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Description of five new species in the genus *Caryedon* SCHOENHERR,  
with a taxonomical note on *C. angerei* (SEMENOV)  
(Coleoptera: Bruchidae: Pachymerinae)

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ABSTRACT. *Caryedon abdominalis* n. sp., *C. femoralis* n. sp., *C. furcatus* n. sp., *C. halperini* n. sp., and *C. nongoniermai* n. sp. are described. Genitalia are figured; data on distribution and host plants are provided. A new synonymy is proposed for *C. angerei* (SEMENOV, 1896), n. comb. (= *Caryoborus angerei* SEMENOV, 1896, = *Caryedon serratus* subsp. *palaesticus* SOUTHGATE, 1976, n. syn.).

Key words: entomology, taxonomy, new species, host plants, *Acacia*, *Coleoptera*, *Bruchidae*, *Caryedon*, Africa, Asia.

#### INTRODUCTION

The combination of morphological characters of the genus *Caryedon* Schoenherr, 1823, has been described in detail by BOROWIEC (1987) and NILSSON & JOHNSON (1993). The descriptions of five *Caryedon* species planned by J. DECELLE and cited by NONGONIERMA (1978), DECELLE (1979) and DECELLE & LODOS (1989) were never published. Their names must therefore be considered nomina nuda. To avoid confusion, we describe these species under new names, and in case of new material we designate new types.

Additionally, the study of types of *C. angerei* SEMENOV enables us to propose a new synonymy.

The following remarks apply to the descriptions of the new species: body length is measured from apex of pronotum to apex of elytra; terminology follows in most parts KINGSOLVER (1970) and NILSSON & JOHNSON (1993); genitalia of some

types are mounted on microscope slides, partially in toluol-soluble "Canada-Balsam" (e.g. specimens prepared by J. DECELLE), partially in water-soluble polyvinyl-pyrrolidon (specimens prepared by K.-W. ANTON). The figures of genitalia have been made from slide preparations.

ABBREVIATIONS:

CKWA: Collection of K.-W. ANTON, Emmendingen (Germany);  
 IFAN: Institut fondamental d'Afrique noire Cheikh Anta Diop, Dakar (Senegal);  
 MNHN: Muséum National d'Histoire Naturelle, Paris (France);  
 MNHU: Museum für Naturkunde der Humboldt-Universität, Berlin (Germany);  
 MRAC: Musée Royal de l'Afrique centrale, Tervuren (Belgium);  
 NHMB: Naturhistorisches Museum, Basel (Switzerland);  
 ONHM: Oman National History Museum, Muscat (Oman);  
 SMNK: Staatliches Museum für Naturkunde, Karlsruhe (Germany);  
 TAUI: Zoological Museum, Tel Aviv University (Israel)  
 ZMAS: Zoological Museum, Academy of Science, St.Petersburg (Russia).

REVIEW OF SPECIES

*Caryedon abdominalis* n. sp.

*Caryedon excavatus* DECELLE, **nom. nud.** - NONGONIERMA (1978).

TYPES MATERIAL

Holotype: Male, "Sénégal, Région de Thiès, Mékhé, ex sem. *Faidherbia albida*, 29 avril 1995, H. & A. Delobel coll.", MNHN. Paratypes: 1 male, 5 females, région de Louga, Ndianga Diaw, 16 mars 1996, same collectors, MNHN. 1 male, 2 females, Dakar (ITA), élevé sur graines cassées de *Delonix regia*, ponte: 9/12/98, émergence: 15/3/99, A. Delobel, MNHN and CKWA.

ADDITIONAL MATERIAL

CHAD: N'Gouri, distr. Kanem, viii.1958, leg. P. Renaud, labelled as holo-, allo- and paratypes of "*Caryedon / excavatus* n. sp. / J. Decelle det. 1972"; same data, but x.-xi.1958, ex coll. Dr. Breuning, labelled as paratype of "*Caryedon / excavatus* n. sp. / J. Decelle det. 1972"; all specimens preserved in MRAC. MALI: Banankoroni, 9.iv.1969; Belingana, 9.iv.1969; Songalobougou, 10.iv.1969; Timbouctou env., 10. and 17.iv.1969; all specimens ex *Acacia albida*, leg. A. Nongonierma, labelled as paratypes of "*Caryedon / excavatus* n. sp. / J. Decelle det. 1972", preserved in MRAC. NIGER: Boukougou, 5.ix.1979, leg. I. Alzouma; Kanya, 24.xii.1993, leg. B. Diallo; Namaro, 23.xi.1985, leg. J. Decelle; Niamey, ii.1984, leg. I. Alzouma; all specimens ex *Acacia albida*, preserved in MRAC. SENEGAL: Dakar, 9. and 14.xii.1998, *Delonix regia*, coll. A. Delobel, CKWA.

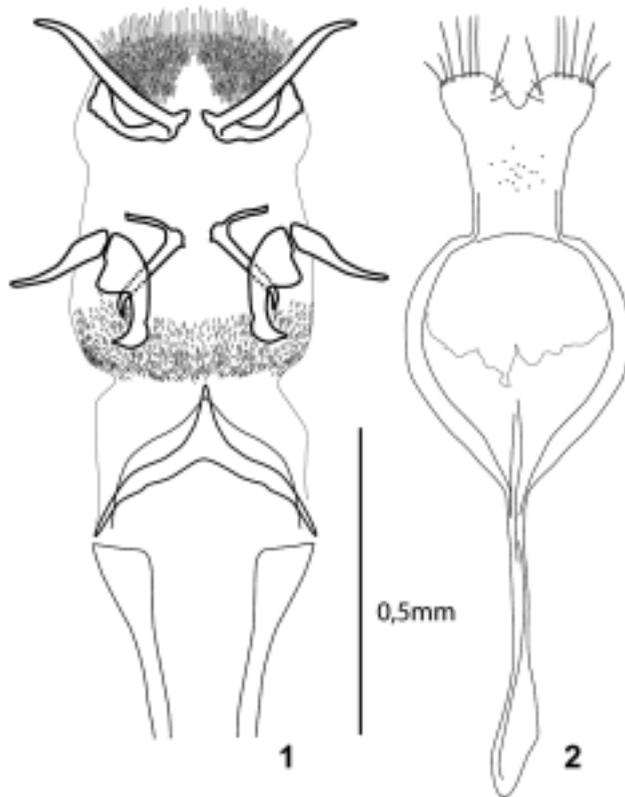
## DIAGNOSIS

A small sized species with brownish integument and more or less darkened spots on elytra, greyish pubescences, brownish setae on darkened elytral spots, narrow frons, reduced tempora.

## DESCRIPTION

Length (pronotum - elytra): 3.5-6.0 mm, width: 1.8-3.2 mm. Color brownish; antenna, front and mid legs paler, rarely antennal segments 1 and 5-11 partially darkened; frequently elytra and rarely femora with darkened irregularly distributed spots; basal half of pygidium with two dark spots, usually apically fused.

Vestiture dense, recumbent, covering integument nearly completely, greyish; brownishish setae on darkened spots of elytra; elytral striae not densely pubescent.



1-2. *Caryedon abdominalis*: 1 - everted internal sac, dorsal view 2 - lateral lobe and tegminal strut, ventral view

Male. Head short, distance from base of antenna to apex of labrum about 0.25 of distance from upper limits of eyes to apex of labrum; frons narrow with median carina elongate, sharp, shiny, tapering off towards vertex, at narrowest part about as wide as combined diameter of about 3.5 of eye-facets (in dorsal view), distance between eyes about 0.15 of maximum width of head at eyes; tempora reduced to minimum, barely visible in dorsal view. Antenna reaching to end of basal third of elytral length; antennal segments 1-4 filiform, 5-10 serrate, 11 oblong-oval and apically pointed, length ratio (starting with segment 1): 1.5 : 0.7 : 0.9 : 1.0 : 1.3 : 1.3 : 1.3 : 1.4 : 1.5 : 1.4 : 1.8.

Pronotum pentagonal, about 1.5 times as wide as long, greatest width at base; basal half of sides parallel to slightly concave; base nearly twice wider than apex; disc double punctured, distances between larger punctures approximately equal to diameter of puncture, partially without shiny welts; lateral carina extending from base to 0.6 distance to anterior edge. Scutellum minute with truncate apex.

Elytra about 1.6 times as long as their combined width, with maximum width at end of basal third of their length; striae moderately impressed, with distinct punctures, striae 4-5 shortened apically at 0.8 of elytral length; interstriae from flat at base to slightly convex towards apex, with microreticulation.

Hind femora 2.1 times as long as wide; femoral pecten with larger spine followed by 7-10 smaller spines; without larger distance between larger and first smaller spine; prepectenar ridge with 3-5 spines and a few indistinct granulations. Hind tibia arcuate with complete set of five carinae; mucro about as long as two third of tibial width at apex. Sternite I basally with circular pubescent concavity; sternite V distinctly emarginated. Pygidium convex, nearly as wide as long, apical margin linear.

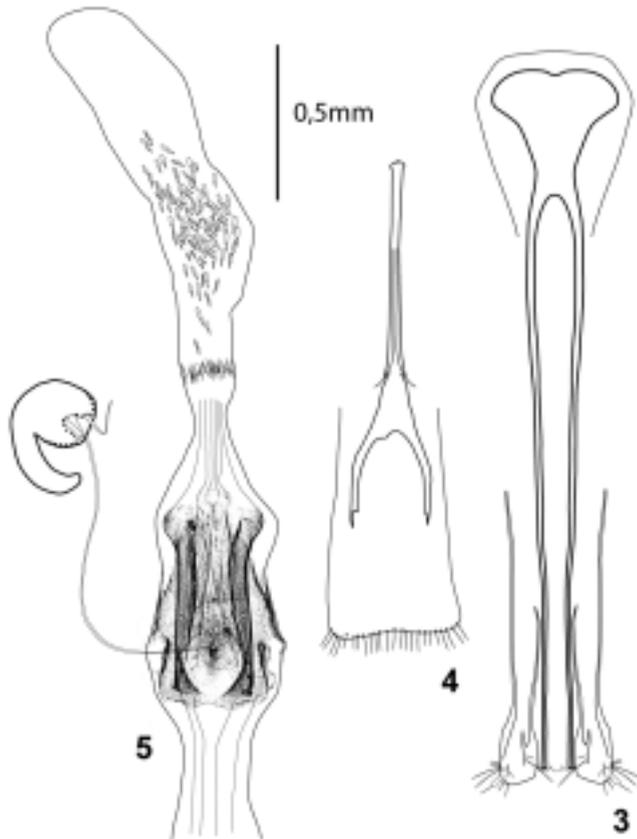
Genitalia: Median lobe with dorsal valve semicircular with pointed tip, ventral valve subtriangular with sides bisinuate; tip of dorsal valve reaching beyond tip of ventral valve. Internal sac with four pairs of endosclerites (dorsal view in retracted position): sclerites of each first and second pair more separated than sclerites of third and fourth pair; sclerites of first pair large, in vertical position, hood-like, with broadened base; sclerites of second pair at base of first pair in somewhat oblique position, nearly as long as and distinctly slimmer than sclerites of first pair; sclerites of third pair slim, in oblique position, strongly curved; sclerites of fourth pair sword-like, slim, in oblique position, with strongly curved, broadened and lengthened base; from area of first sclerite pair towards dorsal valve with numerous very small needles, area between and behind sclerites of fourth pair with numerous larger needles (Fig. 1). Lateral lobes separated to about 0.17 of their length, apex with about 8 long setae (Fig. 2).

Female: Similar to male, but antennal segments somewhat shorter, sternite I without concavity, sternite V not emarginated, pygidium about 1.5-1.6 times as long as wide, apical margin of pygidium slightly convex. Genitalia: vagina long, with characteristic armature of sclerites as shown in Figs 3-4; bursa copulatrix with numerous needles of variable size, needles with lengthened base and scat-

tered over surface; spermathecal body short-oval, with diverticulum short, curved and pointed at tip (Fig. 5).

#### AFFINITIES

*Caryedon abdominalis* is distinguished from the closely related *C. serratus* (OLIVIER, 1790) by having paler integument, slimmer antennal segments, male hind femoral pecten with only slightly larger spine, male abdominal sternite I with concavity, shorter pygidium, area of endosclerites of internal sac with larger field of bigger needles, first sclerite pair with smaller base, elongate second sclerite pair, third sclerite pair shorter than fourth pair, and vaginal armature with medial oblonge agglomeration of minute circular plates around small clasp-like sclerite. According to SILVAIN & DELOBEL (1998), *C. abdominalis* is the sister species of *C. furcatus*.



3-5. *Caryedon abdominalis*: 3-4 - ovipositor, 5 - bursa copulatrix and spermathecal body

## ETYMOLOGY

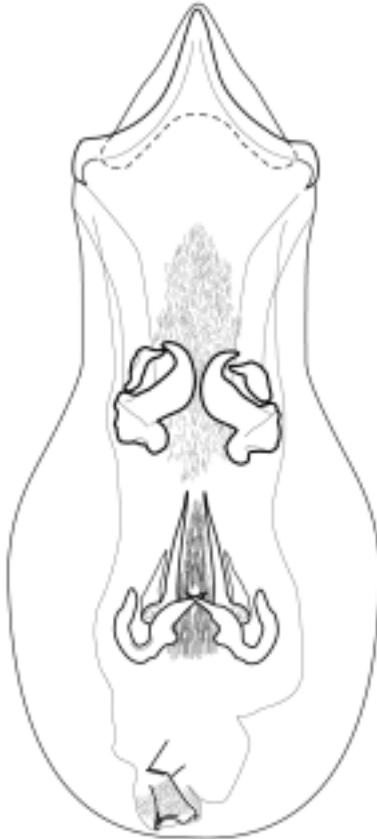
The name refers to the male abdominal sternite I with unique basal circular concavity.

## HOST PLANTS

Examined West African specimens bear labels with rearing records from *Faidherbia albida* (DEL.) A. CHEV. A single specimen of this species was obtained from a sample of *A. seyal* DEL. pods collected in Kerssédougou, Mali (NONGONIERMA 1978). Successfully reared in the laboratory in seeds of *Arachis hypogaea* (groundnut), *Acacia senegal*, *Cassia sieberiana* and *Piliostigma reticulatum* (DELOBEL *et al.* 2000) and also in broken *Delonix regia* seeds.

## DISTRIBUTION

Chad, Mali, Niger, Senegal.



6. *Caryedon angeri*: median lobe, ventral view

## REMARK

This species is recorded as *Caryedon excavatus* DECELLE (NONGONIERMA 1978 t. 185), "*C. excavatus*" (DELOBEL *et al.* 1995, p. 80) and *C. excavatus auct.* (SILVAIN & DELOBEL 1998, t. 1; DELOBEL *et al.* 2000, p. 63). The description of *C. excavatus* was never published, so this name is a nomen nudum. We designate here new types and describe the species under a new name, *C. abdominalis*, to avoid confusion.

***Caryedon angeri* (SEMENOV, 1896), n. comb.**

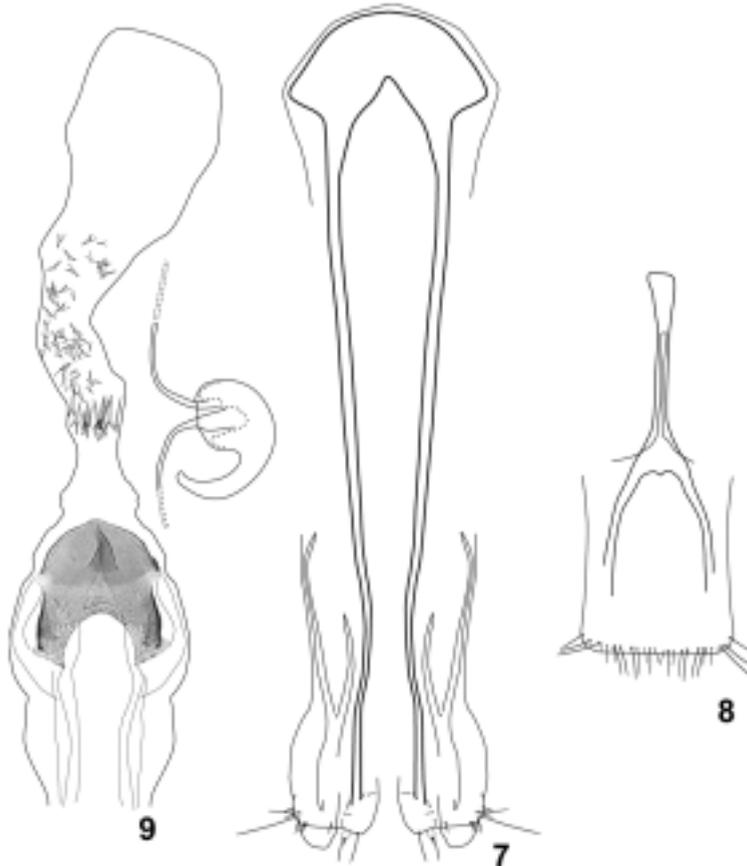
*Caryoborus angeri* SEMENOV, 1896: 383.

*Pachymerus angeri* – PIC 1913: 7.

*Pachymerus ahngeri* [sic] – LUKJANOVITCH & - TER MINASSIAN 1957: 63.

*Caryedon serratus* subsp. *palaestinus* SOUTHGATE, 1976: 195, **syn. nov.**

*Caryedon palaestinus* – PFAFFENBERGER, 1984: 220.



7-9. *Caryedon angeri*: 7-8 - ovipositor, 9 - bursa copulatrix and spermathecal body

## TYPE MATERIAL

1 male and 1 female, label without data [circular, white, surface covered with darkened gold leaf], "Sakaspjisk. obl. / K. Anger. 95" [printed], "Caryoborus Angeri / m. / Typ. vii.96 / A. Semenov det." [first three lines handwritten by A. Semenov, last line printed], ZMAS.

## ADDITIONAL MATERIAL

1 spm., "Sakasp. Kraj u Afgansk.granij / Ange", "Caryedon angeri Sem. / det. Ter-Minassian", ZMAS; 1 spm., "Transcaspia / Ahnger" [sic], "527", "Caryoborus Ahngeri [sic] Sem.", MNHU.

## HOST PLANTS

Examined specimens bear labels with rearing records from *Acacia nilotica* (L.) DEL., *A. gerrardii* BENTH. and *Prosopis farcta* (BANKS & SOL.) J.F.MACBR. Recorded in seeds of *A. spirocarpa* HAYNE and *A. tortilis* HOCHST by CALDERON (1959), of *P. farcta* by BELINSKY and KUGLER (1978), who successfully reared the species in groundnuts.

## DISTRIBUTION

Afganistan, Algeria, Chad, Egypt, Iran, Iraq, Israel, Jordan, Lebanon, Oman, Pakistan, SaudiArabia, Sudan, Syria, Turkmenia, Turkey.

## REMARK

SEMENOV (1896) notes 3 type specimens with the data "Prov. Transcaspiæ ora australis ad fines Afghanistanæ, ad fl. Kushka (C. Anger, 23.v.1893), in Mus. Zool. Acad. Caes. Scient. Petrop." Genitalia as shown in Figs 6-9.

***Caryedon femoralis* n. sp.**

*Caryedon longispinosus* Decelle, **nom. nud.** - NONGONIERMA (1978).

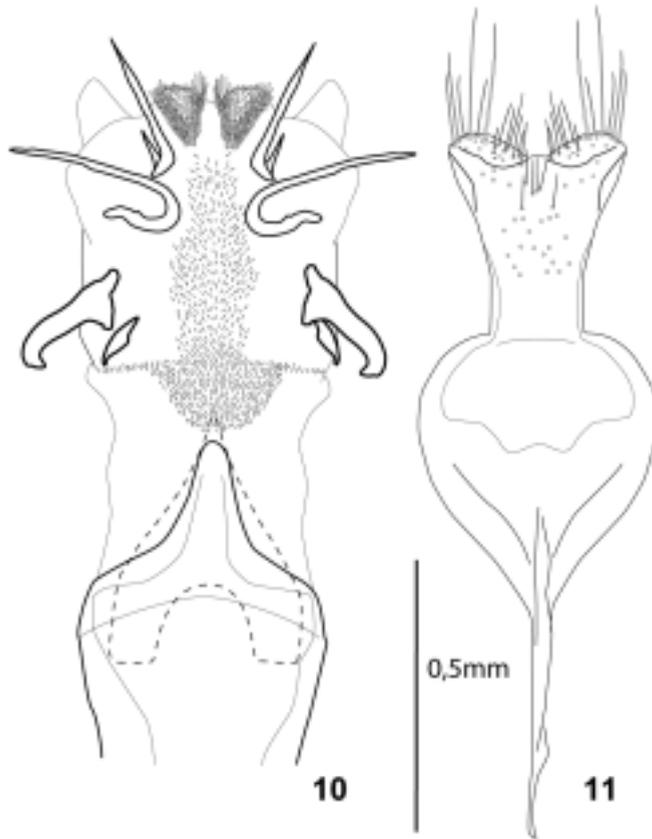
## TYPES MATERIAL

Holotype: Male, "Sénégal, Région de Louga, Khatali, ex sem. *Acacia tortilis* raddiana, 29 avril 1995, H. & A. Delobel coll.", MNHN. Paratypes: 15 males, 11 females, same locality, host and collectors, MNHN and CKWA.

## ADDITIONAL MATERIAL

ALGERIA: Air el Hadjadj, N of Ain Sarah, 28°01'N 02°40'E, 30.iii.1989, Zool. Sahara-Exp. H. Aspöck et al., NHMB, CKWA; South Sahara, Oued el Arfedj, ix.1961, don. Mateu, MRAC. MAURITANIA: env. Bir Moghreïn, 9.v.1972, *Acacia raddiana*; S of Bir Moghreïn, 9.v.1972, *Acacia raddiana*; N of Boghé, 21.v.1972, *Acacia raddiana*; S of Chaum, 6.v.1972, *Acacia tortilis*; Central

Sahara, 11.v.1972, *Acacia raddiana*; Tropique du Cancer, 11.v.1972, *Acacia tortilis*; Zouerate, 12.v.1972, *Acacia tortilis*; NE of Zouerate, 10.v.1972, *Acacia tortilis*; all specimens leg. A. Nongonierma, labelled as paratypes of “*Caryedon / longispinosus* n. sp. / J. Decelle det. 1973” and preserved in MRAC and IFAN. MOROCCO: Pozo Farsia, 20.v.1942 and iii.1944, Coll. E. Morales, labelled as holo-, allo- an paratypes of “*Caryedon / longispinosus* n. sp. / J. Decelle det. 1973”, MRAC. Guelta Zemur, 2.ii.1943, Coll. E. Morales; “Labara, Rio de Oro”, v.1972, *Acacia tortilis*, leg. A. Nongonierma; env. Mouzik, Rio de Oro, 8.v.1972, *Acacia tortilis*, leg. A. Nongonierma; Uad Ternit, 18.v.1942, Coll. E. Morales; all specimens labelled as paratypes of “*Caryedon / longispinosus* n. sp. / J. Decelle det. 1973” and preserved in MRAC. SENEGAL: 21 km N Déali, *Acacia tortilis raddiana*, 25.iii.1995, H. & A. Delobel coll.; Keur Baka, Piège carton ondulé, meule d’arachide, 16.xi.1997, M. Sembène coll. (MNHN).



10-11. *Caryedon femoralis*: 10 - everted internal sac, dorsal view, 11 - lateral lobe and tegminal strut, ventral view

## DIAGNOSIS

A small sized species with yellowish-brown integument and frequently darker spots on elytra, greyish pubescence, brown setae on dark elytral spots, narrow frons, reduced tempora.

## DESCRIPTION

Length (pronotum - elytra): 3.1-4.9 mm, width: 1.7-2.7 mm. Color yellowish-brown; antenna, front and mid legs paler; frequently elytra with darker irregularly distributed spots; frequently pygidium basolaterally darkened. Vestiture dense, recumbent, covering integument nearly completely, greyish; brownish setae on darker spots of elytra; elytral striae not densely pubescent.

Male: Head short, distance from base of antenna to apex of labrum about 0.3 of distance from upper limits of eyes to apex of labrum; frons narrow with median carina elongate, sharp, shiny, tapering off towards vertex, at narrowest part about as wide as combined diameter of 2.5 of eye-facets (in dorsal view), distance between eyes about 0.2 of maximum width of head at eyes; tempora reduced to minimum, barely visible in dorsal view. Antenna reaching to end of basal third of elytral length; antennal segments 1-4 filiform, 5-10 serrate, 11 oblong-oval and apically pointed, length ratio (starting with segment 1): 1.6 : 1.0 : 1.2 : 1.0 : 1.6 : 1.6 : 1.7 : 1.8 : 1.8 : 1.9 : 2.8.

Pronotum pentagonal, about 1.3-1.4 times as wide as long, greatest width at base; sides nearly parallel to basal half of pronotal length; base about 1.9 times wider than apex; disc double punctured, distances between larger punctures approximately equal to diameter of puncture, partially with shiny welts; lateral carina extending from base to 0.65 distance to anterior edge. Scutellum minute with acute apex.

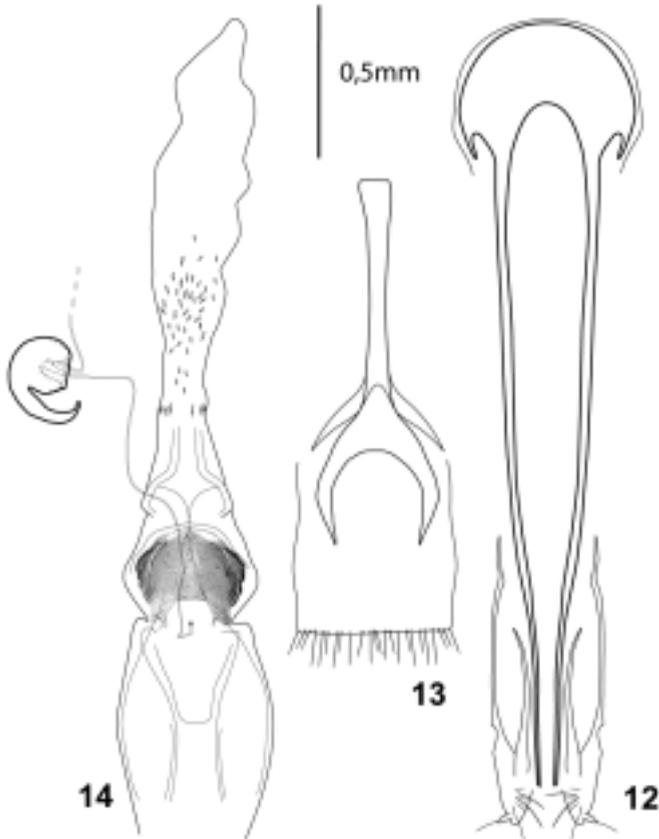
Elytra about 1.5 times as long as their combined width, with maximum width at end of basal fourth of their length; striae moderately impressed, with distinct punctures, striae 4-5 shortened apically at 0.75 of elytral length; interstriae from flat at base to slightly convex towards apex, with microreticulation.

Hind femora almost twice as long as wide; femoral pecten with right-angled extraordinary long spine followed by about 8-10 short spines; long spine at least three times as long as wide at base; short spines becoming smaller towards apical end of pecten; prepectenar ridge without spines and granulations; distance between long spine and first short spine distinctly wider than distances between short spines. Hind tibia arcuate with complete set of five carinae; mucro about as long as two third of tibial width at apex. Sternite V distinctly emarginated. Pygidium convex, about 1.2 times as long as wide; apical margin linear.

Genitalia: Median lobe with dorsal valve subtriangular, ventral valve triangular with pointed tip; tips of dorsal and ventral valve at same level. Internal sac with four pairs of endosclerites (dorsal view in everted position): sclerites of each first and second pair more separated than sclerites of third and fourth pair; sclerites of first pair large, in oblique position, hook-like, with large base; sclerites of second

pair small, in oblique position near base of sclerites of first pair; sclerites of third pair slim, in nearly horizontal position, strongly curved at base; sclerites of fourth pair sword-like, in oblique position, slim, with strongly curved and lengthened base; from area between all sclerites pairs towards dorsal valve with numerous small needles, area between and behind sclerites of fourth pair with additional larger needles (Fig. 10). Lateral lobes separated to about 0.15 of their length, apex with about 10 long setae (Fig. 11).

Female: Similar to male, but antennal segments somewhat shorter, femoral pecten with moderately long spine, sternite V not emarginated, pygidium about 1.3 times as long as wide, apical margin of pygidium sublinear. Genitalia: vagina long, vagina with characteristic armature of sclerites as shown in Figs 12-13; bursa copulatrix with a few short needles scattered over surface; spermathecal body short-ovoid, with diverticulum slightly curved and pointed at tip (Fig. 14).



12-14. *Caryedon femoralis*: 12-13 - ovipositor, 14 - bursa copulatrix and spermathecal body

## AFFINITIES

*Caryedon femoralis* is distinguished from the closely related *C. abdominalis* by having on average smaller size, male hind femoral pecten with extraordinarily long first spine, internal sac with generally slimmer and smaller endosclerites, and vagina without central agglomeration of minute plates. According to SILVAIN & DELOBEL (1998), *C. femoralis* has close phylogenetic relationship to *C. serratus* (OLIVIER, 1790) and *C. acaciae* (GYLLENHAL, 1833).

## ETYMOLOGY

The name refers to the male hind femur with strikingly long first spine of pecten.

## HOST PLANTS

Examined specimens bear labels with rearing records from *Acacia tortilis* (FORSSKAL) HAYNE and *A. tortilis* subsp. *raddiana* (SAVI) BRENNAN. Successfully reared in the laboratory in seeds of *Acacia nilotica*, *A. sieberiana*, *Bauhinia rufescens*, *Cassia sieberiana*, *Parkinsonia aculeata*, *Piliostigma reticulatum*, *Tamarindus indica* (DELOBEL *et al.* 2000) and also in broken seeds of *Delonix regia*.

## DISTRIBUTION

Algeria, Mauritania, Morocco, Senegal.

## REMARK

This species is cited as *Caryedon longispinosus* DECELLE (NONGONIERMA 1978, t. 186), as "*Caryedon longispinosus*" (DELOBEL *et al.* 1995, p. 80), and as *Caryedon longispinosus auct.* (DELOBEL *et al.* 2000, p. 63; CARDET *et al.*, 1998, p. 31; SILVAIN & DELOBEL 1998, t. 1). The description of *C. longispinosus* was never published, so this name is a nomen nudum. We designate here new types and describe the species under a new name, *C. femoralis*, to avoid confusion.

***Caryedon furcatus* n. sp.**

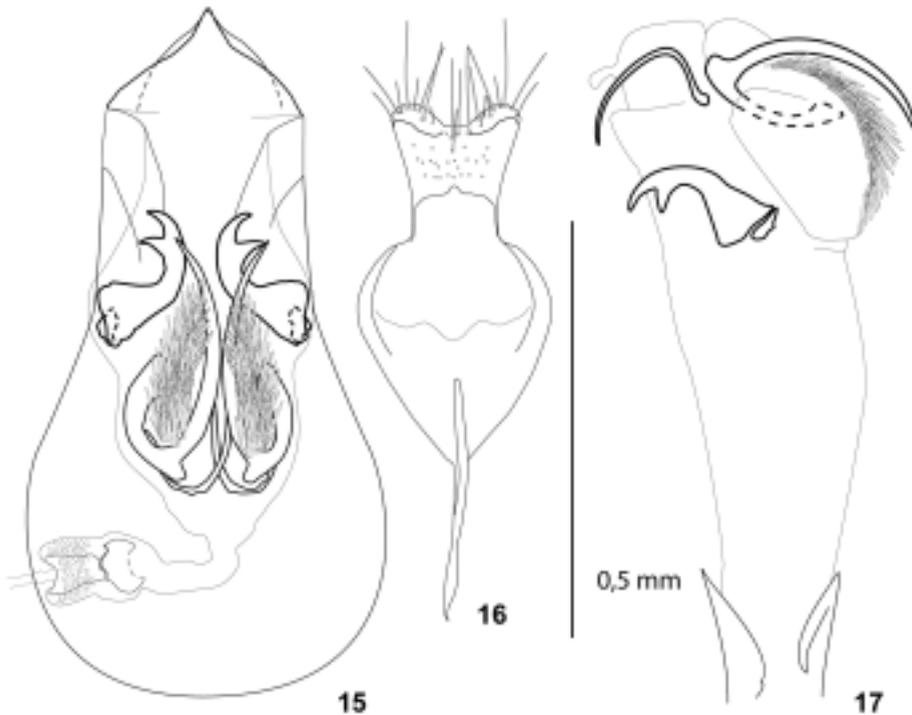
*Caryedon mauritanicus* DECELLE, **nom. nud.** - NONGONIERMA (1978), DECELLE (1979) and VARAIGNE-LABEYRIE & LABEYRIE (1981).

## TYPE MATERIAL

Holotype: Male, "Sénégal, Région de Fatick, Ndangane, ex sem. *Acacia ataxacantha*, 08 janvier 1996, H. & A. Delobel coll.", MNHN. Paratypes: 14 males, 26 females, same locality, host and collectors, MNHN and CKWA.

## ADDITIONAL MATERIAL

BURKINA FASO: Bikirimi, 6.i.1969, *Acacia polyacantha campylacantha*; region of Fogla, N of Gourma, 15.i.1969, *Acacia gourmaensis*; Gountouri, 29.xii.1968, *Acacia dudgeoni* and *A. senegal* var. *samoryana*; Massougou, ii.1969, *Acacia gourmaensis*; Tabakami, 2.i.1969, *Acacia ataxacantha*; Tougouri, 27.xii.1968, *Acacia samoryana*; all specimens leg. A. Nongonierma, labelled as paratypes of “*Caryedon / mauritanicus* n. sp. / J. Decelle det. 1972” and preserved in MRAC and IFAN. MALI: Diambala, 22.iv.1969, *Acacia senegal*; forest of Bawo Oiré, 18.iv.1969, *Acacia senegal*; 20 km of Hombori, 12.iii.1969, *Acacia senegal*; Kerssédougou, 9.iv.1969, *Acacia macrostachya* and *A. seyal*; Sougalbougou, 10.iv.1969, *Acacia ataxacantha*; region of Tombouctou, 18.vi.1969, *Acacia senegal*; all specimens leg. A. Nongonierma, labelled as paratypes of “*Caryedon / mauritanicus* n. sp. / J. Decelle det. 1972” and preserved in MRAC and IFAN. MAURITANIA: Alerg, 20.v.1972, *Acacia senegal*; env. Bir Moghreïn, 9.v.1972, *Acacia tortilis*; Boutelimit – Nouakchott, 26.ii.1971, *Acacia senegal*; Nouakchott, 13.iii.1971, *Acacia senegal*; env. Rosso, 25.ii.1971, *Acacia senegal*; N of Rosso, 25.ii.1971, *Acacia senegal*; all specimens leg. A.



15-17. *Caryedon furcatus*: 15 - median lobe, ventral view, 16 - lateral lobe and tegminal strut, ventral view, 17 - everted internal sac, dorsal view

Nongonierma, labelled as paratypes of "Caryedon / mauritanicus n. sp. / J. Decelle det. 1972" and preserved in MRAC and IFAN. NIGER: Faya, i.1984, *Acacia ajounié*, leg. I. Alzouma, MRAC; Guesselbodi, i.1984, *Acacia laeta* and *A. macrostachya*, leg. I. Alzouma, MRAC; Korgom (Maradi), 24.xii.1992, *Acacia senegal*, leg. B. Diallo, MRAC; Niamey, i.1984, *Acacia senegal*, leg. I. Alzouma, MRAC; Niamey, 8.viii.1992, *Acacia seyal*, leg. B. Diallo, MRAC. SAUDI ARABIA: 1 spm., Jeddah - Taif, 1200-1800 m, 1.v.1979, KAU-NHMB Exp. N Hedjaz, NHMB; 12 spms., 3 ff., Makkah, Wadi Mirtad, 20.53N 40.53E, 1500m, 30.viii.1984, W. Büttiker, NHMB, CKWA; 1 spm., W. Shuqub Turabah, 1250 m, 21.vi.1980, W. Büttiker, NHMB. SENEGAL: Mbiddi, 15.iii.1984, *Acacia senegal*, Coll. Gerdat (Montpellier), MRAC; Diagle, 29.i.1995, *Acacia macrostachya*; Yayçme, 25.ii.1998, *Acacia macrostachya*; Bandia, *Acacia senegal*, 17.xi.1995; Keur Dame, 27.i.1996, *Acacia senegal*; CRZ de Dahra, 29.i.1996; *Acacia senegal*; Ngazobil, 8.i.1995, *Acacia polyacantha campylacantha*, all specimens leg. H. & A. Delobel, MNHN; Bambey, 15.xi.1996, *Acacia mellifera*, leg. D. Bauwens, MNHN.

#### DIAGNOSIS

A small sized species with yellowish-brown to reddish-brown integument, pale yellowish pubescences, on elytra varying from uniformly pale yellowish to mixed yellowish and brownish, narrow frons, reduced tempora.

#### DESCRIPTION

Length (pronotum - elytra): 3.3-4.9 mm, width: 1.7-2.6 mm. Color yellowish-brown to reddish-brown; usually antenna, front and mid legs paler; rarely elytra with few darker irregularly distributed spots; head, prothorax and metathorax partially, pygidium laterally darkened. Vestiture dense, recumbent, covering integument nearly completely, uniformly pale yellowish, or on elytra mixed yellowish and brownish; elytral striae not densely pubescent.

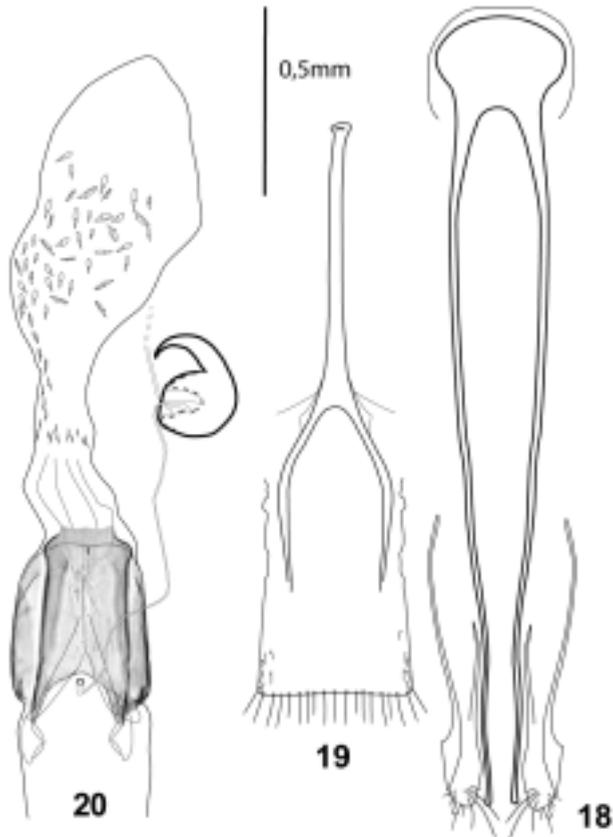
Male: Head short, distance from base of antenna to apex of labrum about 0.3 of distance from upper limits of eyes to apex of labrum; frons narrow with median carina elongate, sharp, shiny, tapering off towards vertex, at narrowest part about as wide as combined diameter of three eye-facets (in dorsal view); distance between eyes about 0.1 of maximum width of head at eyes; tempora reduced to minimum, barely visible in dorsal view. Antenna reaching to end of basal third of elytral length; antennal segments 1-4 filiform, 5-10 serrate, 11 oblong-oval and apically pointed, length ratio (starting with segment 1): 1.7 : 0.9 : 1.1 : 1.0 : 1.4 : 1.5 : 1.6 : 1.7 : 1.7 : 1.7 : 2.3.

Pronotum pentagonal, about 1.4 times as wide as long, greatest width at base; sides nearly parallel to basal half of pronotal length; base about twice wider than apex; disc double punctured, distances between larger punctures approximately equal to diameter of puncture, partially with shiny welts; lateral carina extending from base to 0.65 distance to anterior edge. Scutellum minute with acute apex.

Elytra about 1.4-1.5 times as long as their combined width, with maximum width at end of basal third of their length; striae moderately impressed, with distinct punctures, striae 4-5 shortened apically at 0.8 of elytral length; interstriae from flat at base to slightly convex towards apex, with microreticulation.

Hind femora almost twice as long as wide; femoral pecten with weakly larger spine followed by about 7-10 smaller spines; distance between larger spine and first smaller spine as wide as distances between smaller spines; smaller spines becoming shorter towards apical end of pecten; prepectenar ridge with 3-4 minute spines and few granulations. Hind tibia arcuate with complete set of five carinae; mucro about as long as two thirds of tibial width at apex. Sternite V distinctly emarginated. Pygidium convex, about 1.1 times as wide as long, apical margin sublinear to slightly convex.

Genitalia: Median lobe with variable shape of dorsal valve, from semicircular with pointed tip to subtriangular; ventral valve subpentagonal, with acute tip;



18-20. *Caryedon furcatus*: 18-19 - ovipositor, 20 - bursa copulatrix and spermathecal body

tip of dorsal valve reaching beyond tip of ventral valve. Internal sac with four pairs of endosclerites (ventral view in retracted position): sclerite of first (apical) pair large, in oblique position, hook-like, apically strongly forked, with enormous base; sclerite of second pair at base of first pair, small; sclerite of third pair slim, in vertical position, strongly curved; sclerite of fourth pair sword-like, in vertical position, wider and longer than sclerite of third pair, with strongly curved and extraordinary lengthened base, base with irregular rims; area between sclerite pairs with numerous large needles, area from first sclerite pair towards orifice with several minute needles (Fig. 15). Position of endosclerites of everted internal sac as shown in Fig. 17. Lateral lobes separated to about 0.15 of their length, apex with about 8 long setae (Fig. 16).

Female: Similar to male, but antennal segments somewhat shorter, sternite V not emarginated, pygidium 1.2 times as long as wide, pygidial disc weakly bulbous. Genitalia: ovipositor long, vagina with characteristic armature of sclerites as shown in figs 18-20; bursa copulatrix with numerous short needles scattered over surface (Figs 18-19); spermathecal body short-ovoid, with diverticulum slightly curved and pointed at tip (Fig. 20).

#### AFFINITIES

*C. furcatus* is distinguished from the closely related *C. femoralis* by having more reddish integument, only slightly longer first spine on pecten of male hind femur, broader pygidium, semicircular dorsal valve, subpentagonal ventral valve, apically forked first sclerite pair, extraordinary lengthened base of third sclerite pair, fourth pair distinctly smaller than third pair, larger needles in the area of sclerite pairs, smaller needles from the first pair towards the orifice, and subrectangular central vaginal sclerite.

#### ETYMOLOGY

The name refers to the forked first sclerite pair of the internal sac.

#### HOST PLANTS

Examined West African specimens bear labels with rearing records from *A. ataxacantha* DC., *A. laeta* BENTH., *A. dudgeoni* HOLLAND, *A. gourmaensis* A. CHEV., *A. macrostachya* DC., *A. mellifera* M. VAHL BENTH., *A. polyacantha* WILLD. subsp. *campylacantha* (A. RICH.) BRENAN, *A. senegal* (L.) WILLD., *A. senegal* (L.) WILLD. subsp. *samoryana* (A. CHEV.) ROBERTY, *A. seyal* DEL. and *A. tortilis* (FORSSKAL) HAYNE. Successfully reared in the laboratory in seeds of *Arachis hypogaea* (groundnut), *Cassia sieberiana* (DELOBEL *et al.* 2000) and also in broken *Delonix regia* seeds.

#### DISTRIBUTION

Burkina Faso, Mali, Mauritania, Niger, Senegal, Saudi Arabia.

## REMARK

This species is recorded as *Caryedon mauritanicus* DECELLE (NONGONIERMA 1978, t. 187; DECELLE 1979, p. 328; VARAIGNE-LABEYRIE & LABEYRIE 1981, p. 92), *C. mauritanicus sensu* DECELLE (1979) (ANTON 1994a, p. 98) and *C. mauritanicus auct.* (SILVAIN & DELOBEL 1998, t. 1; DELOBEL *et al.* 2000, p. 63). The description of *C. mauritanicus* was never published, so this name is a nomen nudum. We designate here new types and describe the species under a new name, *C. furcatus*, to avoid confusion.

*Caryedon halperini* n. sp.

*Caryedon akdamaricus* DECELLE, **nom. nud.** - DECELLE & LODOS (1989).

## TYPE MATERIAL

Holotype: Male, "Turquie E / Lac de Van / Ile Akdamar / 13.vi.1974", MRAC. Paratypes: 6 males and 3 females, same data, MRAC, MNHN, CKWA; 2 males, "Palestine / J. Palmoni", "*Caryedon pallidus* Ol. / G. E. Bryant det. 1946", TAUI, CKWA.

## DIAGNOSIS

A small species with pale reddish-brown integument and darkened underside of body, pale yellowish pubescence, moderately narrow frons, reduced tempora.

## DESCRIPTION

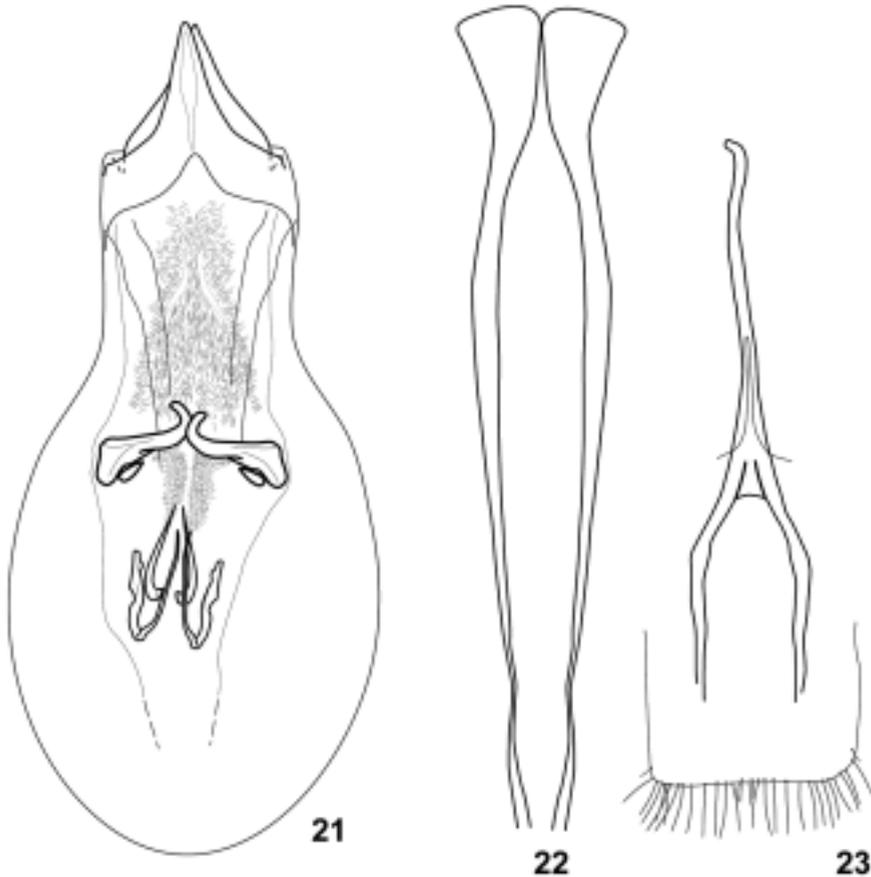
Length: 4.0-5.5 mm, width: 2.0-2.9 mm. Color pale reddish-brown; antenna, front and mid legs yellowish-brown; underside of body and pygidium, frequently head, pronotum and hind tibial femora partially diffuse darkened. Vestiture dense, recumbent, covering surface nearly completely, pale yellowish, underside of body greyish.

Male: Head short, distance from base of antenna to apex of labrum about 0.4 of distance from upper limits of eyes to apex of labrum; frons narrow with median carina elongate, sharp, shiny, tapering off towards vertex, at its narrowest about as wide as combined diameter of four eye-facets (in dorsal view); distance between eyes about 0.15 of maximum width of head at eyes; tempora reduced to minimum, barely visible in dorsal view. Antenna reaching to end of basal quarter of elytral length; antennal segments 1-4 filiform, 5-10 serrate, 11 oblong-oval and apically pointed, length ratio (starting with segment 1): 1.4 : 0.9 : 1.0 : 1.0 : 1.3 : 1.3 : 1.4 : 1.5 : 1.5 : 1.5 : 2.0.

Pronotum pentagonal, about 1.4-1.5 times as wide as long, greatest width at base; sides nearly parallel to basal half of pronotal length; base about twice wider than apex; disc double punctured, distances between larger punctures approximately equal to diameter of puncture, without shiny welts; lateral carina extending from base to 0.75 distance to anterior edge. Scutellum minute with apex truncate.

Elytra about 1.5 times as long as their combined width, with maximum width at end of basal fourth of their length; striae moderately impressed, with distinct punctures, striae 4-5 shortened apically at 0.8 of elytral length; interstriae from flat at base to slightly convex towards apex, with microreticulation.

Hind femora about 1.8 times as long as wide; femoral pecten with slightly larger spine followed by about 7-11 smaller spines; distance between long spine and first small spine as wide as distances between small spines; small spines becoming shorter towards apical end of pecten; prepectenar ridge with 3-4 spines and few granulations; without larger distance between longer spine and first smaller spine. Hind tibia arcuate with complete set of five carinae; mucro about as long as tibial width at apex. Sternite V distinctly emarginated. Pygidium convex, about 1.1 times as long as wide; apical margin slightly convex.



21-23. *Caryedon halperini*. 21. median lobe, ventral view; 22-23. ovipositor

Genitalia: Median lobe with dorsal valve subtriangular, ventral valve rectangular with acuminate tip; tips of dorsal and ventral valve at same level. Internal sac with four pairs of endosclerites (ventral view in retracted position): sclerites of first (apical) pair large, in horizontal position, with blunt and curved tip, with enormous base; second pair small, near base of first pair; sclerites of third pair slim, in vertical position, strongly curved, distinctly shorter than third pair; sclerites of fourth pair sword-like, in vertical position, slim, linear to slightly curved, with small base; from area ahead of third sclerite pair to subapical orifice with numerous very small needles (Fig. 21). Lateral lobes separated to about 0.25 of their length, apex with numerous long setae.

Female: Similar to male, but antennal segments somewhat shorter, sternite V not emarginated, pygidium almost as wide as long. Genitalia: ovipositor long; vagina with barely visible cylindrical armature of sclerites as shown in Figs 22-23; bursa copulatrix with minute needles scattered over surface; spermathecal body short-oval, with diverticulum evenly curved.

#### AFFINITIES

*C. halperini* is distinguished from the closely related *C. germari* (KÜSTER, 1845) by having on average larger size, smaller distance between eyes, broader pygidium, ventral valve with stronger acuminate tip, square and less curved first sclerite pair, longer fourth sclerite pair, and greater number of long setae at apex of lateral lobes.

#### ETYMOLOGY

The name refers to Josef HALPERIN (Ness Ziyona, Israel), who intensively works on the insect fauna of Israel and mediated us the specimens from "Palestine".

#### HOST PLANT

Unknown.

#### DISTRIBUTION

Turkey, "Palestine".

#### REMARK

This species is recorded as *Caryedon akdamaricus* (DECELLE & LODOS 1989, p. 167) and *Caryedon* sp. near *germari* (KÜSTER, 1845) (ANTON *et al.* 1997, p. 61). The description of *C. akdamaricus* was never published, so this name is a nomen nudum. We describe the species under a new name, *C. halperini*, to avoid confusion.

*Caryedon nongoniermai* n. sp.

*Caryedon sahelicus* DECELLE, **nom. nud.** - NONGONIERMA (1978), DECELLE (1979).

## TYPE MATERIAL

Holotype: Male, "Sénégal, Région de Louga, Khatali, ex sem. *Acacia tortilis* raddiana, 29 avril 1995, H. & A. Delobel coll.", MNHN. Paratypes: 12 males, 8 females, same locality and host; 4 males, 5 females, région de Louga, 21 km N de Déali, same host, 25 mars 1995; 2 males, 1 female, région de Thiès, Bandia, 27 mars 1996, same host, all leg. H. & A. Delobel, MNHN and CKWA.

## ADDITIONAL MATERIAL

BURKINA FASO: Ougadougou, 1967, *Acacia nilotica tomentosa*, leg. A. Nongonierma, labelled as paratype of "*Caryedon / sahelicus* n. sp. / J. Decelle det. 1973", MRAC; Ougadougou, 20.iv.1985, leg. R. Mourglia, MRAC and IFAN. EGYPT: 2 spms., Aswan, cataracts N of Amun Island, 24°04'25.5''N 32°52'08.4''E, 23.v.1997, W. Ulrich, NHMB and CKWA; 10 m., 9 f., Djebel Carawin, ex gousses *Acacia seyal*, 7.v.2002, G. Fédière, MNHN; 1 spm., Sinai, NHMB. ISRAEL: 1 spm., Jotvata, Arara Valley, 1995, ex seeds of *Acacia raddiana*, J. Halperin, CKWA; 4 spms., Wadi Fukra, ix.1964, ex seeds of *Acacia spirocarpa*, J. Halperin, CKWA. JORDAN: 1 spm., Aqaba, 19.ix.1968, Klapperich, SMNS.

LYBIA: Wadi Zigzah, 11.vi.1982, ex seeds of *Acacia tortilis raddiana*, leg. D. Turner, MRAC.

MALI: forest of Bawo Oiré, 19.iv.1969, *Acacia seyal*; Diambola, 22.iv.1969, *Acacia senegal*; Diré, 17.iv.1969, *Acacia kirkii*; N of Hombori, 13.iv.1969, *Acacia ehrenbergiana*; Kerssedougou, 9.iv.1969, *Acacia senegal* and *A. seyal*; Limité, Timbouctou, 20.iv.1969, *Acacia ehrenbergiana*; Sahara central, 11.v.1972, *Acacia tortilis*; all specimens leg. A. Nongonierma, labelled as paratypes of "*Caryedon / sahelicus* n. sp. / J. Decelle det. 1973" and preserved in MRAC and IFAN. MAURITANIA: Aleg, 20.v.1972, *Acacia ehrenbergiana*; N of Bohi, 20.v.1972, *Acacia senegal*; NW of Boghi, v.1972, *Acacia tortilis*; env. Choum, 6.v.1972, *Acacia tortilis*; env. Fort Gouraud, 7.v.1972, *Acacia tortilis*; NE of Nouakchott, 4.v.1972, *Acacia ehrenbergiana*; Seguelli, 15.v.1972, *Acacia ehrenbergiana*; S of Seguelli, 15.v.1972, *Acacia ehrenbergiana*; all specimens leg. A. Nongonierma, labelled as paratypes of "*Caryedon / sahelicus* n. sp. / J. Decelle det. 1973" and preserved in MRAC and IFAN. MOROCCO: Anguiliseelma, 5.v.1942, Coll. E. Morales; "Labara, Rio de Oro", v.1972, *Acacia tortilis*, leg. A. Nongonierma; P. Nebka, 16.v.1942, Coll. E. Morales; Soundra, 1942, Coll. E. Morales; Pozo Mecaiteb, 25.iii.1944, Coll. J. Mateu, "*Caryoborus / pallidus* Ol. / Peyerimhoff det."; Uad Ternit, 16.v.1942, Coll. E. Morales; all specimens labelled as paratypes of "*Caryedon / sahelicus* n. sp. / J. Decelle det. 1973" and

preserved in MRAC. Pozo Farsia, 20.v.1942 and iii.1944, Coll. E. Morales, labelled as holo-, allo- and paratypes of “*Caryedon / sahelicus* n. sp. / J. Decelle det. 1973”, MRAC. SAUDI ARABIA: 1 spm., Alwabah, 3.-4.vi.1982, W. Büttiker, NHMB; 75 spms., Ashayrah, 1340 m, 14.-15.ix.1980, W. Büttiker, NHMB; 14 spms., Wadi Awsat, 7.x.1977 and 10.viii.1978, W. Büttiker, NHMB; 5 spms., 16 km W Badr Hunayn, 18.iv.1979, KAU-NHMB Exp. N Hedjaz, NHMB; 1 spm., Bahara, 26.iv.1977, W. Büttiker, NHMB; 1 spm., Wadi Birk, 11.ix.1979, W. Büttiker, NHMB; 1 spm., Gizan, coast of Red Sea, 25.-26.iii.1983, C. Holzschuh, CKWA; 1 spm., Hakimah, 16.ii.1980, W. Büttiker, NHMB; 5 spms., Hilwah, 3 ix.1978, W. Büttiker, NHMB; 1 spm., Jeddah - Taif, 1200-1800 m, 1.v.1979, KAU-NHMB Exp. N Hedjaz, NHMB; 2 spms., Kushm Dibi, 10.x.1980, W. Büttiker, NHMB; 1 spm., Wadi Mizbil, 13.iv.1977, W. Büttiker, NHMB; 9 spm., Wadi Nissah, 5.vi.1981, W. Büttiker, NHMB; 2 spms., Wadi Qatan, 23.ix.1980, W. Büttiker, NHMB; 1 spm., Salim, 20.ix.1978, W. Büttiker, NHMB; 1 spm., Wadi Shaib Luha, 14.viii.1978, W. Büttiker, NHMB. SENEGAL: 4 spms., Fanaye, 19.v.1983, J. W. Everts, CKWA; Sibassar, 20.iv.1971, *Acacia seyal*, leg. A. Nongonierma, labelled as paratypes of “*Caryedon / sahelicus* n. sp. / J. Decelle det. 1972”, MRAC and IFAN; 2 m., 3 f., région de Fatick, Yayème, *Acacia seyal*, 4 juin 1995, H. & A. Delobel ; 1 f., région de Thiès, Ngazobil, *Acacia sieberiana*, 8.i.1995, H. & A. Delobel. OMAN: 1 spm., Al Khuwayr, 23°36'N 58°26'E, 9 m, 23.ix.1993, M. D. Gallagher, ONHM; 6 spms., Barka env., 23°40'N 57°50'E, 50 m, 4.-5.viii.1994, M. D. Gallagher, ONHM, CKWA; 1 spm., Barka, Batinah, 23°38'N 57°51'E, 50 m, 22.x.1987, M. D. Gallagher, NHMB; 1 m., 1 f., Dhofar, Wadi Andur, 17°42'N 54°39'E, 26.ix.1995, M. D. Gallagher & G. Lowe, ONHM; 2 spms., Wadi Fanjah, 25°29'N 58°06'E, 11.vii.1985, M. D. Gallagher, ONHM; 1 spm., Madinat Qaboos, 15 km W Muscat, 23°35'N / 58°28'E, 19.viii.1982, M. D. Gallagher, NHMB; 1 spm., Sur, Abu Qal'ah, 22°38'N 59°30'E, 22.x.1995, M. Balkenohl, ONHM. YEMEN: 20 spms., 15 km W of B'ajil, 50 m, 9.v.1998, Brechtel, Wurst & Ehrmann, SMNK and CKWA; 1 spm., same data but 14°56'N 43°14'E, 9.-10.v.1998, SMNK; 1 spm., 25 km SE of B'ajil, Jebel Burra, 1000 m, 16.v.1998, F. Brechtel & C. Wurst, SMNK.

#### DIAGNOSIS

A small sized species with yellowish-brown and partially darkened integument; pubescence pale greyish, on elytra varying from uniformly greyish to greyish with darker spots; head with narrow frons and reduced tempora; female pygidium with subapical elevation.

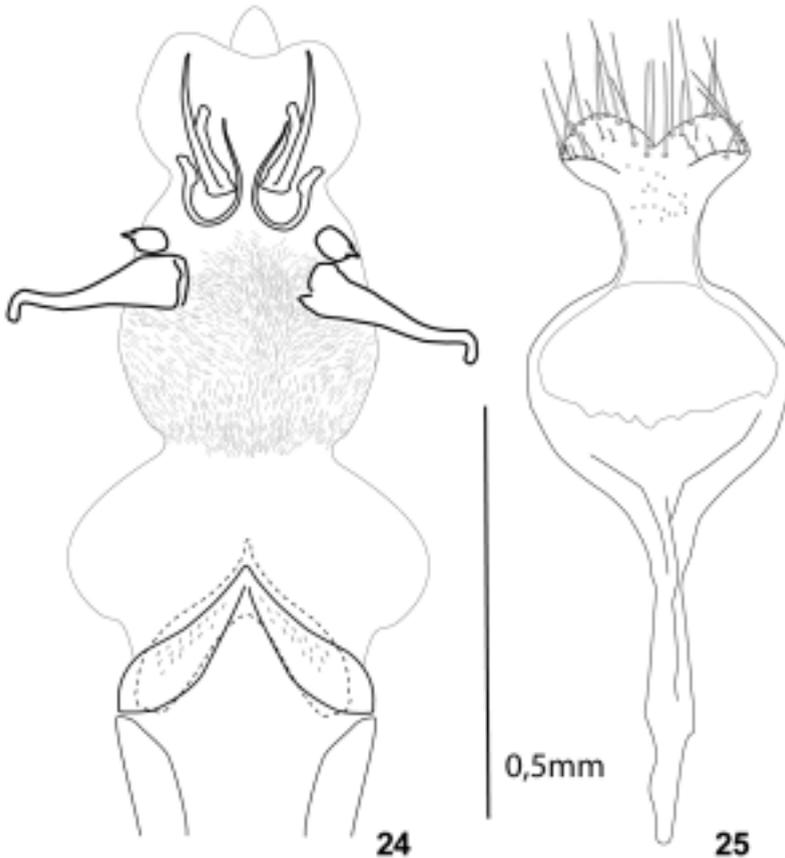
#### DESCRIPTION

Length (pronotum - elytra): 2.4-4.8 mm, width: 1.3-2.5 mm. Color yellowish-brown; usually antenna, front and mid legs paler; frequently elytra with darker irregularly distributed spots; sometimes apical antennal segments and abdomen partially or completely darkened. Vestiture dense, recumbent, covering integu-

ment completely, uniformly pale yellowish; brownish setae on darker spots of elytra; elytral striae not densely pubescent.

Male: Head short, distance from base of antenna to apex of labrum about 0.3 of distance from upper limits of eyes to apex of labrum; frons narrow with median carina elongate, sharp along almost its whole length, shiny, at narrowest part about as wide as combined diameter of two eye-facets (in dorsal view); distance between eyes about 0.1 of maximum width of head at eyes; tempora reduced to minimum, not visible in dorsal view. Antenna reaching to middle of elytral length; antennal segments 1-4 filiform, 5-10 serrate, 11 oblong-oval and apically pointed, length ratio (starting with segment 1): 2.0 : 1.1 : 1.2 : 1.0 : 1.5 : 1.5 : 1.6 : 1.6 : 1.8 : 1.8 : 2.6.

Pronotum pentagonal, about 1.3-1.4 times as wide as long, greatest width at base; sides almost parallel to basal half of pronotal length; base about 1.3 times

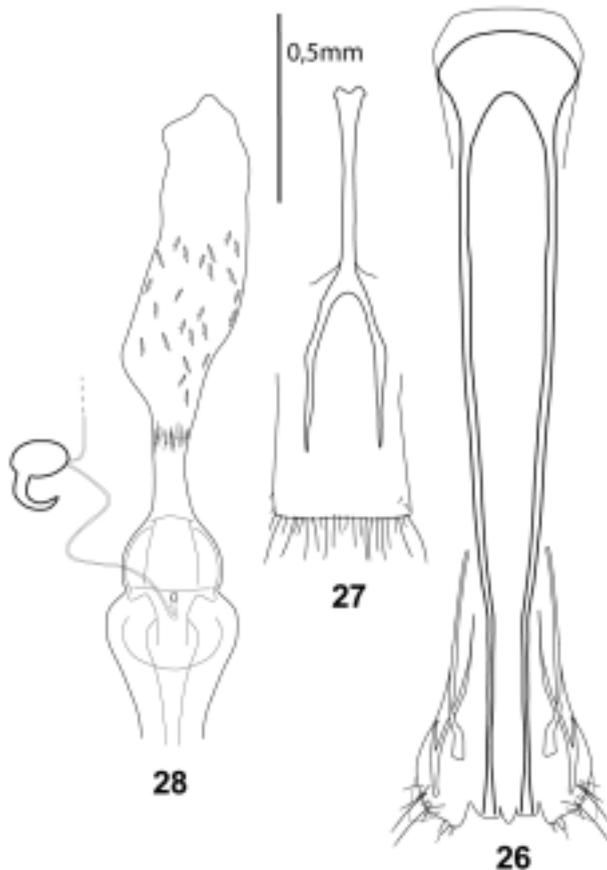


24-25. *Caryedon nongoniermai*: 24 - everted internal sac, dorsal view, 25 - lateral lobe and tegminal strut, ventral view

wider than apex; disc double punctured, distances between larger punctures smaller than their diameter, partially with shiny welts; lateral carina extending from base to 0.85 distance to anterior edge. Scutellum small with straight apex.

Elytra about 1.4 times as long as their combined width, with maximum width at basal third of their length; striae moderately impressed, with distinct punctures, striae 4-5 shortened apically at 0.75 of elytral length; interstiae from flat at base to slightly convex towards apex, with microreticulation.

Hind femora about twice as long as wide; femoral pecten with larger spine followed by about 7-9 smaller spines; distance between larger spine and first smaller spine as wide as distances between smaller spines; smaller spines becoming shorter towards apical end of pecten; prepectenal ridge with 3-5 minute spines and a few granulations. Hind tibia arcuate with complete set of five carinae; mucro about as long as tibial width at apex. Sternite V slightly emarginated. Pygidium convex, about as wide as long.



26-28. *Caryedon nongoniermai*: 26-27 - ovipositor, 28 - bursa copulatrix and spermathecal body

Genitalia: Median lobe with dorsal valve moderately triangular, ventral valve acute apically with rounded tip; tip of dorsal valve reaching beyond tip of ventral valve. Internal sac with four pairs of endosclerites (dorsal view in everted position): sclerites of each first and second pair more separated than sclerites of third and fourth pair; sclerites of first pair large, like an elongate hood with bent and blunt tip, in horizontal position, with large base; sclerites of second pair small, in horizontal position at base of sclerites of first pair; sclerites of third pair slim, in vertical position, strongly curved; sclerites of fourth pair sword-like, in nearly vertical position, wider and longer than third pair, with strongly curved and lengthened base; area between and behind third and fourth sclerite pairs without needles, area of first sclerite pair towards dorsal valve with numerous small needles (Fig. 24). Lateral lobes separated to about 0.15 of their length, apex with about 10 long setae (Fig. 25).

Female: Similar to male, but antennal segments somewhat shorter, sternite V not emarginated, pygidium slightly convex with smooth shiny elevation at apical 0.15 of median line. Genitalia: ovipositor long, vagina with scarcely sclerotized armature of sclerites as shown in Figs 26-27; bursa copulatrix with a few short needles scattered over surface and at neck (Fig. 28); spermathecal body short-ovoid, with apical diverticulum long, evenly curved, slightly constricted at base, pointed towards tip (Fig. 28).

#### AFFINITIES

*C. nongoniermai* is distinguished from the closely related *Caryedon saudicus* ANTON, 1994, by having shorter antennal segments in both sexes, subapical elevation on female pygidium, dorsal valve not reaching beyond the tip of ventral valve, and without distinct spines in area of third sclerite pair.

#### ETYMOLOGY

The name refers to the botanist Antoine NONGONIERMA (Université Cheikh Anta Diop, Dakar, Senegal). He worked on West African insects developing in *Acacia* species and collected most of the bruchid material treated in this paper.

#### HOST PLANTS

Examined West African specimens bear labels with rearing records from *Acacia ehrenbergiana* HAYNE, *A. kirkii* OLIVER, *A. nilotica* (L.) DEL. subsp. *tomentosa* (BENTH.) BRENNAN, *A. senegal* (L.) WILLD., *A. seyal* DEL., *A. tortilis* (FORSSKAL) HAYNE and *A. tortilis* subsp. *raddiana* (SAVI) BRENNAN. A single specimen was reared from *A. sieberiana* DC. seeds in Senegal. In Israel reared from seeds of *A. tortilis* subsp. *raddiana* and *A. tortilis* subsp. *spirocarpa* (HOCHST. ex A. RICH.) BRENNAN (ANTON & al. 1997).

#### DISTRIBUTION

Burkina Faso, Egypt, Israel, Jordan, Lybia, Mali, Mauritania, Morocco, Oman, Saudi Arabia, Senegal, Yemen.

## REMARK

Recently this species has been cited as *Caryedon sahelicus* DECELLE (NONGONIERMA 1978, t. 188; DECELLE 1979, p. 328), *Caryedon spec. near pallidus* (BOROWIEC 1990, p. 391), *C. sahelicus sensu DECELLE* (ANTON 1994a, p. 98; ANTON 1994b, p. 106), "*Caryedon sahelicus*" (DELOBEL *et al.* 1995, p. 80), *Caryedon sp. near saudicus* Anton, 1994 (ANTON & al. 1997, p. 61) and *Caryedon sahelicus* auct. (SILVAIN & DELOBEL 1998, t. 1). The description of *C. sahelicus* was never published, so this name is a nomen nudum. We designate here new types and describe the species under a new name, *C. nongoniermai*, to avoid confusion.

## ACKNOWLEDGEMENTS

We are grateful to Dr. N. BERTI (MNHN), Dr. M. BRANCUCCI (NHMB), Dr. F. BRECHTEL (SMNK), Dr. A. FREIDBERG and J. HALPERIN (TAUI), Dr. M. D. GALLAGHER (ONHM), Dr. B. KOROTYAEV and M. SAVITSKY (ZMAS), Dr. M. DE MEYER (MRAC) and H. WENDT (MNHU), who provided us with type material and bruchid specimens.

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