

**Xyleborus morstatti Hag., a synonym of *X. compactus* Eichh.
(Col., Scolytidae)**

by

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Introduction. In three recent papers (KALSHOVEN 1958, 1959, 1961) data have been published on the occurrence in the Indomalayan region of the black twig-boring ambrosia beetle, indicated as *Xyleborus morstatti* Hag. This species became notorious in Indonesia when it started to supersede the local brown twig-borer, *Xyleborus morigerus* Bldf. (syn.: *X. coffeae* Wurth) in the coffee plantations of Central and East Java about 1924/1927. The name *morstatti* had been given originally by HAGEDORN in 1912 to a species killing the twigs of coffee trees in Amani, E. Africa. He supplemented his description with a comparison between his n.sp., *X. coffeae* of Java and *X. compactus* Eichh. of Japan, species belonging to the same morphological group but by him considered to be different species.

In 1922 another German specialist, H. EGGERS, identified specimens collected in the coffee plantations of N. Sumatra with the African species. Since, the name *morstatti* has been extensively used in the literature on applied entomology of Indonesia.

BEESON, in 1930, suggested that *X. morstatti*, recorded from Asiatic countries might still be identical with *X. compactus*, the Japanese species. The probability of this identity again came to the front, when it was found by the second author of the present paper that the black twig-borer already occurred in West Java before 1897 and in Tonkin before 1907. A renewed study of some early correspondence between entomologists at Bogor, Java and Col. F. WINN SAMPSON, London, showed that the latter had identified specimens of the black borer found in Java and submitted to him in 1922, as *X. compactus*. It further appeared that this name had been used in the literature for a primary twig-borer found in Ceylon (GREEN 1912, RUTHERFORD 1913, SPEYER 1919), in India (BALLARD 1921) and Malaya (RIDLEY 1913). It was also interesting to note that the name *X. compactus* had been used in an early paper mentioning twig-borer damage to coffee in Africa (AULMANN 1911). Most of these identifications must have been based on information received from SAMPSON. This assumption is sustained by the fact that the following specimens, all bearing the label "compactus" in SAMPSON's handwriting were seen in the collections of the British Museum by the second author during a visit in 1953: Ceylon, ex *Coffea* (a series); Ceylon, Bandarawella, from living tea plants; India, S. Malabar, Kollengode, from *Coffea robusta*, 18 Nov. 1919, leg. BALLARD; Africa Tanganyika, leg. RITCHIE (a series). What is still more important, a type specimen of EICHHOFF, labelled Japan, leg. LEWIS, was also present in these collections.

In order to conclusively clarify the question of the suspected synonymy of *morstatti* and *compactus*, the second author applied to his senior colleague with the request to compare *morstatti* specimens from the Indomalayan region with *compactus* beetles of Japan. Here the results of this study are published.

Comparison of Indomalayan and Japanese specimens. The following material was used for the investigations:

- 2 ♀ ♀ of *X. morstatti* from Kepong, Malaya, det. F. G. BROWNE
 4 ♀ ♀ „ „ „ „ East Java, det. L. G. E. KALSHOVEN
 75 ♀ ♀ of *X. compactus* from Southern Japan, det. J. J. MURAYAMA.

In the first place the specimens were examined with regard to the differences summed up by HAGEDORN, 1912, in five points, which for convenience sake are quoted here in extenso.

	<i>compactus</i>	<i>morstatti</i>
(1) Halsschild	an den Seiten von der Mitte zur Spitze und zur Basis gleichmäßig gerundet	an den Seiten von der Mitte zur Spitze gerundet; nach der Basis zu parallel mit gerundeten Ecken
(2) Halsschild	am Grunde mit einer Reihe tiefer, ziemlich dichter Punkte	die Punktreihe fehlt
(3) Flügeldecken	von der Basis bis zur Spitze schwach aber gleichmäßig mit Punktreihen besetzt	auf dem Absturz tiefer, beinahe gestreift-punktiert
(4) Flügeldecken	von der Basis bis zur Spitze in konvexen Bogen gleichmäßig abgewölbt. Von einem erhabenen Spitzenrand wird nichts erwähnt	nach hinten allmählich abgewölbt, Spitzenrand deutlich. Nahtstreif auf dem Absturz leicht vertieft
(5) Flügeldecken	kurz, kaum $\frac{1}{3}$ länger als breit	$\frac{1}{2}$ mal so lang als breit, also viel länger als bei <i>compactus</i>

Before discussing these points attention must be drawn to the fact that the characters given for *compactus* were derived from EICHHOFF's description in his *Ratio Tomicinorum*; HAGEDORN did not see the type himself as he clearly stated.

(1) EICHHOFF specifies in his diagnosis: "Prothorax... lateribus a medio ad apicem et basin subaequaliter rotundatus". HAGEDORN's translation of the term "subaequaliter" is therefore not exact. In most specimens from both sources used in our studies the curvature of the pronotal sides is very strong towards the apex and considerably weaker towards the base; in some specimens even nearly straight. In the latter case the sides may look slightly rounded if viewed from a certain angle. The curvature of the pronotal sides can therefore not be used to distinguish two species.

(2) In his diagnosis EICHHOFF observes: "Prothorax..... media basi tamen, supra scutellum congerie, ex punctis sat densis et profunde impressis composita". This character is also described in brief but clear terms in the keys given by EICHHOFF on pp. 59 and 477. Again HAGEDORN has given a wrong interpretation for there is no question of a line of punctures but of a group. And this group has been found to exist in the Japanese as well as in the Indomalayan specimens. The same feature, by the way, can be seen in *X. germanus* Bldf.

(3) EICHHOFF describes this detail of the elytra as "subtiliter seriatim punctata,

a basi usque apicem". No difference in the texture of the elytra could be observed in the *compactus* and *morstatti* specimens examined.

(4) In his table HAGEDORN particularly emphasizes the difference in this respect between *X. coffeae* (rightly *morigerus*) and *morstatti*, which indeed, is immediately recognizable. About the elytral declivity EICHHOFF writes only: "postice abrupte ad angulum apicalem rotundata", so the sharp edge of the apical part of the declivity, so common in many *Xyleborus* species, is not mentioned. However, the profile of the elytra of the *compactus* and *morstatti* specimens under examination was wholly similar and so were the circumference and the surface of the declivity.

(5) Here the original description of EICHHOFF reads: "Elytra..... perbrevia, latitudine sua ipsius vix tertia parte longiora". The exact measurements of the six Indomalayan *morstatti* specimens gave a ratio of length to width of 1 : 1.24, 1 : 1.25, 1 : 1.25, 1 : 1.27, 1 : 1.28, and 1 : 1.29, from which follows that the elytra are $\frac{1}{4}$ — $\frac{1}{3}$ longer than wide. These values corroborate the figure given by EICHHOFF, and HAGEDORN's method of measuring must have been less accurate or must have been figured in a different way. The drawing of Java specimens of *X. morstatti* published by the second author in 1958 gives the correct profile of the beetle.

There is another morphological feature which is of special importance for the present study but has not been mentioned by EICHHOFF. All the specimens examined have fine setae planted on the striae as well as on the interstices of the declivity. This particular character, also mentioned by BLANDFORD in 1894, is only found in a single other Japanese species, viz. *X. seriatus* Bldf., a species which for the rest is very different from *compactus* in size, in the shape of the pronotum and in its boring habits. It makes single holes in the cambium rather like barkboring Scolytids.

Conclusion. As the differences given by HAGEDORN for separating *compactus* and *morstatti* have proved to be non-existent and the beetles are alike in all respects, the present authors are of opinion that their synonymy is sufficiently demonstrated.

Apparently *X. compactus* has had a very wide distribution in South and East Asia for a very long time. It still remains unexplained why this black twig-borer was not found in Central and East Java at the time the brown borer caused its ravages in the coffee plantations in 1906—1924, so that the former appeared to be a newly introduced species in that part of the island.

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Nederlandse Chalcididen

door

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I. Parasieten in gallen van *Rosa* spp. en *Salix repens*.

Dank zij vergunningen, verleend door de heren F. K. OZINGA en E. C. M. RODERKERK, was het mij mogelijk tamelijk grote hoeveelheden gallen in de duinen van „Duin en Kruidberg” en de „Kennemer Duinen” te verzamelen. Het ging hierbij om 1500 tot 2000 gallen van *spinossissima*, ca. 800 van *Pontania*, ca. 100 van *rosarum*, ca. 200 van *rosaria* en enige tientallen van elk van de andere soorten. Van de hieruit verkregen Chalcididen volgt hieronder een opsomming. Daarna, in de samenvatting, enige opmerkingen over een paar soorten.

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| 1. <i>Eurytoma rosae</i> Nees | uit <i>Diplolepis spinossissima</i> ,
<i>D. rosarum</i> , <i>D. mayri</i> , <i>D. eglanteriae</i> . |
| 2. <i>Eurytoma aciculata</i> Ratz. | uit <i>Pontania viminalis</i> . |
| 3. <i>Torymus bedeguaris</i> (L.) | uit <i>Dipl. mayri</i> , <i>D. rosae</i> . |
| 4. <i>Eupelmella vesicularis</i> Ratz. | uit <i>Dipl. spinossissima</i> , <i>D. mayri</i> ,
<i>Pontania viminalis</i> . |
| 5. <i>Torymus tipulariarum</i> Zett. | uit <i>Rhabdophaga rosaria</i> . |
| 6. <i>Habroclytus capreae</i> (Swed.) | uit <i>Pontania viminalis</i> . |
| 7. <i>Habroclytus bedeguaris</i> Thoms. | uit <i>Dipl. spinossissima</i> , <i>D. rosarum</i> ,
<i>D. mayri</i> , <i>D. eglanteriae</i> . |
| 8. <i>Caenacis inflexa</i> (Ratz.) | uit <i>Dipl. spinossissima</i> . |
| 9. <i>Tetrastichus ecus</i> (Walk.) | uit <i>Dipl. eglanteriae</i> . |
| 10. <i>Tetrastichus</i> sp. A | uit <i>Dipl. spinossissima</i> , <i>D. mayri</i> ,
<i>D. eglanteriae</i> . |
| 11. <i>Entedon diotimus</i> Walk. | uit <i>Rhabdophaga rosaria</i> |