material does not have such an eyelet (Fig. 9 E–F). However, the dorsal view of the tip of the sipho in the present material (Fig. 9 F′) is closely similar to the "lateral view" in KAPUR (1967, his fig. 1B). The male genitalia of a paratype of *E. dodecastigma* were illustrated by FÜRSCH (1959, fig. 1); the tip of the sipho is similar to that illustrated by KAPUR and by us but FÜRSCH did not mention about the direction of his sketch. We believe that KAPUR examined a somewhat twisted sipho and misinterpreted its orifice as the eyelet. More or less twisted siphos were also occasionally found among the present material. From these reasons, we identified the present Sumatran form with *E. dodecastigma* (sensu KAPUR, 1963, 1967). On the other hand, DIEKE (1947) recorded *Epilachna dentulata parvinotata* DIEKE from Padang, Sumatra, the locality also studied by the present study. Judging from his description, his Sumatran material was almost certainly identical with the material which we identified with *E. dodecastigma* above. Since *E. dentulata parvinotata* was later synonymized with *Henosepilachna pusillanima* (MULSANT) (type area, Java, East Indies) by LI and COOK (1961), at least a part of *E. pusillanima* (sensu LI and COOK, 1961) or *E. dentulata parvinotata* is probably synonymous with *E. dodecastigma* (sensu KAPUR). However, evidence is yet insufficient to justify this synonymy. A careful study with rich material covering type specimens are needed to clarify the taxonomic relation of these forms widespread in Southeast Asia.

Epilachna enneasticta MULSANT

(Figs. 8, 10)

Epilachna enneasticta MULSANT, 1850, 769.
Epilachna enneasticta: CROTCH, 1874, 84; KORSCHEFSKY, 1931, 28–29; DIEKE, 1947, 101–102; GUNST, 1957, 19.
Epilachna enneastica: FÜRSCH, 1959, 2. [Misspelling]
Epilachna indistincta DIEKE, 1947, 102–103. New synonymy.

Structure. Abdominal line angulate, incomplete, approximately reaching apical margin in male, and 1/3–1/4 to apical margin in female (Fig. 10 A). Elytral tip rounded. Abdominal sternite V apically mildly incurved in male, with conspicuous median emargination in female; sternite VI apicomedially concaved in male, divided but basally fused and apical corners rounded in female (Fig. 10 B–C). Male genitalia as in Fig. 10 D–F, stout; median lobe short and wide; paramere longer than median lobe, without apical thorn; sipho as in Fig. 10 E–F. Female genital plates as in Fig. 10 G, simple; inner parts less chitinized and flat.

Size. Length, male (N=20) 7.2–8.0 mm (mean 7.6 mm), female (N=16) 7.2–8.5 mm (mean 8.1 mm); width, male 5.9–6.6 mm (mean 6.2 mm), female 5.9–7.7 mm (mean 6.5 mm). Slightly larger than forma B of *E. vigintioctopunctata.*

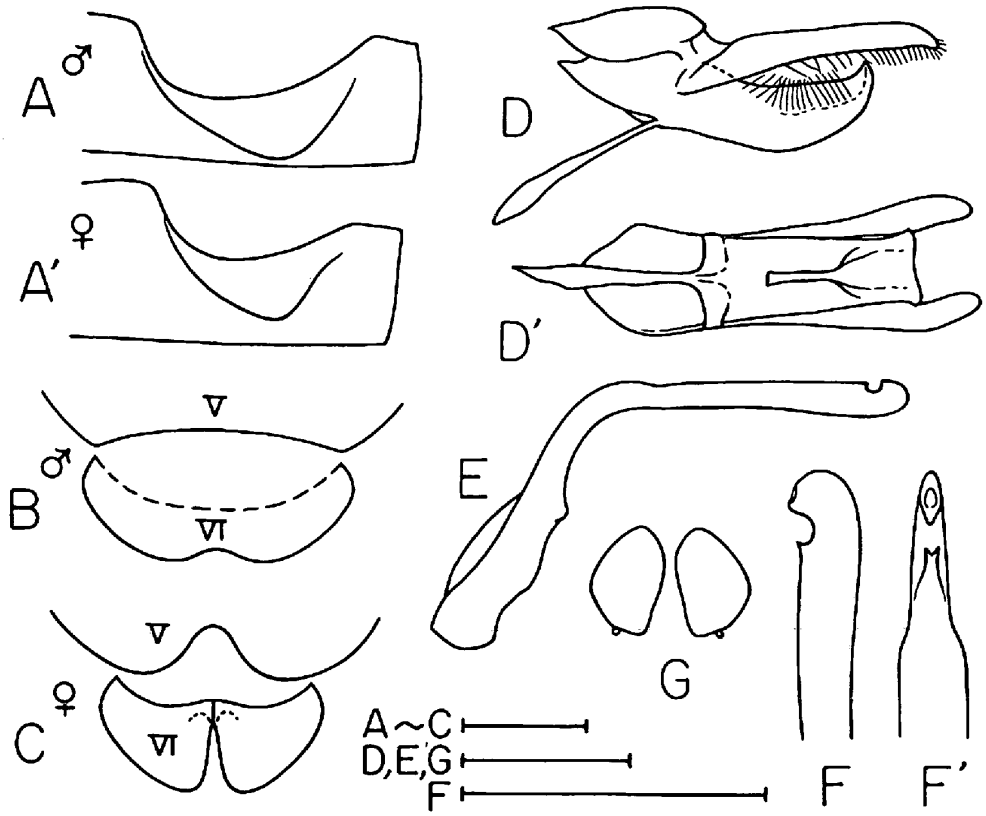

Fig. 10. Some morphological characters of *E. enneasticta* MULSANT. F′, tip of sipho from above. See Fig. 4 for further explanations.

Shape. Mildly projecting anterolaterally and tapering postward.

Color. Pronotum spotless (A in Fig. 3). Elytra pale orange. Abdomen variable, pale to dark. Legs pale. Elytra invariably with twelve spots (persistent spots); spot size variable but generally small, both 1–1 and 5–5 less distant.

Specimens dissected. 40 ♂♂ 27 ♀♀ from 24 sites.

Distribution in Sumatera Barat. Overlapping mainly with forma B of *E. vigintioctopunctata* and slightly with forma A, but far less abundant than the both (Fig. 10).

Food plants. Egg plant, "rimbang", potato.

Remarks. Epilachna enneasticta is distributed in Sumatra and Java according to GUNST (1957). It was also recorded by FÜRSCH (1959) from Padang, Sumatra (misspelled as *E. enneastica*). On the other hand, DIEKE (1947) described *Epilachna indistincta* from Sumatra as a new species closely related to *E. enneasticta* which he recorded from Java. Probably, FÜRSCH's *E. enneasticta* and DIEKE's *E. indistincta* are identical with each other and also with the present material. According to DIEKE (1947), these two species are separable on the basis of male genitalic structures; i.e., *E. enneasticta* has lateral ridges near the apex of the median lobe and the dorsal slit of the median lobe is parallel-sided and truncately cut off basally, whereas *E. indistincta* lacks the lateral ridges and the slit somewhat widens basally with oval end. Further, he noticed a considerable difference in the shape of elytral maculation between his Javanese and Sumatran forms. However, these characters were considerably variable individually within the present material, which included all these types as well as various intermediate types. DIEKE also mentioned that the apex of the median lobe of *E. enneasticta* may or may not have a distinct notch. Notched and notchless median lobes were also found in the present material. Thus, for the time being, we would like to treat *E. indistincta* DIEKE as a synonym of *E. enneasticta* MULSANT, because as far as DIEKE's diagnosis is concerned there is no reason to separate *E. indistincta* from *E. enneasticta* as shown above. It must be mentioned, however, that the male genitalia of *E. enneasticta* appeared shorter and thicker than those of *E. indistincta* according to the figures given by DIEKE (1947), though he did not notice this difference. In this respect, the present material is nearly identical with *E. indistincta*. If this difference in the shape of male genitalia is proved to be really significant and stable, the Javanese form and the Sumatran form had better be treated as different taxa.

Summarizing above, some morphological and ecological characteristics of the four species were given in Tables 1 and 2 for the convenience of practical use. Further, a few words are added to the food plants of these epilachnine species in Sumatera Barat. As shown in Table 2, the food plants of the collected species belong to either Solanaceae or Cucurbitaceae. Among the solanaceous food plants, the eggplant was cultivated at any surveyed altitudes, whereas the potato was confined to the plateaux 700 to 1,500 m high. "Rimbang", *Solanum torvum*, is a

Table 1. Synopsis of some external diagnostic characters in four *Epilachna* species (five forms) commonly found in Sumatera Barat.

Character	*E. vigintioctopunctata* Forma A	*E. vigintioctopunctata* Forma B	*E. septima*	*E. dodecastigma*	*E. enneasticta*
Pronotum (cf. Fig. 3)	spotless	I to KL	C, D, H	A to D	spotless
Elytral spots	12 to 26	12 to 26	20 to 28	mostly 12 or 14	12
Elytral tip	distinct		rounded	rounded	rounded
Sternite V					
Male	straight		mildly incurved	straight	mildly incurved
Female	medially slightly pointed		medially slightly pointed	medially slightly pointed	medially deeply concaved
Sternite VI					
Male	mildly outcurved		shallowly concaved	mildy outcurved	shallowly concaved
Female	split		split	split	split except base

Table 2. Abundance, vertical distribution and food plants of four *Epilachna* species in Sumatera Barat, Indonesia.

Species	Density	Altitudinal range (m)	Main food plants: Scientific name	Local name (Java)	English name
Solanaceae-feeders					
E. vigintioctopunctata forma A	very common	0–1,000	*Solanum melongena*	terung	egg plant
			S. torvum	rimbang (takokak)	—
			S. tuberosum	kentang	potato
			Datura metel	kecubung	thorn apple
E. vigintioctopunctata forma B	very common	365–1,400	*S. melongena*	terung	egg plant
			S. torvum	rimbang (takokak)	—
			S. tuberosum	kentang	potato
E. enneasticta	common	400–1,400	same as in forma B		
Cucurbataceae-feeders					
E. septima	common	0–1,000<	*Momordica charantia*	pario (paria)	bitter cucumber
E. dodecastigma	common	0–1,000<	*Cucurbita moschata*	kundur, labu	squash
			Benincasa cerifera	labu batang	wax gourd
			Cucumis sativus	ketimun	cucumber
			Luffa acutungula	pitulo	loufah

perennial semi-shrub weed growing on roadsides, and also in fields and gardens located 0 to 1,500 m high. Besides these 3 widespread and common food plants, "kecubung" (*Datura metel*, leaves and flowers of which are used for medical purposes) and several other unidentified solanaceous plants were infested by some epilachnine species, but these were either rare or localized, being not important as food plants. On Pagai Is. of the Mentawai Islands, surveyed from March 15 to March 21, 1984, "rimbang" was found abundantly, but no epilachnines were discovered. On the other hand, cucurbitaceous plants attacked by *E. septima* and *E.*

dodecastigma are abundant everywhere irrespective of altitudes.

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