

# New attaphilous Histeridae (Coleoptera) from Suriname, with notes on other species

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Kanaar, P. New attaphilous Histeridae (Coleoptera) from Suriname, with notes on other species. Zool. Med. Leiden 71 (23), 30.xii.1997: 277-286, figs 1-14.— ISSN 0024-0672.  
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Key words: Coleoptera; Histeridae; Neotropical region; Suriname; attaphiles; new species.  
The following new attaphilous Histeridae from Suriname are described and illustrated: *Carcinops subcarinatus*, *Phelister geijskesi* and *Phelister degallieri*. New records are given for *Phoxonotus tuberculatus* Marseul and *Phelister striatinotum* Wenzel & Dybas.

## Introduction

During 1938 and 1939 Stahel and Geijskes performed an investigation of the structure of *Atta*-nests in Suriname (Stahel & Geijskes, 1939). Five nests of *Atta cephalotes* Linnaeus and one nest of *Atta sexdens* Linnaeus were mapped out in three dimensions. During this field-study Geijskes sieved the contents of the detritus-rooms of several *Atta*-nests to collect the inhabitant invertebrate fauna. This alcohol-preserved material contained a great number of Histeridae, of which several species appeared to be new to science. They are the subject of this publication.

## Abbreviations

CHPK = Private Histeridae collection P. Kanaar (legated to RMNH).  
RMNH = National Museum of Natural History, Leiden (formerly: Rijksmuseum van Natuurlijke Historie)

## Species accounts

### *Phoxonotus tuberculatus* Marseul, 1862

*Phoxonotus tuberculatus* Marseul, 1862: 37-38.

Material.— All specimens of undetermined sex. Ten specimens (RMNH, CHPK), Suriname, Paramaribo, Charlesburg, 5.ix.1938, in detritus-room of *Atta cephalotes* nest, leg. D.C. Geijskes; one specimen (CHPK), Suriname, Lelydorp, 15.ix.1938, in detritus-room of *Atta sexdens* nest, leg. D.C. Geijskes; six specimens (RMNH, CHPK), Lelydorp, 6-16.xii.1938, in detritus-room of *Atta sexdens* nest, leg. D.C. Geijskes.

The present account supports the assumption of Reichensperger (1935) that the members of the genus *Phoxonotus* Marseul, 1862, are attaphilous.

*Carcinops subcarinatus* spec. nov.  
(figs 1-4)

Material.— Holotype, ♂ (RMNH), Suriname, Paramaribo, Charlesburg, 5.ix.1938, in detritus-room of

*Atta cephalotes* nest, leg. D.C. Geijskes. Paratypes: 2 ♂♂, 6 ♀♀ (RMNH, CHPK), same data as holotype; 18 ♂♂, 14 ♀♀ (RMNH, CHPK), Paramaribo, Charlesburg, 5-10.xi.1938, in detritus-room of *Atta cephalotes* nest, leg. D.C. Geijskes; 22 ♂♂, 24 ♀♀ (RMNH, CHPK), Paramaribo, Cultuurtuin, in detritus-room of *Atta cephalotes* nest, leg. D.C. Geijskes.

Length (without head, propygidium and pygidium) 2.1 mm, width 1.6 mm, height 1.1 mm. Shape oval, shiny; colour castaneous, head, sutures, meso- and metasternum dark-brown.

Head (fig. 3).—Mandibles curved, convex, apex pointed. Labrum transverse, slightly emarginate, with two setigerous points. Clypeus and front slightly convex, with a sparse fine double punctation, together surrounded by the complete fine frontal stria that is continuous with the supraorbital striae, these nearly parallel and continuous with occipital stria. Front with shallow oblique impression at either side medial from the antennal insertion. Eyes very little protruding in dorsal view.

Thorax.—Pronotum (fig. 1) about 1.8 times wider than long in the median line, with a distinct punctate antescutellar fovea and a row of points along the base. Disc not densely punctulate with few larger points intermixed, interstices smooth. Anterior emargination slightly bisinuous in dorsal view, anterolateral angles sharp, not impressed. Marginal stria distinct, complete. Scutellum triangular.

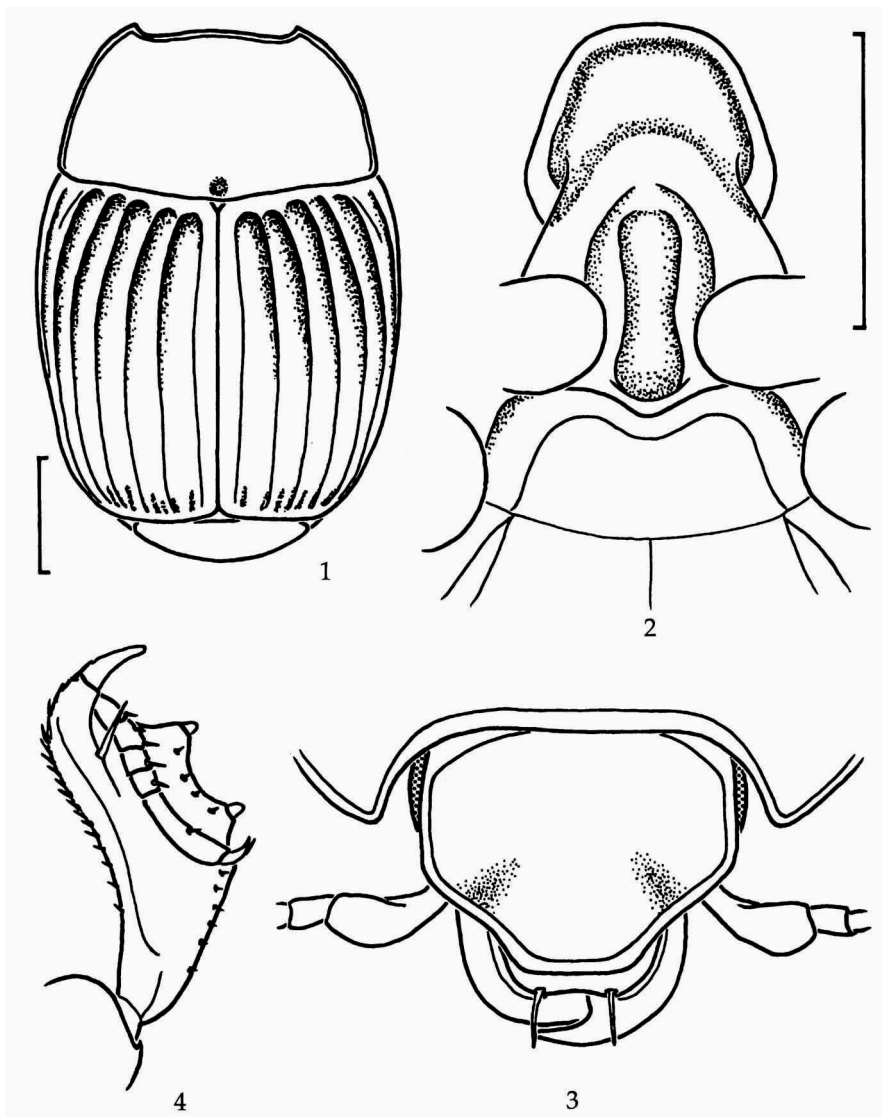
Elytra (fig. 1): epipleurae slightly concave, especially anteriorly, with sparse punctation, marginal epipleural stria fine, epipleural stria and marginal elytral stria distinct, sinuous, a little cariniform. Outer subhumeral stria short, straight, beginning at the humerus, ending close to the marginal elytral stria slightly beyond the elytral middle. Inner subhumeral stria almost complete, not deeply impressed, beginning at the base and ending close to the first dorsal stria slightly before the posterolateral elytral angle. Oblique humeral stria very fine, short. Course of the other elytral striae: fig. 1. All dorsal striae punctate and slightly crenulate, in the anterior elytral half progressively cariniform, caused by a higher level of their outer edges. Interstriae punctulate. Sutural stria less distinct and impunctate in its anterior fifth, distinct and punctate towards apex. Suture distinctly raised in its median third. Elytral apex with irregular longitudinal impressions in the interstriae.

Prosternum (fig. 2): lobe long, strongly curved downward, finely punctate, sides longitudinally impressed, near the base indistinctly margined. Prosternal keel almost straight in lateral view, finely punctate, slightly impressed along the carinal striae, which are slightly divergent posteriorly, indistinctly connected in front, more distinctly so behind. Lateral prosternal striae curved inward in front, not connected.

Mesosternum (fig. 2) distinctly emarginate in front, marginal stria distinct, complete; disc with distinct but sparse double punctation. Meso-metasternal suture indistinct.

Metasternum with two sinuous lateral striae and a recurved postmesocoxal stria. Disc sparsely punctulate, in a faint impression near the hindcoxae intermixed with some larger points. Interstices smooth. Male metasternal impression faint, more or less triangular in the posterior metasternal third, reaching the posterior border. Lateral parts of the metasternum with not very dense coarse points.

Legs: protibia fig. 4. Middle- and hindlegs rather slender, meso- and metatibiae with a row of spines on their superior margin.



Figs 1-4, *Carcinops subcarinatus* spec. nov., holotype - 1, dorsal view (in part); 2, pro- and mesosternum (punctuation omitted); 3, head in dorsal view; 4, right protibia (inner face).

Abdomen.— Propygidium transverse, with a double punctation, the primary points irregularly scattered and larger than those on pronotal disc. Pygidium reflexed, with fine double punctation, the apex only punctulate, with fine stria on the edge.

First visible sternite with distinct double punctation, the primary points gradually smaller towards apex, and with a lateral stria at either side.

Etymology: the name refers to the partially cariniform dorsal striae.

Variation.— Length (without head, propygidium and pygidium) 1.9 - 2.4 mm.

The females have also a faint metasternal impression, but this does not quite reach the metasternal hind-margin. The metasternal impressions in the two sexes are subject to a slight variability. Because the alcohol-preserved specimens are very brittle a systematic extraction of the genitalia was omitted to prevent severe damage. The separation of males and females was based only on the different extent of the metasternal impressions in the two sexes. The difference is very small, however, and some mistakes cannot be excluded.

Identification.— This species is close to *Carcinops carinatus* Wenzel & Dybas, 1941, that also has been found in detritus from an *Atta*-nest. *C. carinatus* and *C. subcarinatus* can be separated at once from all other known *Carcinops*-species by the cariniform dorsal striae. *C. subcarinatus* differs from *C. carinatus* (that I know only from its description) by the shiny surface (for the greater part alutaceous and subopaque in the latter), the complete frontal stria, the complete sutural striae and the not carinate posterior parts of the dorsal striae.

*Phelister striatinotum* Wenzel & Dybas, 1941

*Phelister striatinotum* Wenzel & Dybas, 1941: 463-465.

Material.— One ♀ (RMNH), Suriname, Lelydorp, 6-16.xii.1938, in detritus-room of *Atta sexdens* nest, leg. D.C. Geijskes.

The specimen was compared with the unique holotype from Colombia by Wenzel. It is the second known specimen of this species (Wenzel, in litt.). Up to present this species was the only known *Phelister* species with an antescutellar stria. However, in the same batch a large series of another new *Phelister* species with an antescutellar stria was found. The description is as follows:

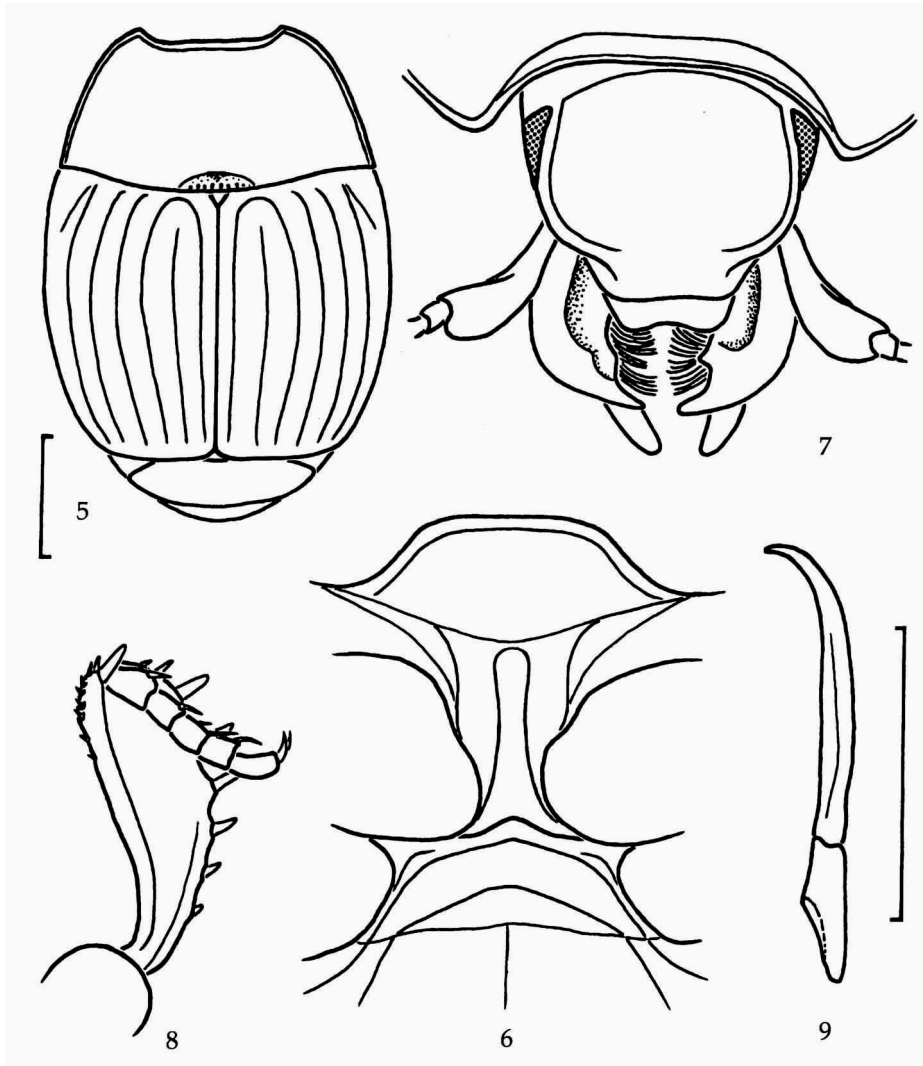
*Phelister geijskesi* spec. nov.  
(figs 5-9)

Material.— Holotype, ♂ (RMNH), Suriname, Lelydorp, 6-16.xii.1938, in detritus-room of *Atta sexdens* nest, leg. D.C. Geijskes. Paratypes: 56 ♂♂, 45 ♀♀ (RMNH, CHPK), same data as holotype; 3 ♂♂, 7 ♀♀ (RMNH, CHPK), Lelydorp, 15.ix.1938, in detritus-room of *Atta sexdens* nest, leg. D.C. Geijskes.

Length (without head, propygidium and pygidium) 1.8 mm, width 1.5 mm, height 1.0 mm. Shape broadly oval, moderately convex, shiny, colour castaneous, sutures darker.

Head (fig. 7).— Mandibles curved with pointed tip, upper side convex with curved carinal margin near medial side. Labrum transverse, strongly emarginate. Clypeus and front with fine, rather sparse punctation, slightly convex, a little elevated behind the antennae. Frontal stria widely interrupted in the middle, arcuately continuous with the supraorbital striae, which are divergent anteriorly and angulately continuous with occipital stria. Eyes rather protruding in dorsal view.

Thorax.— Pronotum (fig. 5) about 1.9 times wider than long in the median line, finely, not very densely punctate, with an arciform antescutellar stria. Area enclosed by this stria sparsely punctate, together with the triangular scutellum slightly



Figs 5-9, *Phelister geijskesi* spec. nov., holotype - 5, dorsal view (in part); 6, pro- and mesosternum (punctuation omitted); 7, head in dorsal view; 8, right protibia (inner face); 9, aedeagus, right lateral view.

impressed. Marginal stria distinct at the lateral sides, continuous with a stria at some distance of the anterior emargination. A very fine marginal stria is present along the anterior emargination, ending a little behind the anterior pronotal angles (fig. 7). No lateral striae. Anterolateral angles not impressed.

Elytra (fig. 5) sparsely punctulate. Epipleurae concave, especially in the anterior part, barely punctulate. Marginal epipleural stria indistinct, partly obsolete. Epipleural stria distinct, marginal elytral stria sinuous, fine, situated on the rather sharp transition of epipleuron and superior side of elytron. No subhumeral striae. Oblique humeral stria fine but distinct. Course of the punctato-crenulate dorsal striae: fig. 5. Fifth dorsal striae slightly elevated, suture slightly elevated in its medial part as well.

No apical stria.

Prosternum (fig. 6): lobe long, punctulate, deflexed, truncate anteriorly, marginal stria fine, complete, close to the edge. Prosternal keel sparsely punctulate, straight in lateral view. Carinal striae almost parallel, divergent posteriorly, indistinctly connected in front. Lateral marginal prosternal striae sinuous.

Mesosternum (fig. 6) transverse, anterior triangular projection long, deeply penetrating the prosternal base. Marginal mesosternal stria widely interrupted in the middle, discal marginal mesosternal stria complete. Disc sparsely punctulate, traversed by a deeply impressed angulate stria. Meso-metasternal suture distinct.

Metasternum: disc sparsely punctulate, male metasternal impression large and deep, oval, extending from the mesosternal posterior third to a little before the metasternal hindmargin. Parts outside the lateral striae with sparse large points, with some punctulation between.

Legs rather slender. Protibia fig. 8; middle- and hind-tibiae with a row of not closely set spines on their superior margin.

Abdomen.— Propygidium transverse, sparsely punctulate with few larger points intermixed. Interstices smooth. Sides and apical margin with an indistinct fine marginal stria.

Pygidium convex, triangular, reflexed, punctulate as propygidium, with marginal stria at the edge.

First abdominal sternite punctulate with large flaccid, slightly ocellate points in its anterior third, gradually smaller and disappearing towards the middle.

Aedeagus: fig. 9, beyond the gonopore gradually narrowed into a curved hook with rounded tip

Etymology: the name is given in memory of the collector Dr D.C. Geijskes, specialist of Surinam Odonata and an amiable entomologist.

Variation.— Length (without head, propygidium and pygidium) 1.6 - 2.1 mm. The females have only a very small and faint impression in the anterior metasternal fifth.

Identification.— *Phelister striatinotum* and *Ph. geijskesi* can be separated at once from all other known *Phelister*-species by the presence of an antescutellar arciform stria. In the former species the antescutellar area enclosed by the stria is much larger, its lateral sides at their origin from the pronotal base slightly divergent for a short distance, thence curved inward and continuous with the slightly forwardly bent anterior margin. Also its pronotum is broader, the sides more evenly curved. The fifth dorsal striae and the suture are not elevated, as in *Ph. geijskesi*. The base of the first sternite is only punctulate, missing the large flaccid points.

The material contained also a small series of another new *Phelister*-species:

*Phelister degallieri* spec. nov.  
(figs 10-14)

Material.— Holotype, ♂ (RMNH), Suriname, Paramaribo, Charlesburg, 5-10.xi.1938, in detritus-room of *Atta cephalotes* nest, leg. D.C. Geijskes. Paratypes: 1 ♂, 6 ♀♀ (RMNH, CHPK), same data as holotype; 1 ♂, 1 ♀ (RMNH), Paramaribo, Charlesburg, 5.ix.1938, in detritus-room of *Atta cephalotes* nest, leg. D.C. Geijskes.

Length (without head, propygidium and pygidium) 2.1 mm, width 1.6 mm, height 1.2 mm. Shape oval, moderately convex, colour castaneous, shiny, legs rufous.

Head (fig. 12).— Mandibles curved with pointed tip, superior side convex with basal carinate edge at the medial side, and a small impression near the tip of the right mandible. Labrum transverse, emarginate. Clypeus with front barely impressed, finely punctate. Vertex slightly convex, with fine, not dense double punctation. Frontal stria almost complete, slightly curved backwards and barely interrupted in the middle, continuous with fine supraorbital striae. Eyes little protruding in dorsal view.

Thorax.— Pronotum (fig. 10) about 1.7 times wider than long in the median line, not densely punctulate, with a row of coarse points on the basal margin. Antescutellar impression distinct, slightly elongate. Marginal stria fine, complete, slightly notched behind the eyes. Antero-lateral angles rather sharp, not impressed. No lateral striae.

Elytra (fig. 10): epipleurae with two deep longitudinal sulci, the most lateral one distinctly punctate, at either side of a sinuous ridge, on which a fine epipleural stria. No distinct marginal elytral stria. Outer subhumeral stria distinct, punctate, reaching from a little behind the base to almost the elytral apex, where it is curved inward. Oblique humeral stria distinctly impressed. Course of the other deeply carved punctato-crenulate dorsal striae: fig. 10. Interstriae sparsely punctulate. No apical stria.

Prosternum (fig. 11): lobe long, strongly deflexed with rounded tip, punctulate, marginal stria distinct, complete. Carina convex in lateral view, with fine double punctation. Carinal striae fine, almost parallel, divergent towards base. Lateral marginal prosternal striae distinct, curved outwards.

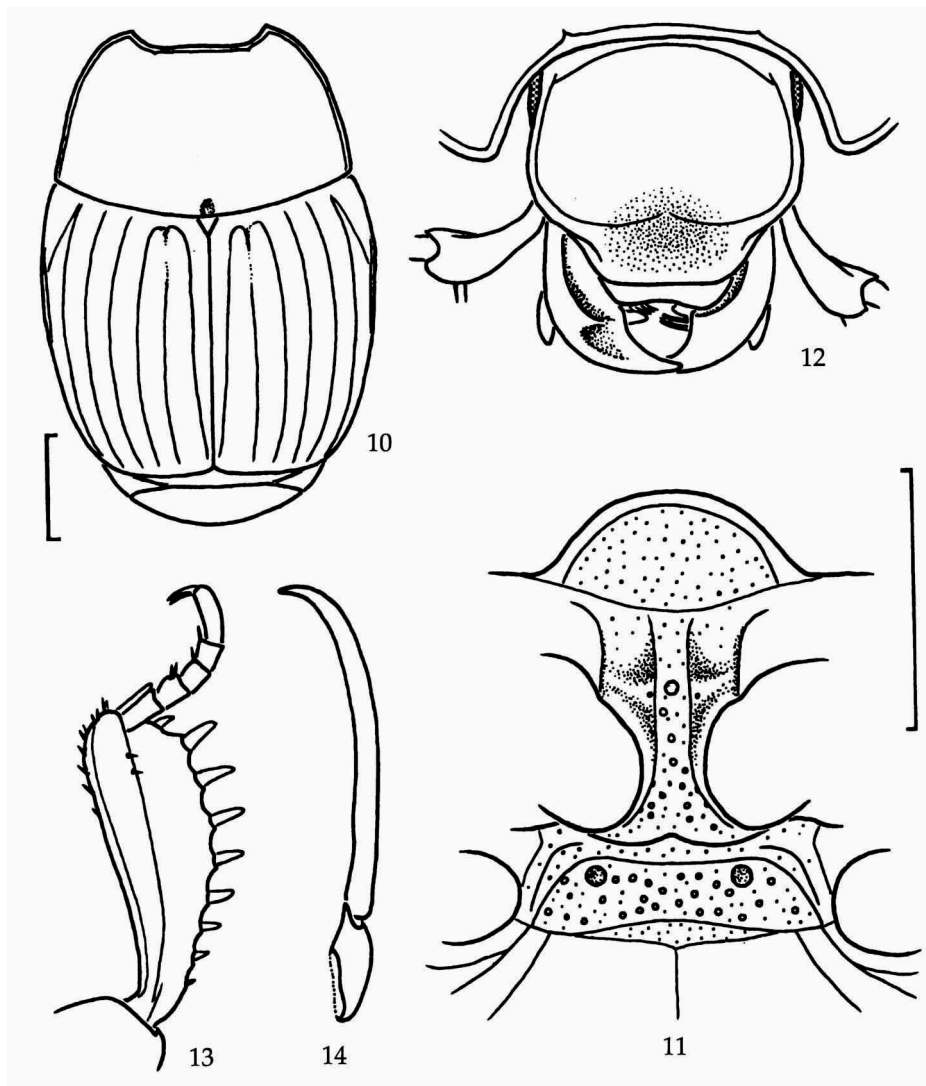
Mesosternum (fig. 11) transverse, medial anterior projection very short. Marginal mesosternal stria confined to the sides and anterior angles only, widely interrupted in the middle. Discal marginal mesosternal stria complete, almost straight in front, slightly crenulate. A little before the meso-metasternal suture the disc is traversed by a crenulate stria, slightly bent anteriorly. Disc punctulate with few irregularly scattered points between, at either side a large point, a little medially from the anterolateral angles. Meso-metasternal suture fine, mainly indicated by a slight angle between the planes of meso- and metasternum.

Metasternal disc punctulate with few larger points intermixed in the posterolateral angles, interstices smooth. Inner lateral metasternal stria beginning at the meso-metasternal suture a little medially from the discal marginal mesosternal stria, curved inward behind. Outer lateral metasternal stria curved outward. Postmesocoxal stria recurved, its medial end confused with the outer lateral metasternal stria. Lateral parts of metasternum with coarse punctation. Male metasternal impression small, shallow, in touch with the meso-metasternal suture.

Legs rather slender. Protibia: fig. 13. Middle- and hind-tibiae with a row of long spines on their superior margin, accompanied by a row of smaller spines on the outer tibial faces.

Abdomen.— Propygidium rather long, with distinct, not very dense double punctation, the primary points irregularly scattered. Interstices smooth. Pygidium reflexed, punctulate with few larger points intermixed in the basal third. Interstices smooth. Marginal stria very fine, indistinct at the apex.

First visible abdominal sternite punctulate as metasternum, with a faint trans-



Figs 10-14, *Phelister degallieri* spec. nov., holotype - 10, dorsal view (in part); 11, pro- and mesosternum; 12, head in dorsal view; 13, right protibia (inner face); 14, aedeagus, right lateral view.

verse impression near the anterior margin.

Aedeagus (fig. 14) slender, beyond the gonopore suddenly narrowed to a parallel-sided curved hook with rounded tip.

Etymology: the name is given in honour of my friend Nicolas Dégallier, expert of especially Neotropical Histeridae, in appreciation of our long-established cooperation.

Variation.— Length (without head, propygidium and pygidium) 1.9 - 2.5 mm. The punctation of the prosternal carina and mesosternum is different in the two sexes. The three males have all the peculiar double punctation of the mesosternal disc



with the large points near the antero-lateral angles. In the females the prosternal carina and mesosternal disc are only punctulate, the large points being absent. Also the stria before the meso-metasternal suture is in the females more angulately bent forward than in the males, and a metasternal impression is absent. The sutural striae with their arches to the fourth dorsal striae exhibit a rather great variability. In several paratypes the sutural striae are a little abbreviated near the base, the arches towards the fourth dorsal striae interrupted; a same phenomenon can be observed in *Paratropus lacustris* (Desbordes, 1924) (Kanaar, 1993, 1997).

Identification.— *Ph. degallieri* belongs to Bickhardt's group III. In his key (1917) it runs to 7: *Ph. amplistrius* Schmidt (species with slightly abbreviated outer subhumeral striae), but it does not fit to the other characters of this species. *Ph. degallieri* seems to be also close to the attaphilous species *Ph. quisquiliocolus* Wenzel & Dybas, 1941, *Ph. purgamenticolus* Wenzel & Dybas, 1941, and *Ph. recrementicolus* Wenzel & Dybas, 1941, that I know only by their descriptions. From the former *Ph. degallieri* differs by the narrower interruption of the frontal stria, the not punctiform basal prolongation of the outer subhumeral stria, the less transverse pronotum and the not microscopically rugulose meso- and metasternum; from the second it differs by the almost complete outer subhumeral and sutural striae and the absence of setigerous punctures on meso- and metasternum; from *Ph. recrementicolus* it differs by the narrower interruption of the frontal stria, the almost complete subhumeral stria and the double punctation of the pygidium.

### Discussion

By the long storage of the material in alcohol the genitalia could not be cleared from adherent soft tissues with the enzyme-method (Kanaar, 1990). Therefore the fine details of the eighth male sternites could not be studied and their depiction was omitted.

The detritus-rooms of the nests of *Atta cephalotes* Linnaeus and *Atta sexdens* Linnaeus are situated at the periphery of the system of galleries in the nests. In these subterraneous rooms the ants deposit the exhausted material of the fungus gardens. Besides of this material the rooms contain also many dead ants (Stahel & Geijskes, 1939). The nests of *Atta sexdens* are all situated in lowland that is inundated from time to time during the wet seasons. The nests of *Atta cephalotes*, on the contrary, are situated in higher areas that never are inundated. Although the number of nests that have been examined is very limited and conclusions can only be made with reserve, the difference in periodical inundation of the nests may explain the difference of the Histerid-population: *Carcinops subcarinatus* and *Phelister degallieri* have only been encountered in nests of *Atta cephalotes*, *Phelister striatinotum* and *Phelister geijskesi* only in nests of *Atta sexdens*. *Phoxonotus tuberculatus*, on the contrary, does not seem to be host-specific, as it was found both in *Atta cephalotes* and *Atta sexdens* nests.

### Acknowledgements

Thanks are due to Rupert L. Wenzel (Oak Park, Illinois, U.S.A.) for the comparison of the specimens with the collection of the Field Museum of Natural History and

his comment upon the species, and to J. Krikken (Leiden) for the opportunity to study the material and for critically reading the manuscript.

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Received: 5.vi.1997

Accepted: 27.viii.1997

Edited: C. v. Achterberg