# Notes on the habits and ecology of Indonesian forest insects of minor importance

## 2. Cerambycidae, Lamiinae

by

L. G. E. KALSHOVEN

*Dihammus detector* Pasc., a primary borer in the stems of the 'girang' shrub (*Leea* spp., very common plants in the undergrowth of teak forests in Central Java). The beetle can be distinguished from the better known *D. rusticator* Fab. by its more slender built, the evenly shining grey colour, and the ringed antennae (apical half of joints darkened). Most of the beetles reared in the laboratory appeared in the middle of the rainy season (November to January) but a few emerged in September and March. The species was originally known from Singapore only.

*Pelargoderus bipunctatus* Dalm., a common, large, secondary borer in very different timbers in Java, in older literature mentioned from sickly and dying *Theobroma cacao, Canarium commune* and *Ficus elastica,* since found also in trunks of *Hevea* and *Citrus*, and a few times in cassava stems. This borer has been observed in the teak forest in *Acacia leucophloea, A. pennata* (stem still alive), *Albizzia procera* and *Butea frondosa* (in wood taken from the roots). The beetles can easily be recognized by the shining black spot in the centre of the elytra, they are mouse coloured, 2—3 cm in length.

*Gerania bosci* Fabr., a singularly built longicorn, somewhat spiderlike in appearance on account of the very long and thin black legs (length 40 mm). The body has black and brown spots on a grey background; its size is 15 mm. The species occurs in cultivated areas, e.g. in the former plantations of *Ficus elastica* and in the teak plantations, but the host tree has not been discovered. Distribution from Birma to Lombok.

*Psaromaia tigrina* Pasc., a common primary borer in the stems and trunks of various large shrubs and small trees in the teak forest of Mid Java, reared from *Glochidion* spp. ('dempul'), *Mallotus repandus, Bridelia stipularis* and *Antidesma tetrandrum* — all of them belonging to the Euphorbiaceae — *Allophilus cobbe* and 'keruwut'. The galleries run right through the wood and are elliptical or tangentially broadened in cross section. The beetles emerge in the months of August/September and December/March. They have been observed feeding on the bark of *Bridelia* branches. Their colour is a handsome brown with light spots ('tigered'), length 18—30 mm. The species is known from Java only.

*Cereopsius ornata* Fish., found boring in dead branches of *Eugenia polyantha* ('salam') in the Mid Java teak forests. Beetles dark brown with a pair of large and a pair of small white spots on the elytra, 12.5—15 mm in size.

*Glenea acuta* F., inhabitant of lowland forest (incl. teak forest) in Java and Sumatra, found boring in the trunk of wild *Myristica* sp. ('kibadjing') in W. Java.

*G. cincticornis* Schw. has been found breeding in large numbers in trunks of *Actinophora fragrans* killed by the zigzag borer, *Agrilus*. Size of the beetle 8—10 mm.

*G. dimidiata* F., observed as a secondary borer in *Eugenia subglauca* in Mid Java teak forest. Beetle 9—12 mm in length.

*Stiroglenea angerona* Th. has been bred in large numbers from a dead trunk of *Sterculia campanulata* ('wunung'), also bred from *Butea frondosa, Aegle marmelos* and repeatedly from dead 'kapok' trees; all this in and near the teak forest. The beetles have been found sitting on low vegetation. Size 7—12 mm.

*Macroglenea elegans* Ol., a rather large borer in living 'tutup' trees (*Mallotus* or *Macaranga*) in secondary forest growth on fallow fields in Deli (East coast of Sumatra) (teste P. A. VAN DER LAAN). Length of the beetles 17—29 mm.

*Trachystola scabripennis* Dej., reported by native wood cutters to be a borer in the roots of *Quercus* stumps in the Javanese mountains. The beetles which have a granulous surface are mud-coloured, 16—20 mm long.

*Dolychostyrax tuberculatus* Fst. has been reported from the same habitat, the beetles have a similar cryptic colour and are warty but smaller than the former species, viz. 10—12 mm.

*Pharsalia saperdoides*. Left: young beetle in opened pupal cell in dead branch. Right: newly emerged beetle in characteristic resting attitude; it holds to the branch with its front and middle legs only; the body is kept in a slanting position; the hind legs are drawn in; the banded antennae embrace the support. In this position the beetle resembles a small dry stub (enlarged × 2).

*Neopharsalia vagans* Kann., a common secondary borer to be found in the plains of Java, bred from branchwood and trunks of *Artocarpus integra, A. elasti-*

*ca, A. communis, Ficus elastica, F. variegata* and *F. alba* (all Moraceae). In Java the species occurs at altitudes of up to 800 m.

*Pharsalia saperdoides* Pasc., apparently a secondary borer in branches of the mango and the *Canarium* tree in Java. So far the species was only recorded from Borneo. The beetle has a typical resting position in which it looks exactly like a small dry branchlet (see figure). Size of the beetle 12—17 mm.

*Ph. vinosa* Pasc. has been collected as a borer in the branches of *Artocarpus communis* near Bogor, West Java.

*Gnoma confusa* Thoms., a borer in dead *Derris* stems, in natural growth in the teakforests of Central Java. The beetles are very slender with a much elongated neck-like pronotum and long antennae, size 15—21 mm.

*Imantocera plumosa* Ol., a rather common secondary borer in *Ficus elastica* and probably in other *Ficus* spp. The beetles have a small plume of black hairs on the 3rd antennal joint.

*Cacia herbacea* Pasc., a small secondary borer found in different timbers in teak and other lowland forest in Java. Recorded hosts: *Dalbergia latifolia, Tectona grandis, Barringtonia* sp. ('putat'), *Actinophora fragrans* (in the latter two trees in large numbers), *Buchanania arborescens* and *Semecarpus heterophylla.*

*Choeromorpha pigra* Aur. (syn.: *Agelasta irrorata* Pasc.), mentioned as a secondary borer in trunks of *Ficus elastica* in earlier publications; also found in dead branches of *Artocarpus communis.* Beetle with very long fore-legs; size 15—21 mm.

*Coptops* spp., common secondary borers living in lowland forests and plantations. A few species have developed in large numbers from *Actinophora* trunks killed by the zigzag borer (*Agrilus*); besides from trunks of *Ficus elastica, Artocarpus integra, Bauhinia malabarica, Sterculia javanica, Toona* (*Cedrela*) *sureni* and *Theobroma cacao.* The beetles have the colour and markings of bark or lichens and are unconspicuous when resting flat against dead trunks. The different species are difficult to identify. The Java material has to be studied still. — *C. aedificator* Fabr., which has a wide distribution over Africa and South East Asia, is more a bark borer than a wood borer according to observations in India. The pupal cell is situated in the bark just beneath the surface.

*Palimna annulata* Ol., rather frequently found as a secondary borer in thick branches of "mango' and 'ingas' (*Semecarpus*) in the teak area in Java, and in *Lannea, Melanorrhoea* and *Spondias* in India, therefore always in Anacardiaceae. It is a nice-looking beetle with white patches surrounded by a black reticulation, the legs and antennae marked with alternating black and white rings; size 14—25 mm.

*Olenecamptus bilobus* F., apparently another common secondary borer of Moraceae (see *Neopharsalia*) found in cultivated *Ficus elastica* and in wild *Ficus* trees (like the 'iprit') in the teak forests, and in *Artocarpus elastica.* The species, 12—18 mm in size, has a wide distribution from Ceylon to New Guinea including the Seychelles.

*Niphona* (*? furcata* Bat.) lives as a borer in dead bamboo poles in the teak forests of Mid Java, found so far in *Bambusa vulgaris, Gigantochloa apus* and *G. verticillata.* The beetles emerge from the material in May till August and are

16—20 mm in length. *N. hookeri* Gah. has been recorded as living in dry bamboo in India.

*Pterolophia* spp. (syn. *Praonetha* spp.), constituting an extensive genus, represented particularly in the indo-malayan and indo-australian regions, including several species which inhabit areas under cultivation. Several of the species described are much alike in appearance and cannot be distinguished by the field entomologist. A part of the material bred in Java has not yet been identified. No less than 18 new species were described some time ago from material obtained during the forest entomological investigations in India. The host timbers of 24 species have been noted in that region.

*P. secuta* Pasc. (syn. *fuscobasalis* Aur.) and *P. melanura* Pasc. are the most common species apparently in the plains and hills of Java, their larvae living more or less saprophagous in the dead parts of a large variation of trees and shrubs. They have been observed, as a rule in company with other secondary borers, in the teak forests in dead branches of *Tectona, Actinophora, Ficus rempelas, Dalbergia latifolia, Butea frondosa* (also in the dead bark) and *Cassia auriculata,* outside the forests often in *Theobroma cacao* (also in diseased blackened pods), *Piper* (in dead vines), *Coffea* (in twigs killed by the *Zeuzera* borer), *Artocarpus integra, Citrus* spp., *Ceiba* ('kapok' tree), *Canarium, Deguelia* and *Grevillea robusta.* In Malaya *melanura* has been reported as a borer in mango and thick parts of *Derris* roots. The beetles of *secuta* have a dark triangular patch on the elytra besides a few white, undulating lines, size some 8 mm; those of *melanura* possess a few more-or-less distinct white, undulating streaks or lines across the middle of the elytra; size 10—12 mm.

*P. triangularis* Breun., bred in numerous specimens from recently killed *Dalbergia latifolia, Artocarpus integra,* wild *Myristica* ('kibadjing'), and *Ceiba* ('kapok') in the plains of Java. The species may be recognized by the circular or lozenge shaped patch on the basis of the elytra and an oblique streak more posteriorly; size 8.5—15 mm.

*P. circulata* Schw. has appeared in numbers from borer infested trunks and branches of *Actinophora, Barringtonia, Buchanania, Albizzia lebbeck* and *Millettia.* The beetles have a well marked brown circle on the posterior part of the elytra and two lines on the pronotum; size 9 mm.

*P. albivenosa* Pasc. is a borer in dead herbaceous stems of 'tepus' (giant Zingiberaceae) in the Javanese teak area. The beetle have a curved white line with a dark core on the sides of the elytra; size 13 mm. The species was recorded only from Malaya, but also occurs in Sumatra, besides Java.

*Prosoplus banki* F., apparently a not uncommon species in plantations in Java, observed in the teak forest under the dead bark of *Hibiscus tileaceus* and in dying *Artocarpus integra.* The beetles are attracted to the male flowers of *Zea mays.* Size 9—12 mm. The species is wide-spread over East Indonesia, North Australia and the islands of the S. W. Pacific.

*Ostedes pauperata* Pasc., found repeatedly in branches and portions of trunks of teak trees damaged by *Neotermes tectonae,* also in trees killed by lightning, and in dead *Mallotus, Actinophora* and *Barringtonia.* Beetles slender, dark brown, sparsely covered with stiff hairs, with hooked spines on the sides of the pronotum, 9—13 mm in length.

*Rondibilis spinosula* Pasc., found boring in dead branches of *Ficus elastica* (in the teak forest), *Theobroma cacao, Mangifera indica* and *M. foetida.* A small, slender beetle, the ♂ ♂ with a hooked spine in the center of the elytra; length 6.5—9 mm.

*Exocentrus* spp. Most of these small species have become known only from specimens obtained from borer infested logs and branches put in cages. Thirteen undescribed species were discovered during forest entomological work in India and Birma. Similar work on a small scale in the teak forests of Java has produced 4 n.sp., which have been described by FISHER.

*E. actinophorae* Fish. was bred from *Actinophora fragrans*, killed by *Agrilus,* and *Grewia paniculata-; E. bauhiniae* Fish. from *Dalbergia latifolia, Bauhinia malabarica,* and *Mangifera odorata-; E. tectonae* Fish. from *Tectona* (teak) and 'tutup' (*Mallotus* or *Macaranga* ?).

*Ropica* spp., belonging to another genus of small borers living in dead branches and poles of different trees in Java, found in the teak forests in *Ficus elastica, F. septica, F. glomerata, F. hispida* ('luwingan'), *Artocarpus integra, Actinophora,* 'tutup' (*Mallotus* or *Macaranga*), *Gmelina asiatica,* and 'risisir', in the forests of East Java in 'kidamar' (*Podocarpus* sp.), outside the forests in *Ochroma* (balsa wood), *Ceiba* ('kapok' tree) and *Uncaria* ('gambir', in Sumatra). The small beetles have been observed swarming in the late afternoon around a dead sapling of *Artocarpus integra,* gnawing small patches from the outer bark, and copulating. Specimens sent to specialists have for the greater part been identified as *R. honesta* Pasc., a few as *R. illiterata* and *R. vinacea* (= *servilis*). These species had not been previously recorded from Java, but from the Moluccas (Ceram) and New Guinea.

*Sybra alternans* Wied., another small borer, still more common and more polyphagous in Java than the preceding one. The larvae appear to be able to develop in poles and branches of *Artocarpus integra, Ficus hispida, F. ampelas, F. septica, Streblus asper, Tectona grandis, Barringtonia* sp., 'tutup' (*Mallotus* or *Macaranga*), *Actinophora fragrans, Anthocephalus indicus, Bauhinia hirsuta* (also in dry pods of this species) and some unidentified timbers all in the teak forests, outside the forests in branches of *Ochroma,* very numerous in dead vines of *Piper,* sometimes in *Ricinus* and cassava stems. The beetle is 7—11 mm in length.

*Chreonoma testacea* Th., primary borer of Rubiaceae in Java, observed particularly in the ornamental *Gardenia augusta* shrubs in gardens, in the teak forests in wild *Ixora coccinea, Nauclea orientalis,* and *Tarenna incerta.* The larvae tunnel beneath the bark, winding their way around the stems, which are girdled and killed. The bark is slightly raised where the galleries run. When the epidermis dies and cracks plugs of coarse fibres become visible. Pupation takes place in the wood. The beetles are shining yellow, with black eyes, 7—10 mm in length. They resemble Chrysomelids and eat narrow stripes in the leaf tissue parallel to the nerves. These traces indicate the presence of the borer infestation. The beetles are on the wing in the teak forest from August to October.

*Nupserha fricator* Dalm., found boring in the stems of sweet potatoe more than once in Java, an easily recognisable beetle, with the elytra narrowed and tinted black towards the tip, size 8—11 mm.

*N. quadri-oculata* Thunb., a borer in the 'lawatan' creeper *(Ipomoea* sp.) in the teak forests of Mid Java. An interesting peculiarity of some *N.* species is their method of pupation outside the creepers in the stem of the supporting tree, which may be slightly damaged by the excavation of the pupal cell (observation of ATKINSON).

(to be continued).

Blaricum, Netherlands, Rotondeweg 2.

## Literatuur

**P. Benno, Bijen (Apoidea), vliesvleugelige insecten (Hymenoptera) IV, angeldragers (Aculeata);** Wetenschappelijke Mededelingen no 18; uitgave Kon. Ned. Natuurhistorische Vereniging, Juni 1955.

De wetenschappelijke mededelingen van de Kon. Ned. Natuurhistorische Vereniging volgen elkander in korte tijd op. Nu is weer verschenen een bewerking van de Nederlandse wilde bijen van Pater BENNO, een van de beste kenners hier in Nederland van deze groep. Na een korte inleiding, waarin o.a. de voornaamste algemene biologische gegevens worden vermeld over vliegtijd, bloembezoek, stuifmeelverzameling, nestbouw en dergelijke, volgt een overzicht van de Nederlandse bijengeslachten en een determineertabel. Deze is een nieuwe bewerking van een soortgelijke toen reeds uitstekende tabel van B. E. BOUWMAN, die indertijd in *De Levende Natuur* gepubliceerd is. Deze nieuwe tabel, die zo gemakkelijk mogelijk is gehouden, is geïllustreerd met een 32-tal uitstekende figuren. Hierdoor zal het over het algemeen zelfs een beginneling niet moeilijk vallen de geslachtsnaam van een Nederlandse bij te vinden. Na deze tabel volgt een korte beschrijving van ieder geslacht, waarin ook de voornaamste biologische gegevens vrij uitvoerig worden vermeld. Daarna is apart een bijenkalender opgenomen. Hierin zijn de planten vermeld, waarop de bijen vliegen, evenals de vliegtijden. Aan het eind vindt men een naamlijst van al onze bijen en een opgave van de belangrijkste literatuur. Verder vindt men in het boekje nog een zevental goede habitustekeningen van de heer W. F. BREURKE.

Ieder, die belangstelling heeft voor onze wilde bijen, kan deze nieuwe uitgave aanbevolen worden als een goede betrouwbare gids. — BETREM.

**Hurd, P. D., and Michener, C. D., The Megachiline Bees of California.** Bull. of the Calif. Ins. Survey, Vol. 3, 1955, $ 3,50.

In dit 247 pagina's dikke deel, offset druk, worden 116 soorten besproken. Het werk is zeer rijk geïllustreerd en bevat zeer veel vindplaatsopgaven. Bij de meeste soorten is geen beschrijving gegeven, doch zijn de karakteristieke delen getekend, wel zijn alle soorten met de determineertabellen te vinden. — KR.

**Quate, L. W., A revision of the Psychodidae (Diptera) in America North of Mexico,** Univ. Calif. Publ. in Ent., vol. 10, pp. 103—273, 1955.

Dit bijzonder fraai uitgevoerde werk bespreekt op uitvoerige wijze de N.-Amerikaanse motmugjes.

Meer dan 100 zeer duidelijke tekeningen verluchten het werk. — KR.

**Voedselplanten van Aglia tau L.** Op 22 Juli 1955 vond ik een volwassen rups op eik. Flinke vraatsporen in de omgeving bewezen onomstotelijk, dat het dier daar geboren en getogen was. Nergens in de omtrek was beuk of berk te bekennen, zodat we eik zonder twijfel aan het *tau*-menu kunnen toevoegen.

W. J. BOER LEFFEF, Korteweg 53, Apeldoorn.