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# Water beetles from Bénin (Coleoptera: Haliplidae, Dytiscidae, Noteridae, Hydraenidae, Hydrochidae, Hydrophilidae, Gyrinidae, Elmidae)

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During a four week stay in the République Populaire du Bénin in 1989 the author collected water beetles at 35 different localities. The 120 species that were collected are listed in this paper. Additional information is given on the present knowledge of the water beetle fauna of Bénin and some data on water beetles collected by others are included. In total 54 species are new to the fauna of Bénin.

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## INTRODUCTION

During the month of July 1989 I had the opportunity to stay with my friends Chris van Houdt and Aart Verstegen in their house in Parakou in the central part of Bénin (former French Western African colony Dahomey). During my stay, I collected a large number of water beetles at 35 different localities. In another period Mrs. van Houdt and Mr. Jiroux also collected water beetles in Bénin and the results are included in this report. In total about 120 different species were collected. Except for a few duplicates all the material is in the private collection of the author. All photographs in this paper are by the author and are a selection of the collecting localities (Figs. 1-25) and of the specimens collected in Benin (Figs. 26-51).

## MATERIAL

At the following localities in Bénin the author collected water beetles (listed are locality, concise habitat characterisation, collection date):

**Loc. 1** Savè Novo. 3 km S. of Parakou. Large permanent pool with loamy bottom, grassy edges, water lily, partly covered with *Pistia stratiotes*, depth to 150 cm. 5.VII.1989. (Fig. 1)



Figure 1 Locality 1.

**Loc. 2** Parakou. Pond near tree nursery, sandy bottom, depth to 100 cm, water lily. 6.VII.1989. (Fig. 2)



Figure 2 Locality 2.

**Loc. 3** Parakou. Brooklet near tree nursery, in forest, width 200 cm, depth 10 cm. 6.VII.1989. (Fig. 3) The material from this locality was mixed with that of loc. 2.



Figure 3 Locality 3.

**Loc. 4** Parakou. Brooklet with marshy and stagnant parts between fields with groundnuts, maize and beans. 7.VII.1989. (Fig. 4)



Figure 4 Locality 4.

**Loc. 5** Parakou. Pond surrounded by trees, about 200 m<sup>2</sup>, depth 50-100 cm, bottom with dead plant remains, water lily. 7.VII.1989. (Fig. 5)



Figure 5 Locality 5.

**Loc. 6** Bakpérou, 4 km S. of Parakou. Large pool fed by brooklet between fields, depth 15 cm, bottom muddy, water lily. 10.VII.1989. (Fig. 6)



Figure 6 Locality 6.

**Loc. 7** Parakou. Rain pool between fields, about 10 m<sup>2</sup>, depth 20 cm, sandy bottom. 11.VII.1989. (Fig. 7)



Figure 7 Locality 7.

**Loc. 8** As loc. 5, but 11.VII.1989.

**Loc. 9** Ouénou, 8 km E. of Nikki. Large water reservoir near barrage in forest, clay bottom, no vegetation. 12.VII.1989.

**Loc. 10** Ouroumonsi, 16 km E. of Nikki. Large water reservoir near barrage in forest, loamy bottom, no water plants. 12.VII.1989. (Fig. 8)



Figure 8 Locality 10.

**Loc. 11** Ouroumonsi, 16 km E. of Nikki. Small grassy pools on barrage near loc. 10, depth 10 cm. 12.VII.1989. (Fig. 9)



Figure 9 Locality 11.

**Loc. 12** Ouroumonsi, 14 km E. of Nikki. Small pool along road in forest. 12.VII.1989. (Fig. 10)



Figure 10 Locality 12.

**Loc. 13** Ouénou, 6 km E. of Nikki. Pools along road in forest, about 300 m<sup>2</sup>, loamy bottom. 12.VII.1989. (Fig. 11)



Figure 11 Locality 13.

**Loc. 14** Ganou, 6 km N. of Parakou. Large pool with water lily and *Pistia stratiotes*, between rice fields. 14.VII.1989. (Fig. 12)



Figure 12 Locality 14.

**Loc. 15** Ganou, 4 km N. of Parakou. Brooklet between fields, width 300 cm. 14.VII.1989.

**Loc. 16** Ganou, 4 km N. of Parakou. Pool between fields, surrounded by trees, 200 m<sup>2</sup>, water lily. 14.VII.1989. (Fig. 13)



Figure 13 Locality 16.

**Loc. 17** Ganou, 4 km N. of Parakou. Brooklet, bottom with sand and stones. 14.VII.1989. (Fig. 14)



Figure 14 Locality 17.

**Loc. 18** Tourou, 8 km W. of Parakou. Pools in rice fields, depth to 50 cm. 19.VII.1989. (Fig. 15)



Figure 15 Locality 18.

**Loc. 19** Tourou, 10 km W. of Parakou. Small pool along road. 19.VII.1989.

**Loc. 20** Badékparou, 15 km S. of Parakou. Small pool along road, water lily. 20.VII.1989. (Fig. 16)



Figure 16 Locality 20.

**Loc. 21** Badékparou, 18 km S. of Parakou. Stagnant remain of brooklet. 20.VII.1989. (Fig. 17)



Figure 17 Locality 21.

**Loc. 22** Sanson, 25 km W. of Parakou. Brook with strong current and stagnant parts, stones and sand on bottom. 21.VII.1989. (Fig. 18)



Figure 18 Locality 22.

**Loc. 23** Sanson, 28 km W. of Parakou. Pools along road. 21.VII.1989. (Fig. 19)



Figure 19 Locality 23.

**Loc. 24** Bétérou, 43 km W. of Parakou. Small pools with sandy bottom. 21.VII.1989.

**Loc. 25** Bétérou, 43 km W. of Parakou. Pond between fields, covered by reed. 21.VII.1989. (Fig. 20)



Figure 20 Locality 25.

**Loc. 26** Kaba, 10 km N. of Natitingou. Rain pool along road between fields. 23.VII.1989. (Fig. 21)



Figure 21 Locality 26.

**Loc. 27** Toukountouna, 20 km N. of Natitingou. Small river between banana plantations. 23.VII.1989. (Fig. 22)



Figure 22 Locality 27.

**Loc. 28** Tanguieta, 45 km N. of Natitingou. Brook, width 400 cm, bottom with sand and stones. 23.VII.1989. (Fig. 23)



Figure 23 Locality 28.

**Loc. 29** Orobouga, 5 km S. of Natitingou. Pool, 200 m<sup>2</sup>, loamy bottom. 24.VII.1989. (Fig. 24)



Figure 24 Locality 29.

**Loc. 30** Daringa, 5 km SE of Onklou, 50 km SE of Djougou. Small pool along road. 24.VII.1989. (Fig. 25)



Figure 25 Locality 30.

- Loc. 31** Parakou, Amawignon. At light.  
11.VII.1989.  
**Loc. 32** Natitingou, Auberge Tanekas. At light.  
23.VII.1989.  
**Loc. 33** Cotonou. On the street. 2.VII.1989.  
**Loc. 34** Parakou. In swimming pool. 15.VII.1989  
**Loc. 35** Parakou. At light. 15.VII.1989

Also included in this report is material collected by Chris van Houdt on the following localities in Bénin:

- Loc. 36** Parakou. At light. 14.IX.1988  
**Loc. 37** Parakou. At light. 17.IX.1988  
**Loc. 38** Parakou. At light. 26.IX.1988  
**Loc. 39** Parakou. At light. 29.IX.1988  
**Loc. 40** Parakou. At light. 7.X.1988  
**Loc. 41** Parakou. At light. 10.X.1988  
**Loc. 42** Parakou. At light. 18.X.1988  
**Loc. 43** Parakou. At light. 10.XI.1988  
**Loc. 44** Parakou. At light. 17.VI.1989  
**Loc. 45** Parakou. At light. 19.VI.1989  
**Loc. 46** Parakou. At light. 11.VII.1989  
**Loc. 47** Parakou. At light. 15.VII.1989  
**Loc. 48** Parakou. At light. 23.VII.1989  
**Loc. 49** Parakou. In rain pool. 28.IX.1988

Material collected by E. Jiroux on the following localities in Bénin is also included in this report:

- Loc. 50** Agonli-Houégbo, 36 km E. of Abomey.  
VIII.1989  
**Loc. 51** Agonli-Houégbo, Zangnadado. IX.1989  
**Loc. 52** Iro de Pobé. VII.1990  
**Loc. 53** A'Agonlin. 28.IX.1990  
**Loc. 54** Cotonou. IX.1990  
**Loc. 55** Agonli-Houégbo, 36 km E. of Abomey.  
XII.1990

## SYSTEMATIC LIST

### GYRINIDAE

*Aulonogyrus algoensis* RÉGIMBART

**Material examined** Ganou (loc. 17), Sanson (loc. 22), Toukountouna (loc. 27), Daringa

(loc. 30), Parakou (loc. 36, 42, 49), Agonli-Houégbo (loc. 51), A'Agonlin (loc. 53).

**Distribution** Widespread in Africa from Sudan to the eastern cape province and from West Africa to Zanzibar (Brinck 1955)

*Dineutus aereus* KLUG

**Material examined** Savè Novo (loc. 1), Parakou (loc. 4, 49), Ouénou (loc. 9), Ganou (loc. 15, 17), Sanson (loc. 22, 23), Kaba (loc. 26), Toukountouna (loc. 27), Daringa (loc. 30), Agonli-Houégbo (loc. 51), Iro de Pobé (loc. 52).

**Distribution** Widespread in entire Africa (Brinck 1955).

*Orectogyrus bedeli* RÉGIMBART

**Material examined** Parakou (loc. 4, 42), Ganou (loc. 17), Tourou (loc. 19), Sanson (loc. 22), Toukountouna (loc. 27), Daringa (loc. 30), Iro de Pobé (loc. 52), A'Agonlin (loc. 53).  
**Distribution** French Guinea, Sierra Leone, Ivory Coast, Ghana, Togo, Upper Volta, Bénin, Nigeria, Cameroon, Congo, Uganda, Sudan (Brinck 1956).

*Orectogyrus spec.*

**Material examined** Orobouga (loc. 29).

### HALIPLIDAE

\**Haliphus discessus* GUIGNOT (Fig. 26)



Figure 26 *Haliphus discessus*.

\* First record for Bénin.

**Material examined** Parakou (loc. 8, 31), Ganou (loc. 17), Tourou (loc. 18).

**Distribution** Senegal, Zaire, Somalia (Guignot 1959). First record for Bénin.

*\*Haliphus maculipennis* SCHAUM

**Material examined** Parakou (loc.5), Ganou (loc. 15, 17), Badékparou (loc. 20).

**Distribution** Egypt, Ethiopia, Sudan, Zaire (Guignot 1959). First record for Bénin.

*\*Haliphus natalensis* WEHNCKE

**Material examined** Parakou (loc. 2, 5, 7, 8, 31), Bétérou (loc. 25), Natitingou (loc. 32).

**Distribution** South Africa, Kenya, Uganda, Somalia, Zaire, Angola (Guignot 1959). First record for Bénin.

*Peltodytes nodieri* GUIGNOT

**Material examined** Parakou (loc. 5).

**Distribution** Senegal, Bénin (Guignot 1959).

## NOTERIDAE

*\*Canthydrus bisignatus* WEHNCKE

**Material examined** Tourou (loc. 18).

**Distribution** Congo, Gabon, Ghana, Guinea, Ivory Coast, Nigeria, Sierra Leone, Tanzania, Uganda, Zaire (Nilsson 2003). First record for Bénin.

*\*Canthydrus koppi* WEHNCKE

**Material examined** Parakou (loc. 2, 4, 5, 8), Bakpérou (loc. 6), Ouénou (loc. 13), Ganou (loc. 14), Badékparou (loc. 20), Sanson (loc. 22), Kaba (loc. 26), Daringa (loc. 30), Natitingou (loc. 32).

**Distribution** Cameroon, Chad, Ghana, Ivory Coast, Mali, Mauritania, Niger, Nigeria, Senegal (Nilsson 2003). First record for Bénin.

*\*Canthydrus procurvus* GUIGNOT

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2, 4), Tourou (loc. 18, 19), Bétérou (loc. 25), Daringa (loc. 30).

**Distribution** Ivory Coast, Zaire (Nilsson 2003). First record for Bénin.

*\*Hydrocanthus adrasus* GUIGNOT

**Material examined** Parakou (loc. 31, 42).

**Distribution** Botswana, Congo, Guinea, Guinea Bissau, Ivory Coast, Nigeria, Senegal, Sierra Leone, Zaire (Nilsson 2003). First record for Bénin.

*Hydrocanthus grandis* (LAPORTE) (Fig. 27)



Figure 27 *Hydrocanthus grandis*.

**Material examined** Parakou (loc. 2, 8), Bakpérou (loc. 6), Ganou (loc. 14), Tourou (loc. 18), Badékparou (loc. 20), Bétérou (loc. 24).

**Distribution** Bénin, Botswana, Cameroon, Chad, Congo, Gabon, Ghana, Guinea, Ivory Coast, Malawi, Mauritania, Mozambique, Niger, Nigeria, Senegal, Sudan, Tanzania, Zaire, Zimbabwe (Nilsson 2003).

*Hydrocanthus micans* WEHNCKE

**Material examined** Parakou (loc. 1, 2, 4, 8, 36), Bakpérou (loc. 6), Ouroumonsi (loc. 10), Tourou (loc. 18), Badékparou (loc. 21), Daringa (loc. 30).

**Distribution** Angola, Bénin, Botswana, Burkina Faso, Congo, Gabon, Ghana, Guinea, Guinea Bissau, Ivory Coast, Kenya, Malawi, Mali, Mozambique, Nigeria, Senegal, Sierra

Leone, South Africa, Sudan, Tanzania, Uganda, Zaire, Zambia, Zimbabwe (Nilsson 2003).

*Hydrocanthus spec.*

**Material examined** Parakou (loc. 8), Badékparou (loc. 20), Bétérou (loc. 25).

\**Neohydrocoptus angolensis* PESCHET

**Material examined** Tourou (loc. 18).

**Distribution** Angola, Botswana, Ethiopia, Gabon, Ivory Coast, Kenya, Malawi, Mali, Nigeria, South Africa, Sudan, Tanzania, Uganda, Zaire (Nilsson 2003). First record for Bénin.

\**Neohydrocoptus koppi* WEHNCKE

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2, 4, 5, 8, 45), Bakpérou (loc. 6), Badékparou (loc. 20), Orobouga (loc. 29).

**Distribution** Angola, Cameroon, Chad, Ghana, Guinea, Ivory Coast, Kenya, Mali, Mozambique, Nigeria, Senegal, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zaire, Zambia (Nilsson 2003). First record for Bénin.

\**Neohydrocoptus uellensis* GUIGNOT

**Material examined** Parakou (loc. 4), Bakpérou (loc. 6).

**Distribution** Gabon, Guinea, Nigeria, Senegal, Zaire (Nilsson 2003). First record for Bénin.

*Synchortus simplex* SHARP

**Material examined** Savè Novo (loc. 1), Parakou (loc. 5, 8), Bakpérou (loc. 6), Ganou (loc. 14), Badékparou (loc. 20), Daringa (loc. 30).

**Distribution** Bénin, Botswana, Ethiopia, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Malawi, Mali, Mauritania, Mozambique, Niger, Nigeria, Senegal, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zaire, Zambia, Zimbabwe (Nilsson 2003).

## DYTISCIDAE

*Clypeodytes spec.*

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2, 4, 5, 8), Bakpérou (loc. 6), Ouroumonsi (loc. 10), Ouénou (loc. 13), Ganou (loc. 16, 17), Badékparou (loc. 20), Sanson (loc. 23).

**Distribution** This genus is widespread in Africa, but no records are known from Bénin (Biström 1988).

*Copelatus carinatus* SHARP

**Material examined** Parakou (loc. 44), Daringa (loc. 30).

**Distribution** Bénin, Ghana, Guinea Bissau, Zaire (Guignot 1961).

\**Copelatus andreinii* RÉGIMBART

**Material examined** Parakou (loc. 31).

**Distribution** Eritrea (Guignot 1961). First record for Bénin.

\**Copelatus crassus* RÉGIMBART

**Material examined** Ouroumonsi (loc. 12).

**Distribution** Ivory Coast, Senegal, Zaire, Uganda (Guignot 1961). First record for Bénin.

\**Copelatus erichsoni* GUÉRIN (Fig. 28)

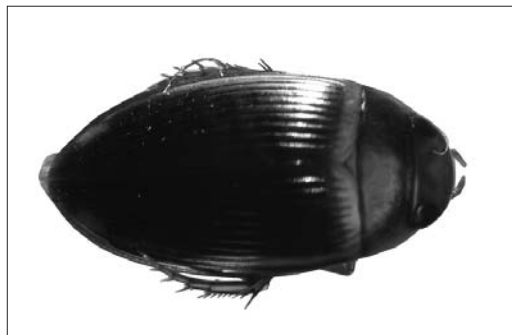


Figure 28 *Copelatus erichsoni*.

**Material examined** Parakou (loc. 7, 39, 42), Ouroumonsi (loc. 12), Daringa (loc. 30).

**Distribution** Common in Africa south of the Sahara (Guignot 1961). First record for Bénin.

*Copelatus* sp.gr. *erichsoni*

**Material examined** Bakpérou (loc. 6), Parakou (loc. 7). (see note in Pederzani & Rocchi 1982)

\**Copelatus thrasys* GUIGNOT

**Material examined** Bakpérou (loc. 6), Badékparou (loc. 20), Parakou (loc. 35, 38, 39).

**Distribution** Zaïre (Guignot 1961). First record for Bénin.

\**Copelatus villiersi* GUIGNOT

**Material examined** Parakou (loc. 35).

**Distribution** Senegal, Niger (Guignot 1961). First record for Bénin.

\**Cybister bimaculatus* AUBÉ

**Material examined** Parakou (loc. 2), Agonli-Houègbo (loc. 54).

**Distribution** Algeria, Guinea, Cameroon, Zaïre, Senegal, Mozambique (Guignot 1961). First record for Bénin.

\**Cybister gschwendtneri* GUIGNOT (Fig. 29)

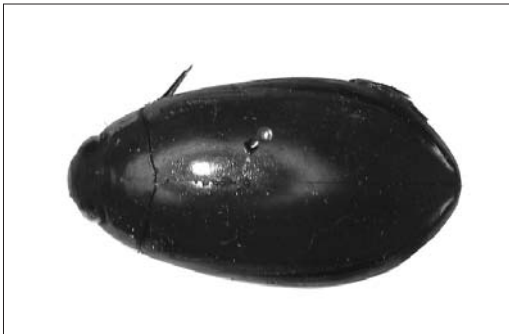


Figure 29 *Cybister gschwendtneri*.

**Material examined** Ouénou (loc. 13).

**Distribution** Nearly entire Africa (Guignot 1961). First record for Bénin.

\**Cybister marginicollis* BOHEMAN

**Material examined** Parakou (loc. 2), Bakpérou (loc. 6), Ganou (loc. 14), Orobougba (loc. 29), Agonli-Houègbo (loc. 55).

**Distribution** Entire Africa (Guignot 1961). First record for Bénin.

\**Cybister senegalensis* AUBÉ

**Material examined** Ganou (loc. 14).

**Distribution** Entire Africa (Guignot 1961). First record for Bénin.

\**Cybister tripunctatus africanus* CASTELNAU

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2, 43), Agonli-Houègbo (loc. 55).

**Distribution** Entire Africa (Guignot 1961). First record for Bénin.

\**Cybister vulneratus* KLUG

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2, 4), Ouénou (loc. 13), Badékparou (loc. 20).

**Distribution** Entire Africa (Guignot 1961). First record for Bénin.

\**Derovatellus ater* BILARDO & PEDERZANI (Fig. 30)



Figure 30 *Derovatellus ater*.

**Material examined** Bétérou (loc. 24, 25).

**Distribution** Ivory Coast (Bilardo & Pederzani 1978). First record for Bénin.

*\*Herophydrus sudanensis* GUIGNOT (Fig. 31)



Figure 31 *Herophydrus sudanensis*.

**Material examined** Parakou (loc. 2, 4, 5, 8), Bakpérou (loc. 6), Badékarou (loc. 20), Daringa (loc. 30).

**Distribution** Guinea-Bissau, Guinea, Mali, Chad, Ghana, Ivory Coast, Nigeria, Sudan (Biström & Nilsson 2002). First record for Bénin.

*Hydaticus lativittus* RÉGIMBART

**Material examined** Parakou (loc. 36, 40).

**Distribution** Bénin, Ivory Coast, Guinea, Sierra Leone (Guignot 1961).

*\*Hydaticus exclamationis* AUBÉ

**Material examined** Parakou (loc. 4), Sanson (loc. 23)

**Distribution** Entire Africa (Guignot 1961). First record for Bénin.

*\*Hydaticus flavolineatus* BOHEMAN (Fig. 32)



Figure 32 *Hydaticus flavolineatus*.

**Material examined** Sanson (loc. 22), Kaba (loc. 26), Parakou (loc. 40)

**Distribution** Entire Africa (Guignot 1961). First record for Bénin.

*\*Hydaticus dorsiger* AUBÉ

**Material examined** Tourou (loc. 18), Bétérou (loc. 25), Agonli-Houègbo (loc. 55).

**Distribution** Entire Africa (Guignot 1961). First record for Bénin.

*Hydaticus leander* (ROSSI)

**Material examined** Bakpérou (loc. 6), Parakou (loc. 7, 31), Badékarou (loc. 20).

**Distribution** Southern part of Europe and Northern part of Africa, Bénin (Guignot 1961).

*Hydroglyphus dakarensis* (RÉGIMBART) (Fig. 33)



Figure 33 *Hydroglyphus dakarensis*.

**Material examined** Ouroumonsi (loc. 11), Sanson (loc. 22), Bétérou (loc. 25).

**Distribution** Mauritania, Senegal, Gambia, Mali, Guinea, Sierra Leone, Ivory Coast, Burkina Faso, Ghana, Togo, Bénin, Nigeria, Cameroon, Central African Republic, Congo, Zaire, Sudan, Uganda, Angola, Malawi, Zambia, Zimbabwe (Biström 1986)

*Hydroglyphus* spec.

**Material examined** Parakou (loc. 4, 7), Bakpérou (loc. 6), Ouroumonsi (loc. 11), Tourou (loc. 18), Badékarou (loc. 20), Sanson

(loc. 22), Bétérou (loc. 24 25), Kaba (loc. 26).

*Hydrovatus aristidis* LEPRIEUR

**Material examined** Savè Novo (loc. 1), Bakpérou (loc. 6), Parakou (loc. 7), Ganou (loc. 14), Badékarou (loc. 20).

**Distribution** Israel, Egypt, Gambia, Senegal, Bénin, Nigeria, Sudan, Ethiopia, Uganda, Ivory Coast, Mali, Mauritania, Chad, Saudi Arabia (Biström 1996, his record for Bénin is exclusively based on the material mentioned above).

*Hydrovatus brevipilis* GUIGNOT

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2, 8), Bétérou (loc. 24), Daringa (loc. 30)

**Distribution** Gambia, Senegal, Guinea Bissau, Guinea, Ivory Coast, Ghana, Bénin, Mali, Chad, Nigeria, Gabon, Zaire, Sudan, Angola, Zimbabwe, Namibia, Congo (Biström 1996, his record for Bénin is exclusively based on the material mentioned above).

*Hydrovatus confossus* GUIGNOT

**Material examined** Parakou (loc. 4, 5), Ganou (loc. 16)

**Distribution** Bénin, Nigeria, Cameroon, Sudan, Congo, Zaire, Uganda, Tanzania, Gabon (Biström 1996, his record for Bénin is exclusively based on the material mentioned above).

\**Hydrovatus cribatus* SHARP

**Material examined** Bakpérou (loc. 6), Ganou (loc. 14), Badékarou (loc. 20).

**Distribution** Gambia, Senegal, Guinea, Sierra Leone, Ghana, Equatorial Guinea, Gabon, Congo, Zaire, Ethiopia, Sudan, Uganda, Kenya, Tanzania, Zambia, Malawi, Mozambique, South Africa, Ivory Coast, Angola, Mali, Cameroon (Biström 1996). First record for Bénin.

*Hydrovatus facetus* GUIGNOT

**Material examined** Parakou (loc. 5, 7), Ouénou (loc. 13)

**Distribution** Gambia, Chad, Bénin, Zaire, Kenya, Zimbabwe, Swaziland, Botswana (Biström 1996, his record for Bénin is exclusively based on the material mentioned above).

*Hydrovatus gabonicus* RÉGIMBART (Fig. 34)



Figure 34 *Hydrovatus gabonicus*.

**Material examined** Savè Novo (loc. 1), Parakou (loc. 5, 7, 8), Bakpérou (loc. 6), Ouénou (loc. 13), Ganou (loc. 16), Tourou (loc. 18), Badékarou (loc. 20), Bétérou (loc. 25).

**Distribution** Gambia, Senegal, Guinea Bissau, Bénin, Nigeria, Chad, Gabon, Sudan, Zaire, Rwanda (Biström 1996).

*Hydrovatus guignotianus* GUIGNOT

**Material examined** Savè Novo (loc. 1)

**Distribution** Gambia, Senegal, Mali, Ghana, Bénin, Nigeria (Biström 1996).

*Hydrovatus insolitus* GUIGNOT

**Material examined** Savè Novo (loc. 1), Parakou (loc. 4, 5), Daringa (loc. 30)

**Distribution** Gambia, Senegal, Mali, Chad, Guinea Bissau, Guinea, Ivory Coast, Bénin, Nigeria, Sudan, Zaire, Angola, Botswana, Gabon, Congo (Biström 1996, his record for Bénin is exclusively based on the material mentioned above).

\**Hydrovatus occidentalis* GUIGNOT

**Material examined** Parakou (loc. 40)

**Distribution** Senegal, Guinea Bissau, Ghana, Sudan, Zaire (Biström 1996). First record for Bénin.

*Hydrovatus regimbarti* ZIMMERMANN

**Material examined** Parakou (loc. 2).

**Distribution** Gambia, Senegal, Mali, Burkina Faso, Guinea, Guinea Bissau, Ghana, Bénin, Nigeria, Cameroon, Congo, Zaire, Sudan, Tanzania, Botswana, Namibia, Ivory Coast, Ethiopia, Malawi (Biström 1996, his record for Bénin is exclusively based on the material mentioned above).

*Hydrovatus reticuliceps* RÉGIMBART

**Material examined** Ouroumonsi (loc. 11).

**Distribution** Gambia, Guinea Bissau, Guinea, Ivory Coast, Ghana, Bénin, Chad, Nigeria, Cameroon, Gabon, Sudan, Ethiopia, Congo, Zaire, Angola, Tanzania, Malawi, Namibia, Mozambique, Botswana, Zambia, Senegal, "Rhodesia" (Biström 1996, his record for Bénin is exclusively based on the material mentioned above).

*Hydrovatus suturalis* BILARDO & PEDERZANI

**Material examined** Savè Novo (loc. 1), Bakpérou (loc. 6), Parakou (loc. 7), Ouroumonsi (loc. 10, 11).

**Distribution** Gambia, Guinea Bissau, Ivory Coast, Bénin, Nigeria, Chad, Sudan, Zaire (Biström 1996, his record for Bénin is exclusively based on the material mentioned above).

*Hydrovatus* spp.

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2), Daringa (loc. 30).

*Hyphydrus caryerus* GUIGNOT (Fig. 35)

Figure 35 *Hyphydrus caryerus*.

**Material examined** Parakou (loc. 8), Tourou (loc. 19), Orobouga (loc. 29).

**Distribution** Senegal, Mali, Chad, Sudan, Guinea, Ghana, Bénin, Nigeria, Cameroon, Zaire, Central African Republic (Biström 1982).

*Hyphydrus grandis* CASTELNAU

**Material examined** Badékparou (loc. 20).

**Distribution** Egypt, Chad, Sudan, Ethiopia, Senegal, Gambia, Ivory Coast, Bénin, Nigeria, Cameroon, Gabon, Zaire, Mauritania, Mali (Biström 1982)

*Hyphydrus maculatus* BABINGTON

**Material examined** Parakou (loc. 35).

**Distribution** Canary Islands, Algeria, Mauritania, Cape Verde, Senegal, Gambia, Mali, Niger, Chad, Sudan, Ethiopia, Somalia, Guinea, Sierra Leone, Ivory Coast, Bénin, Nigeria, Cameroon, Central African Republic, Zaire, Kenya (Biström 1982).

*\*Laccophilus adspersus* BOHEMAN

**Material examined** Parakou (loc. 8), Ganou (loc. 14, 16), Badékparou (loc. 21)

**Distribution** eastern, southern and central part of Africa (Guignot 1959). First record for Bénin.

*\*Laccophilus congener* OMER-COOPER

**Material examined** Parakou (loc. 4, 5, 7, 8), Ouroumonsi (loc. 11), Ouénou (loc. 13), Badékparou (loc. 21), Sanson (loc. 23), Kaba (loc. 26), Orobouga (loc. 29).

**Distribution** Zaire, Zimbabwe, Uganda, Ivory Coast, Sudan, Senegal. First record for Bénin.

*\*Laccophilus evanescens* RÉGIMBART

**Material examined** Badékparou (loc. 21), Kaba (loc. 26), Toukountouna (loc. 27), Orobouga (loc. 29), Natitingou (loc. 32).

**Distribution** Zaire, Ivory Coast, Sudan,

Mauritania, Ethiopia (Guignot 1959). First record for Bénin.

\**Laccophilus inornatus* ZIMMERMANN

**Material examined** Savè Novo (loc. 1), Parakou (loc. 4), Kaba (loc. 26), Daringa (loc. 30).

**Distribution** Zaire, Tanzania, Ivory Coast, Guinea (Guignot 1959). First record for Bénin.

\**Laccophilus laeticulus* RÉGIMBART

**Material examined** Parakou (loc. 4, 42).

**Distribution** Guinea, Sierra Leone, Ivory Coast, Zaire (Guignot 1959). First record for Bénin.

\**Laccophilus nodieri* RÉGIMBART

**Material examined** Ouénou (loc. 13), Badéparou (loc. 21), Sanson (loc. 23), Orobouga (loc. 29).

**Distribution** Senegal, Zaire (Guignot 1959). First record for Bénin.

*Laccophilus pallescens* RÉGIMBART (Fig. 36)

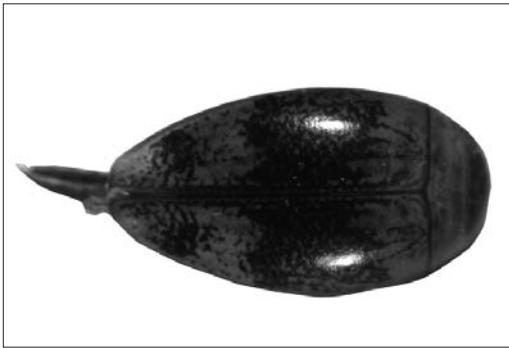


Figure 36 *Laccophilus pallescens*.

**Material examined** Parakou (loc. 4), Badéparou (loc. 21), Kaba (loc. 26).

**Distribution** Madagascar, East Africa, Ivory Coast, Bénin, Sudan, Zaire (Guignot 1959).

*Laccophilus spec.*

**Material examined** Ouénou (loc. 13), Badéparou (loc. 21), Daringa (loc. 30).

\**Leidytes evanescens* (BOHEMAN) (Fig. 37)



Figure 37 *Leidytes evanescens*.

**Material examined** Ouroumonsi (loc. 12), Ganou (loc. 16).

**Distribution** South Africa, Zaire, Uganda, Sudan, Ivory Coast (Guignot 1959). First record for Bénin.

\**Methles cribatellus* (FAIRMAIRE) (Fig. 38)

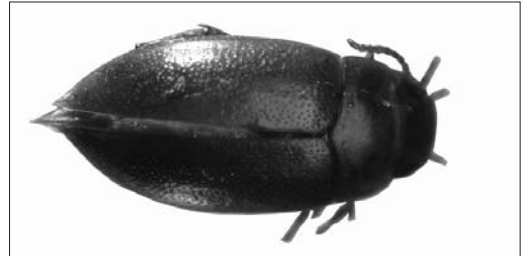


Figure 38 *Methles cribatellus*.

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2, 4, 5, 39), Tourou (loc. 18), Badéparou (loc. 20), Bétérou (loc. 25), Daringa (loc. 30).

**Distribution** Entire Africa (Guignot 1959). First record for Bénin.

*Pseuduvarus vitticollis* (BOHEMAN) (Fig. 39)



Figure 39 *Pseuduvarus vitticollis*.

**Material examined** Parakou (loc. 4, 7, 39, 41, 45), Bakpérou (loc. 6), Tourou (loc. 19), Sanson (loc. 22), Bétérou (loc. 24, 25).

**Distribution** Ethiopia, Senegal, Chad, Guinea, Liberia, Ivory Coast, Ghana, Bénin, Nigeria, Cameroon, Gabon, Central African Republic, Congo, Zaire, Uganda, Kenya, Tanzania, Angola, Zambia, Malawi, Zimbabwe, Namibia, South Africa, Swaziland, Madagascar, Reunion, Mauritius, Upper Volta (Biström 1988b).

\**Rhantaticus congestus* KLUG (Fig. 40)



Figure 40 *Rhantaticus congestus*.

**Material examined** Ouroumonsi (loc. 11), Ouénou (loc. 13), Sanson (loc. 22), Bétérou (loc. 25), Parakou (loc. 47).

**Distribution** entire Africa (Guignot 1959). First record for Bénin.

\**Uvarus retiarius* GUIGNOT

**Material examined** Parakou (loc. 2).

**Distribution** Gambia, Senegal, Ivory Coast, Burkina, Ghana, Nigeria, Zaire (Biström 1988c). First record for Bénin.

*Yola nigrosignata* RÉGIMBART (Fig. 41)



Figure 41 *Yola nigrosignata*.

**Material examined** Ouénou (loc. 13), Sanson (loc. 23), Orobouga (loc. 29).

**Distribution** Senegal or Gambia, Mali, Sudan, Ivory Coast, Ghana, Bénin, Nigeria, Central African Republic, Congo, Zaire, Uganda, Zimbabwe (Biström 1983).

*Yola cuspis* BILARDO & PEDERZANI

**Material examined** Parakou (loc. 2, 4), Bakpérou (loc. 6), Ouénou (loc. 13), Ganou (loc. 14).

**Distribution** Mauritania, Senegal, Gambia, Mali, Guinea-Bissau, Upper Volta, Ivory Coast, Ghana, Bénin, Nigeria, Cameroon (Biström 1983).

## HYDRAENIDAE

1 species from Ouroumonsi (loc. 12) and Tourou (loc. 18) which cannot be identified without a thorough revision of the African species.

## SPERCHEIDAE

\**Spercheus cerisyi* GUÉRIN-MÉNEVILLE

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2, 4, 5), Bakpérou (loc. 6), Ouénou (loc. 13), Ganou (loc. 14, 16, 17), Tourou (loc. 18), Badékparou (loc. 20, 21), Sanson (loc. 22, 23), Bétérou (loc. 25), Daringa (loc. 30).

**Distribution** Angola, Botswana, Chad, Congo, Ethiopia, Gambia, Ghana, Guinea, Kenya, Madagascar, Malawi, Mauritania, Mozambique, Namibia, Nigeria, Senegal, Sierra Leone, South Africa, Sudan, Tanzania, Uganda, Zaire, Zambia, Egypt, Iraq, Israel (Hebauer 1997). First record for Bénin.

*Spercheus gerardi* D'ORCHIMONT (Fig. 42)



Figure 42 *Spercheus gerardi*.

**Material examined** Badékparou (loc. 20).

**Distribution** Angola, Bénin, Botswana, Cameroon, Congo, Gabon, Ghana, Guinea, Kenya, Mozambique, Namibia, Nigeria, Rwanda, Senegal, Sudan, Tanzania, Zaire, Zambia (Hebauer 1997).

*Spercheus senegalensis* CASTELNAU

**Material examined** Bakpérou (loc. 6)

**Distribution** Bénin, Botswana, Burundi, Chad, Congo, Ethiopia, Gambia, Ghana, Kenya, Madagascar, Malawi, Mascarene Islands, Mozambique, Namibia, Senegal, Somalia, South Africa, Sudan, Tanzania, Togo, Zaire, Turkey (Hebauer 1997)

## HYDROCHIDAE

On 4 localities *Hydrochus* species are collected. They seem to belong to 4 different species. Reliable designation to specific species is however impossible without a thorough revision of the African species.

*Hydrochus* spec. 1

**Material examined** Ganou (loc. 15, 16).

*Hydrochus* spec. 2

**Material examined** Tourou (loc. 18).

*Hydrochus* spec. 3

**Material examined** Tourou (loc. 18), Badékparou (loc. 20).

*Hydrochus* spec. 4

**Material examined** Bétérou (loc. 25).

## HYDROPHILIDAE

*Allocotocerus seriatus* (RÉGIMBART)

**Material examined** Badékparou (loc. 20), Daringa (loc. 30).

**Distribution** Angola, Bénin, Gabon, Guinea, Kenya, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zaire, Zambia (Hansen 1999)

*Allocotocerus subaeneus* (ERICHSON) (Fig. 43)



Figure 43 *Allocotocerus subaeneus*.

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2), Bakpérou (loc. 6), Ganou (loc. 14), Badékparou (loc. 20).

**Distribution** Angola, Bénin, Kenya, Namibia, Nigeria, South Africa, Sudan, Tanzania, Uganda, Zaire, Zambia (Hansen 1999).

*Amphiops globus* ERICHSON

**Material examined** Savè Novo (loc. 1), Ganou (loc. 15, 16).

**Distribution** Angola, Bénin, Cameroon, Chad, Congo, Gabon, Guinea, Ivory Coast, Mozambique, Namibia, South Africa, Tanzania, Uganda, Zaire, Zambia, China (Hansen 1999)

\**Amphiops lasioides* RÉGIMBART

**Material examined** Tourou (loc. 18).

**Distribution** Guinea, Madagascar, South Africa, Tanzania, Zaire, Zambia (Hansen 1999). First record for Bénin.

*\*Amphiops phallicus* D'ORCHYMONT

**Material examined** GANOU (loc. 14).

**Distribution** Botswana, Gambia, Mali, Namibia, Sudan, Uganda, Egypt, Israel (Hansen 1999). First record for Bénin.

*\*Amphiops senegalensis* (CASTELNAU) (Fig. 44)

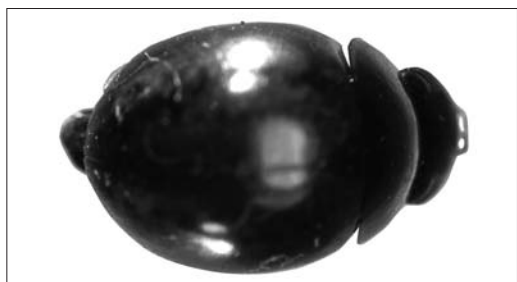


Figure 44 *Amphiops senegalensis*.

**Material examined** Bakpérou (loc. 6), Ganou (loc. 14), Tourou (loc. 18), Badékparou (loc. 20), Daringa (loc. 30).

**Distribution** Angola, Cameroon, Cape Verde Is., Chad, Congo, Ethiopia, Gabon, Guinea, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Sudan, Uganda, Zaire, Egypt, Morocco (Hansen 1999). First record for Bénin.

*Berosus* cf *crassus* or *cuspidatus*

**Material examined** Daringa (loc. 30).

**Distribution** both species are widespread in Africa, but *cuspidatus* is not yet recorded from Bénin (Hansen 1999).

*Berosus madagascariensis* SCHÖDL (Fig. 45)

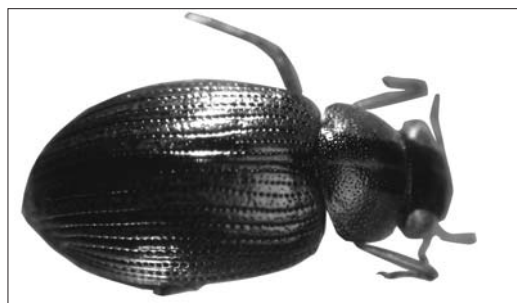


Figure 45 *Berosus madagascariensis*.

**Material examined** Tourou (loc. 18, paratype).

**Distribution** Bénin, Madagascar, Mozambique (Schödl 1995; Hansen 1999). The record for Bénin by Schödl (1995) is exclusively based on the material mentioned above.

*\*Berosus nigerianus* SCHÖDL

**Material examined** Ouroumonsi (loc. 10), Ganou (loc. 16).

**Distribution** Guinea Bissau, Ivory Coast, Liberia, Nigeria (Hansen 1999). First record for Bénin.

*Berosus nigriceps* (F)

**Material examined** Ouroumonsi (loc. 11).

**Distribution** Bangladesh, India, Nepal, Sri Lanka, Angola, Bénin, Botswana, Cape Verde Is., Chad, Djibouti, Ethiopia, Gambia, Ghana, Guinea Bissau, Ivory Coast, Kenya, Mali, Mauritania, Namibia, Niger, Nigeria, Oman, Saudi Arabia, Senegal, South Africa, Sudan, Tanzania, Yemen, Zaire, Zimbabwe, Iran, Iraq, Pakistan (Schödl 1994; Hansen 1999). The record for Bénin by Schödl (1994) is exclusively based on the material mentioned above.

*Berosus vitticollis* BOHEMAN

**Material examined** Ouroumonsi (loc. 11)

**Distribution** Angola, Bénin, Botswana, Burkina, Cameroon, Chad, Ethiopia, Gambia, Ghana, Guinea Bissau, Ivory Coast, Kenya, Madagascar, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Tanzania, Uganda, Zaire, Zambia, Zimbabwe (Schödl 1994, Hansen 1999)

*\*Cercyon luteus* D'ORCHYMONT

**Material examined** Parakou (loc. 8).

**Distribution** Mozambique, Namibia, Sierra Leone, Tanzania, Zaire, Zambia (Hansen 1999). First record for Bénin.

*Chasmogenus* spec.

**Material examined** Parakou (loc. 35).

**Distribution** No species of Chasmogenus are recorded for Bénin so far (Hansen 1999).

*Coelostoma spec.*

**Material examined** Parakou (loc. 8).

*Enochrus meracus* BALFOUR-BROWNE

**Material examined** Ouroumonsi (loc. 11), Sanson (loc. 22), Parakou (loc. 35).

**Distribution** Bénin, Togo (Hansen 1999).

\**Enochrus natalensis* (Gemminger & Harold)

**Material examined** Savè Novo (loc. 1), Parakou (loc. 4, 8, 35), Bakpérou (loc. 6), Ouroumonsi (loc. 11), Tourou (loc. 18), Badékparou (loc. 20).

**Distribution** Madagascar, Mali, Mascarene Is., Namibia, Rwanda, Seychelles, South Africa, Sudan, Uganda, Zambia, India, Sri Lanka, Egypt, Syria, Australia, Western Samoa (Hansen 1999). First record for Bénin.

*Enochrus spec.*

**Material examined** Parakou (loc. 35)

*Helochaeres camerunensis* D'ORCHYMONT

**Material examined** Sanson (loc. 22).

**Distribution** Bénin, Cameroon, Congo, Gabon, Gambia, Ghana, Guinea, Nigeria, Senegal (Hansen 1999).

*Helochaeres dolus* D'ORCHYMONT (Fig. 46)

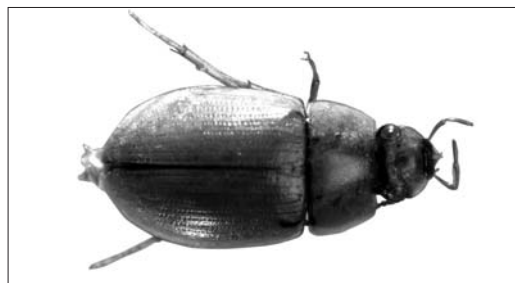


Figure 46 *Helochaeres dolus*.

**Material examined** Bakpérou (loc. 6), Parakou (loc. 7, 8), Ouroumonsi (loc. 10, 11), Ouénou (loc. 13), Sanson (loc. 22).

**Distribution** Bénin, Cameroon, Gambia, Ghana, Ivory Coast, Nigeria, Senegal, Sudan, Tanzania, Zaire (Hansen 1999).

\**Helochaeres ellipticus* D'ORCHYMONT

**Material examined** Parakou (loc. 44).

**Distribution** Cameroon, Gabon, Ghana, Guinea, Ivory Coast, Zaire (Hansen 1999). First record for Bénin.

*Helochaeres itylus* BALFOUR-BROWNE

**Material examined** Ganou (loc. 15).

**Distribution** Bénin, Congo, Gambia, Ghana, Ivory Coast (Hansen 1999)

*Helochaeres longipalpis* (Murray)

**Material examined** Parakou (loc. 7), Ouroumonsi (loc. 11, 12), Tourou (loc. 18), Bétérou (loc. 25).

**Distribution** Angola, Bénin, Cameroon, Chad, Congo, Gabon, Gambia, Ghana, Guinea, Kenya, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Uganda, Zambia, Egypt, Israel (Hansen 1999).

\**Helochaeres mecarus* D'ORCHYMONT

**Material examined** Badékparou (loc. 20)

**Distribution** Ethiopia (Hansen 1999). First record for Bénin.

*Helochaeres pallens* (MACLEAY)

**Material examined** Savè Novo (loc. 1), Parakou (loc. 2, 8), Bakpérou (loc. 6), Ouénou (loc. 13), Ganou (loc. 14).

**Distribution** Bénin, Botswana, Chad, Congo, Ethiopia, Ghana, Guinea, Kenya, Madagascar, Namibia, Rwanda, South Africa, Sudan, Tanzania, Yemen, Zambia, China, Egypt, Israel, Japan, Lebanon, Saudi Arabia, Bangladesh, Burma, India, Indonesia,

Malaysia, Philippines, Sri Lanka, Thailand, Papua New Guinea, Vanuatu (Hansen 1999).

\**Helochaeres perminutus* HEBAUER

**Material examined** Tanguieta (loc. 28)

**Distribution** Ghana, Nigeria (Hansen 1999). First record for Bénin.

*Helochaeres balfourbrownei* HANSEN 1999

**Material examined** Savè Novo (loc. 1), Ouénou (loc. 13).

**Distribution** Bénin, Burkina, Ghana, Guinea, Ivory Coast, Nigeria, Senegal (Hansen 1999).

*Helochaeres scitulus* BALFOUR-BROWNE

**Material examined** Bakpérou (loc. 6), Parakou (loc. 7), Ouroumonsi (loc. 10, 11, 12), Ouénou (loc. 13), Bétérou (loc. 25), Orobouga (loc. 29).

**Distribution** Bénin, Gambia, Ghana, Mali, Senegal (Hansen 1999).

\**Helochaeres structus* D'ORCHYMONT

**Material examined** Parakou (loc. 7).

**Distribution** Botswana, Cameroon, Congo, Gambia, Ghana, Guinea, Namibia, South Africa, Sudan, Tanzania, Zambia (Hansen 1999). First record for Bénin.

*Helochaeres (Hydrobaticus) spec.*

**Material examined** Bakpérou (loc. 6), Parakou (loc. 7, 8, 35), Ouroumonsi (loc. 10, 11), Sanson (loc. 22, 23).

\**Hydrochara endroedyi* SMETANA (Fig. 47)



Figure 47 *Hydrochara endroedyi*.

**Material examined** Parakou (loc. 39, 40, 41, 42).

**Distribution** Ghana (Hansen 1999). First record for Bénin.

\**Hydrophilus aculeatus* (SOLIER) (Fig. 48)

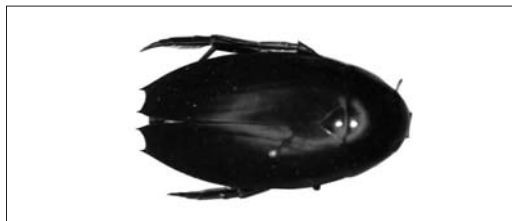


Figure 48 *Hydrophilus aculeatus*.

**Material examined** Ganou (loc. 14), Cotonou (loc. 33).

**Distribution** Cameroon, Ethiopia, Mascarene isl., Oman, Saudi Arabia, Senegal, Somalia, Tanzania, Yemen, Zaire, Zambia, Egypt, Iran, Israel, Syria, Turkey (Hansen 1999). First record for Bénin.

\**Laccobius revelieri* PERRIS (Fig. 49)

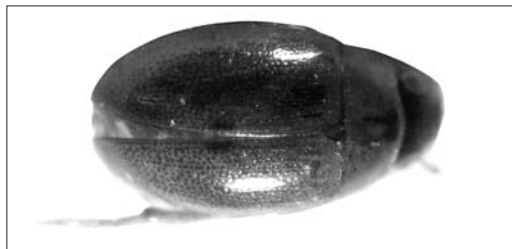


Figure 49 *Laccobius revelieri*.

**Material examined** Parakou (loc. 7).

**Distribution** Cameroon, Cape Verde Isl., Central African Republic, Chad, Ivory Coast, Kenya, Mauritania, Namibia, Niger, Nigeria, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zaire, Zambia, Zimbabwe, Algeria, France, Italy, Morocco, Portugal, Spain (Hansen 1999). First record for Bénin.

*Paracymus chalceus* RÉGIMBART

**Material examined** Savè Novo (loc. 1), Bakpérou (loc. 6), Parakou (loc. 7, 8), Ouroumonsi (loc. 10, 11, 12), Tourou (loc. 18), Sanson (loc. 22, 23), Orobouga (loc. 29),

Daringa (loc. 30).

**Distribution** Angola, Bénin, Botswana, Cameroon, Ethiopia, Gabon, Ivory Coast, Kenya, Madagascar, Malawi, Mascarene Isl., Mauritania, Namibia, Nigeria, South Africa, Sudan, Tanzania, Togo, Uganda, Zaire, Zimbabwe (Hansen 1999).

\**Regimbartia compressa* (BOHEMAN)

**Material examined** Sanson (loc. 23).

**Distribution** Mozambique, Namibia, Senegal, South Africa, Sudan, Tanzania, Uganda, Zaire, Zambia, Egypt (Hansen 1999). First record for Bénin.

\**Regimbartia elliptica* (RÉGIMBART) (Fig. 50)



Figure 50 *Regimbartia elliptica*.

**Material examined** Parakou (loc. 2), Ouroumonsi (loc. 11), Ouénou (loc. 13).

**Distribution** Congo, Gabon, Uganda, Zaire, Zambia (Hansen 1999). First record for Bénin.

*Sternolophus angolensis* (Erichson)

**Material examined** Parakou (loc. 7, 8, 31, 35, 37, 39, 40, 42, 44), Ouroumonsi (loc. 11), Bétéro (loc. 25).

**Distribution** Angola, Bénin, Cameroon, Comoros, Gabon, Guinea, Ivory Coast, Madagascar, Mascarene Isl., Mozambique, Namibia, Rwanda, South Africa, Tanzania, Zaire (Hansen 1999).

*Sternolophus solieri* CASTELNAU (Fig. 51)



Figure 51 *Sternolophus solieri*.

**Material examined** Savè Novo (loc. 1), Parakou (loc. 7, 31, 39, 42), Ouroumonsi (loc. 11), Sanson (loc. 22), Bétéro (loc. 25), Kaba (loc. 26).

**Distribution** Bénin, Cape Verde Isl., Comores, Ethiopia, Guinea, Madagascar, Mali, Mozambique, Namibia, Niger, Rwanda, Saudi Arabia, Senegal, South Africa, Tanzania, Togo, Uganda, Yemen, Zambia, Algeria, Egypt, Greece, Israel (Hansen 1999).

## ELMIDAE

*Pseudomacronychus* spec.

**Material examined** Sanson (loc. 22), Toukountouna (loc. 27).

*Elmidolia* or *Helminthopsis* spec.

**Material examined** Sanson (loc. 22).

## CONCLUSIONS

The knowledge of the water beetle fauna of Bénin is limited and very scattered. The references given below are used to check if the collected species were already known from Bénin. It was beyond the scope of this article to compile a list of all species of water beetles specifically known from Bénin so far, but the number of species recorded by various authors before the compilation of this paper can be

estimated on about 100. In this report 54 species are recorded from Bénin for the first time (preceded by an asterisk \* and the note 'First record for Bénin' in the systematic list above), while ten species were already listed by other authors, but exclusively referring to the material mentioned in this report.

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