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Faunistical and morphological notes on *Limnogonus* subgenus *Limnogonoides* POISSON 1965 (Heteroptera: Gerridae)

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A b s t r a c t: New records of all species of *Limnogonus* subgenus *Limnogonoides* POISSON 1965 are presented. Notes on the variability, wing dimorphism, and diagnostic characters of some species are made.

K e y w o r d s : Gerridae, *Limnogonus*, *Limnogonoides*, new records, diagnostic characters, wing dimorphism, Africa, Thailand.

Introduction

Limnogonus STAL 1868 is a tropicopolitan genus, the species of which inhabit stagnant waters (lakes, ponds, pools, paddy fields, etc.) or the lentic areas of running waters. Because of their ability to fly and, subsequently, to populate periodical water habitats, many species are widely distributed. The paleotropical species of this genus were revised by ANDERSEN (1975). Within the subgenus *Limnogonoides* POISSON, eight species are known, six from Africa, one from Madagascar, and one from Sri Lanka (ANDERSEN 1975). After studying material from the Natural History Museum, London (BMNH), the National Natural History Museum, Leiden (RMNH), and the Naturhistorisches Museum, Wien (NMW), further records are presented as well as notes on the morphology of some species, with particular comments on wing dimorphism.

New records are marked with an asterisk (*).

Acknowledgements

We are indebted to Mrs. J. Margerison-Knight (BMNH) and Dr. J. van Tol (RMNH) for the loan of material for this study and for the gift of specimens to the collection of the NMW. We also thank Mrs. J. Margerison-Knight for her linguistic review of the manuscript.

Limnogonus (Limnogonoides) pectoralis (MAYR 1865)

Material examined:

Sri Lanka: lectotype (♀) "Novara Exp./ Ceylon." (NMW), 1 paralectotype (♀, present designation) "Novara Exp./ Ceylon." (NMW).

India: 1 ♂ "Hügel./ Ind. or." (NMW).

Thailand: 1 ♂ "Thailand, Phuket/ Pateng Beach/ 5-9.III.1986, op licht/ T. & M. Simon Thomas" (RMNH).

Types: One female of the type series was examined by ANDERSEN (1975) and regarded as holotype. The original description (MAYR 1865) shows clearly that there was more than one type specimen ("Long. 7-7,3 mm"). The female redescribed as holotype by ANDERSEN (1975) is therefore a lectotype, the second female deposited in the NMW is a paralectotype by present designation.

Distribution: Sri Lanka, India, Thailand* (ANDERSEN 1975, 1995).

This species was previously known only from Sri Lanka and was regarded to be endemic to this island. ANDERSEN (1995) records it for South India. The single female from Thailand was compared with the lectotype and agrees in all important characters.

Wing dimorphism: The four females examined are all winged. According to the specimens listed by ANDERSEN (1975), the rate of winged specimens is 30 % (n = 33).

Limnogonus (Limnogonoides) hypoleucus (GERSTAECKER 1873)

Material examined:

Senegal: 1 ♀, 2 ♂♂ "W. Afrika, Velingara, / Casamange, temp. pool./ A.H.5. 15.viii.1948./ A.P. Buxton." (BMNH).

Ghana: 7 ♀ ♀, 2 ♂♂ "Gold Coast./ Kunkwa, / 1-9.II.1917/ J.J. Simpson./ 1917-51" (BMNH), 3 ♀ ♀, 3 ♂♂ "Gold Coast./ Depoi, / 24.I.1917./ J.J. Simpson./ 1917-51" (BMNH).

Togo: 3 ♀ ♀, 1 ♂ "Togo./ Kwadjifo, / 18.II.1917./ J.J. Simpson./ 1917-53" (BMNH).

Nigeria: 2 ♀ ♀ "SAMARU. Z./ N. Nigeria/ 26-VIII-1954/ M. G. E./ Swim. Pool." (BMNH, NMW), 1 ♀, 1 ♂ "SAMARU. Z./ N. Nigeria/ 16-X-1954/ M. G. E./ at light." (BMNH), 1 ♂ "SAMARU. Z./ N. Nigeria/ 20-X-1955/ Swimming/ Pool." (BMNH), 1 ♂ "SAMARU. Z./ Nigeria/ 17-VIII-1954/ M. G. E./ puddle bank" (BMNH), 1 ♂ "SAMARU. Z./ N. Nigeria/ 18-VIII-1954/ M. G. E./ Puddle." (BMNH), 1 ♀ "Jos/ 4.I.56" "Exped. Mus. G. Frey/ Nigeria Kamerun/ Bechyn: 1955-56" (BMNH), 2 ♂♂ "U. C. Ibadan/ 27.10.1956/ Coll. G. H. Caswell" (BMNH), 1 ♂ "NIGERIA: River/ between Jos/ & Banohi, / 9.iv.1963." (BMNH).

Sudan: 4 ♀ ♀ "A.E. SUDAN: / Equatorial Prov./ Li Rangu, / 15 mls. from Yambio./ Feb.-March 1948." (BMNH).

Kenya: 2 ♀ ♀, 1 ♂ "KENYA: River Athi, / Bushwackers'Camp/ 29.III.1964./ E.S. Brown. 779./ B.M. 1966-102." (BMNH).

Uganda: 4 ♀ ♀, 3 ♂♂ "UGANDA: / Ruwenzori Range./ Semliki Forest./ 2, 850ft. 22.viii.-3.ix.1952./ D.S. Fletcher." (BMNH, NMW), 1 ♀ "UGANDA: / Serere-Kumi./ 22.ix.1962./ E.S. Brown. 190./ B. M. 1966-102." (BMNH).

Tanzania: 1 ♀ "Reimer, 1897/ Mikindani/ D. O. Afrika." (NMW), 19 ♀ ♀, 5 ♂♂ "TANGANYIKA: / Lake Rukwa/ 2.ix.1962./ E.S. Brown. 89./ B. M. 1966-102" (BMNH, NMW), 1 ♂ "TANGANYIKA: / N. of Tabora, / 4000'. 22.xi.1963./ E.S. Brown. 633./ B.M. 1966-102." (BMNH), 2 ♀ ♀, 3 ♂♂ "TANGANYIKA: / Maji Moto. 3, 799 ft./ 33°40'E. 8°38'S. 9.viii.1959." (BMNH), 15 ♀ ♀, 6 ♂♂ "TANGANYIKA: / 15m. N. E. of Chimala/ 31.x.1963./ E.S. Brown. 479./ B. M. 1966-102." (BMNH, NMW), 4 ♀ ♀ "TANGANYIKA: / 16mNWof Dar-es-Salaam./ 19.xii.1963./ E.S. Brown 719./ B.M. 1966-102" (BMNH, NMW).

Burundi: 1 ♀ "Usumbura/ Albert-Edward-See/ 1910. Grauer." (NMW).

Zaire: 1♀ "Lufira R./ Katanga./ 19-9-07./ 3.500 ft." "Neave Coll./ 1907-230." (BMNH), 1♂ "BELGIAN CONGO: / Mt. Hoyo. 30°00'E. 1°10'N./ 3, 000 ft. 1.6ix.1959." "Cambridge E. African/ Exped./ B. M. 1960-50." (BMNH).

Mozambique: 1♀, 1♂ "MOZAMBIQUE: / Machava, / Sm. N. Lourenco/ Marques./ 28.xi.1955./ I.R. James &/ L.F. Brown./ B. M. 1955-471." (BMNH).

Distribution: Senegal*, Gambia, Liberia, Côte d'Ivoire, Burkina Faso [Haute Volta], Ghana, Togo, Benin [Dahomey], Niger, Nigeria, Cameroon, Chad, Central African Republic, Sudan, ? Ethiopia (HYNES 1955: 46), ? Somalia (type locality of *tristriatus* CARLINI, 1895: 121), Kenya, Uganda, Tanzania, Burundi*, Zaire, Mozambique*, (ANDERSEN 1975, 1995, LINNAVOURI 1971, 1980, 1981).

Notes on morphology: The sublateral stripes of the head always reach the antennal sockets without interruption as described by ANDERSEN (1975: fig. 229). In some specimens which we have studied the black spot on the ventral side of the head behind the base of the rostrum is reduced or even missing. The silverish band on the mesopleuron (ANDERSEN 1975: figs. 227, 228), caused by pale hairs on the dark surface, has high diagnostic value. In some specimens a pale stripe occurs on the surface, but it is rather narrow, not extending over the whole length of the mesopleuron (Fig. 1). According to our observations, the prominent spine of the connexivum VII (ANDERSEN 1975: figs. 245, 246) is of great importance for determination mainly in females (compare Figs. 7 and 9 with Figs. 8 and 10), but the differences are less obvious in males (compare Figs. 3 and 5 with Figs. 4 and 6).

Wing dimorphism: 91 % of the examined specimens are winged ($n = 107$). Including the specimens listed by ANDERSEN (1975), the rate of winged specimens becomes 97 % ($n = 572$).

Limnogonus (Limnogonoides) poissoni ANDERSEN 1975

Material examined:

Gambia: 1♂ "Gambia, Basse, / stream, A. H. 4./ 14.VIII.1948/ A.P. Buxton." (BMNH), 3♀ ♀, 4♂ ♂ "Gambia, Basse, / stream, A. H. 7./ 16.viii.48. A.P. Buxton." (BMNH, NMW), 1♂ "Gambia, Basse, / pools in/ grassy bush/ 16.VIII.1948/ A.P. Buxton." (BMNH), 1♀ "Gambia, Kontaur, / paddy field, A. H. 11./ 20.VIII.48. A.P. Buxton." (BMNH, NMW).

Malí: 1♀, 1♂ "Ansongo/ am Niger/ A. Weidholz" (NMW).

Ghana: 4♀ ♀ "Gold Coast./ Kunkwa, / 1-9.II.1917/ J.J. Simpson./ 1917-51" (BMNH, NMW), 3♀ ♀ "Gold Coast./ Depoi, / 24.I.1917/ J.J. Simpson./ 1917-51" (BMNH), 2♀ ♀ "Gold Coast./ Kunkwa, / 11.II.1917/ J.J. Simpson./ 1917-53" (BMNH).

Togo: 1♀ "Togo./ Kwadjifo, / 18.II.1917/ J.J. Simpson./ 1917-53" (BMNH).

Nigeria: 1♀, 1♂ "Bida N./ Nigeria/ 13.III.1955/ M. G. E. / Stream" (BMNH), 1♀, 1♂ "Ibadan/ Nigeria 2.6.29./ Coll. FDGolding" (BMNH).

Chad: 1♀, 1♂ "Tschadsee, AEF., / Insel Iba, lg. Franz" (NMW), 1♂ "Tschadseeuf er b./ Bol, A. E. F., lg. Franz" (NMW).

Sudan: 62♀ ♀, 59♂ ♂ "Franz. Sudan/ Debo-See/ II.1927, / Weidholz" (NMW), 3♀ ♀, 1♂ "Franz. Sudan/ 1927/ leg. Weidholz" (NMW), 3♀ ♀, 1♂ "Franz. Sudan/ 1927, Weidholz" (NMW), 1♀, 1♂ "A.E. SUDAN: / Equatorial Prov./ Li Rangu/ 15 mls. from Yambio./ Feb.-March 1948." (BMNH).

Kenya: 2♀ ♀, 8♂ ♂, 1 larva "MUSEUM LEIDEN/ KENYA: ISIOLO DISTR: / BUFFALO SPRINGS/ GAME RES: NEIL'S/ CROSSING CA 1100M/17-XII-1974/ I. KRIKKEN" (RMNH), 2♀ ♀, 1♂ "Brit. E. Af./ Mtito Andei./ 2, 500 ft./ Mch. 26-28, 1911./ S.A. Neave." (BMNH).

Uganda: 1♀ "E. Africa: / Victoria Nile./ nr Masindi fort./ 29.V.1928./ E.B. Worthington." (BMNH).

Tanzania: 1♀ "TANGANYIKA: / Ruwaka Game Reserve. 3, 400 ft./ 34°40'E. 7°50'S. 20.21.viii.1959." "Cambridge E. African/ Exped./ B. M. 1960-50." (BMNH), 3♂ ♂ "TANGANYIKA: / nr. Iringa, 5000'/ Ruaha River./ 4.ix.1962./ E.S. Brown 123/ B. M. 1966-102" (BMNH, NMW). 1♀, 3♂ ♂ "Afrika 1922/ leg. Weidholz" (NMW). 1♀, 1♂ ohne Fundort (NMW).

Distribution: Gambia, Côte d'Ivoire, Mali*, Burkina Faso [Upper Volta], Ghana, Togo, Benin [Dahomey], Niger, Nigeria, Cameroon, Chad*, Central African Republic, Sudan, Kenya, Uganda, Tanzania*, Zaire, South Africa (ANDERSEN 1975, 1995, LINNAVOURI 1980, 1981).

Notes on morphology: In some specimens the sublateral stripes of the head are not interrupted in front of the antennal sockets as described by ANDERSEN (1975: figs. 261, 262). In this case the stripes often show a narrowing in this part (Fig. 2). The black spot on the ventral side of the head, which is present in most specimens of *L. hypoleucus*, is always missing. The broad pale band on the mesopleuron (ANDERSEN 1975: figs. 235, 236), caused by pale hairs and pale surface, extends over the whole length. For the separation of *L. hypoleucus* and *L. poissoni* based on the shape of the prominent spine of the connexivum VII (Figs. 3-10) see above.

Wing dimorphism: The rate of winged specimens is 20 % (n = 186), whereas the examined material listed by ANDERSEN (1975) show a rate of winged specimens of only 5 % (n = 122). Summarizing both data, the rate of winged *Limnogonus poissoni* is 14 % (n = 308).

Limnogonus (Limnogonoides) nigrescens POISSON 1941

Material examined:

Sudan: 1♀ "SUDAN: Equatoria, / 30 mls. W. of Terekka, / 13.i.1954." (BMNH).

Zambia: 2♀ ♀ "N. RHODESIA: / Namushakende./ 15 mls S. of Mongu/ in Zambezi valley./ May & June 1955./ A.E. King./ B. M. 1955-683." (BMNH, NMW).

Zimbabwe: 1♀ "S. Rhodesia," "S. Africa./ G.E. Hutchinson/ Coll. B. M. 1928-395." (BMNH).

Botswana: 1♂ "Bechuanaland." "S. Africa./ G.E. Hutchinson/ Coll. B. M. 1928-395." (BMNH).

Namibia: 1♀ "Caprivi Strip." "S. Africa./ G.E. Hutchinson/ Coll. B. M. 1928-395." (BMNH).

Distribution: Sudan, Uganda, Zaire, Angola, Zambia, Zimbabwe, Botswana, Namibia*, Madagascar (ANDERSEN 1975, LINNAVOURI 1971, 1980).

Wing dimorphism: Five of six specimens are winged. Including the specimens listed by ANDERSEN (1975), the rate of winged specimens is 95 % (n = 101).

Limnogonus (Limnogonoides) capensis (CHINA 1925)

Material examined:

Ethiopia: 2♂ ♂ "ETHIOPIA: / Gidabo R./ 6°66'N. 38°23'E./ 4.II.1944/ N. Hynes Coll." "Brit. Mus./ 1955-67." (BMNH).

Kenya: 2♀ ♀, 2♂ ♂ "KENYA: / Soy, nr. Eldoret./ 18.ix.1962./ E.S. Brown 170./ B. M. 1966-102." (BMNH), 3♀ ♀, 2♂ ♂ "KENYA: / Soy-Kitale./ 23.ix.1962./ E.S. Brown 200./ B. M. 1966-102" (BMNH), 2♀ ♀ "KENYA: 31m./ W. of Eldoret./ 5500'.19.vi.1964./ E.S. Brown.

799./ B. M. 1966-102." (BMNH), 6♀♀, 10♂♂, 1 larva "KENYA (S): Kimane/ Kimane rv., 25km NW/ Loitoktok, 29.I.1994, leg. H. Zettel (22)" (NMW, Coll Zettel), 2♂♂ "KENYA: Umg. Massai Mare/ 2 km NE Olemelope/ Gate. 22.-23.I.1994/ leg. H. Zettel (10)" (NMW, Coll. Zettel), 1♀, 1♂ "KENYA: Prov. Narok/ Ewaso Niro, Ewaso/ Niro river, 22.I.1994, leg. Zettel (8)" (Coll. Zettel).

U g a n d a : 2♀♀ "UGANDA: / Bugungu/ 24.v.1954" "N.E. Hickin/ B. M. 1954-399" (BMNH), 1♀, 1♂ "Uganda/ Kampala/ 26 iii 1930/G.H.E. Hopkins" (BMNH), 1♀ "Uganda/ Kampala/ 15 IV 1930/G.H.E. Hopkins" (BMNH), 1♀, 3♂♂ "UGANDA: / Ruwenzori Range/ Semliki Forest/ 2, 850ft. 22.viii.-3.ix.1952/ D.S. Fletcher." (BMNH, NMW).

A n g o l a : 1♀ "76. 55/ Angola" (BMNH).

Z a m b i a : 6♀♀, 2♂♂ "N. RHODESIA: / 4 mls E of Lusaka/ May & June 1955./ A.E. King/ B.M. 1955-683" (BMNH), 6♀♀, 1♂ "N. RHODESIA: / Abercorn. 5300'/ 16.xi.1963./ E.S. Brown. 601./ B. M. 1966-102" (BMNH, NMW), 1♂ "N. RHODESIA: / Abercorn. 5300'/ 15.xi.1963./ E.S. Brown. 585./ B. M. 1966-102" (BMNH), 1♂ "N. RHODESIA: / Abercorn. Lake Chila, / 5300'. 16.xi.1963./ E.S. Brown 601./ B. M. 1966-102" (BMNH).

M a l a w i : 1♀ "Nyasaland/ Mlanje/ 10.5.13/ S.A. Neave/ 1913-490." (BMNH).

S o u t h A f r i c a : 3♀♀, 1♂ "Cape Province." "S. Africa/ G.E. Hutchinson/ Coll. B. M. 1928-395." (BMNH), 1♀ "Howick/ Natal/ S. Afrika" (BMNH), 1♂ "Howick/ Natal" (BMNH), 1♂ "S. Africa/ G.E. Hutchinson/ Coll. B. M. 1928-395." "Transvaal." (BMNH), 2♀♀, 1♂ "P. Elisabeth/ 21.II.98" (BMNH), 1♀ "P. Elisabeth/ 21.II.98/ A" (BMNH), 1♂ "P. Elisabeth/ 21.II.98/ B" (BMNH). 3♂♂ "MISS M. DALY &/ MISS M. SOLE/ GRAHAMSTOWN/ IV 03" (BMNH), 1♀ "MISS M. DALY &/ MISS M. SOLE/ VII. 02/ GRAHAMSTOWN." (BMNH, NMW), 1♀ ?: "S. Y./ Mar. 02/ m. Daly/ m. Sole// ALBANY/ MUSEUM/ GRAHAMS/ TOWN." (BMNH). 1♀ "Howick" (BMNH).

D i s t r i b u t i o n : Cameroon, Ethiopia, Kenya, Uganda, Rwanda, Burundi, Zaire, Angola, Zambia, Malawi*, Zimbabwe [S. Rhodesia], South Africa (ANDERSEN 1975, 1995, LINNAVOURI 1971).

W i n g d i m o r p h i s m : 20 % of the examined specimens are winged (n = 79), whereas the rate according to ANDERSEN (1975) is 47 % (n = 96). Summarizing both data, 35 % are winged (n = 175).

Limnogonus (Limnogonoides) guttatus POISSON 1948

M a t e r i a l e x a m i n e d :

M a d a g a s c a r : 1♀, 1♂ "FM 220/11.9.1958/ Sumpfquelle/ 20 km N von/ Fort Dauphin" (NMW).

D i s t r i b u t i o n : Madagascar, Comore Islands (ANDERSEN 1975).

W i n g d i m o r p h i s m : The female examined is wingless, the male is winged. The material listed by ANDERSEN (1975) consisted of 4 wingless and 2 winged specimens.

Limnogonus (Limnogonoides) intermedius POISSON 1941

M a t e r i a l e x a m i n e d :

G a m b i a : 1♀ "Gambia, Basse, / stream, A. H. 4/ 14.VIII.1948/ A.P. Buxton." (BMNH), 2♂♂ "Gambia, Basse, / stream, A. H. 7/ 16.viii.48. A.P. Buxton." (BMNH), 1♀, 2♂♂ "Gambia, Fajara, / 7 mls. W. of Bathurst, / Dakota Creek, A. H. 9/ ix.48. A.P. Buxton." (BMNH).

U g a n d a : 3♀♀ "UGANDA: / Kasanje, Entebbe/ 9.xi.1962/ E.S. Brown 292/ B. M. 1966-102." (BMNH, NMW), 1♀ "Uganda/ Kampala/ 27.IV.1932/ G.L.R. Hancock/ NA4" "Pres. by/ Imp. Inst. Ent/ B. M. 1933-585." (BMNH), 1♂ "Uganda/ Kampala/ 26.iii 1930/ G.H.E. Hopkins" "Pres. By/ Com. Inst. Ent/ B. M. 1948-536." (BMNH).

Distribution: Gambia, Guinea, Liberia, Côte d'Ivoire, Ghana, Nigeria, Cameroon, Central African Republic, Sudan, Ethiopia, Uganda, Zaire, Angola (ANDERSEN 1975, 1995, LINNAVOURI 1971, 1980, 1981).

Notes on morphology: The dark stripe in the middle of the mesopleuron (ANDERSEN 1975: figs. 239, 240) is present in all specimens examined. The elongate pale spot on the metapleuron (ANDERSEN 1975: fig. 239) never occurs in the material studied.

Wing dimorphism: Only one of the 11 specimens examined is winged. According to the specimens listed by ANDERSEN (1975), the rate of winged specimens is 25 % (n = 333). Both data summarized show a rate of 24 % (n = 344).

Limnogonus (Limnogonoides) curriei BERGROTH 1916

Material examined:

Gambia: 1♀, 1♂ "Gambia, Basse, / stream, A. H. 7./ 16.viii.48. A.P. Buxton." (BMNH, NMW), 1♀ "Gambia, Fajara, / 7 mls. W. of Bathurst, / Sandro R., A. H. 21/ 17.ix.48. A. P. Buxton." (BMNH).

Sierra Leone: 1♀ "Free Town/ Sierra Leone/ 19.IX.99./ E.E. Austen/ 99. 267." (BMNH), 1♀, 1♂ "W. AFRIKA/ SIERRA LEONE/ FREETOWN/ BRIT. MUS." (BMNH, NMW), 1♀ "Free Town/ Sierra Leone/ 12.IX.99./ E.E. Austen/ 99. 267." (BMNH).

Nigeria: 1♀ "Bida, N./ N. Nigeria/ 13-III-1955/ M. G. E./ Stream" (BMNH), 1♀ "NIGERIA: / River Enugu, / Rd 80 miles/ from Makurdi" (BMNH).

Sudan: 1♂ "SUDAN: / Equatoria, / L. Shambes, / Jan. 1954." (BMNH), 3♂ "SUDAN: / Moya Sakan, / 45 mls. from/ Amadi./ i.1954." "Mr. & Mrs./ Omer-Cooper./ B. M. 1969-138" (BMNH, NMW).

Uganda: 2♂ "Uganda/ Namanve/ 18.iii.1932/ G. L. R. Hancock" "Pres. by/ Imp. Inst. Ent./ B. M. 1933-585" (BMNH), 1♂ "Uganda/ Kampala/ 16 IV 1930/ G. H. E. Hopkins" "Pres. By Com. Inst. Ent./ B. M. 1948-536." (BMNH).

Zambia: 8♀, 4♂ "N. RHODESIA: / Abercorn, Lake Chila/ 5300'. 16.xi.1963./ E.S. Brown 601./ B. M. 1966-102" (BMNH, NMW), 1♀ "N. RHODESIA: / Namushakende/ 15 mls S. of Mongu/ in Zambezi valley/ May & June 1955/ A.E. King/ B. M. 1955-683." (BMNH).

Distribution: Gambia*, Guinea, Sierra Leone*, Liberia, Côte d'Ivoire, Burkina Faso [Upper Volta], Nigeria, Cameroon, Chad, Central African Republic, Sudan, Ethiopia, Uganda, Zaire, Angola, Zambia* (ANDERSEN 1975, 1995, LINNAVOURI 1980, 1981).

Notes on morphology: The dark stripe in the middle of the mesopleuron, which is present in all examined specimens of *L. intermedius* but also may occur in *L. curriei*, is missing in all specimens studied. On the metapleuron an elongate band can be observed (ANDERSEN 1975: fig. 243), except in one male from Sierra Leone. In four males from Zambia and Uganda the stripe is rather narrow. Six winged males from Uganda and Sudan attract attention because their colour pattern is rather brown and black than yellowish and black.

Wing dimorphism: The rate of winged specimens is 44 % (n = 39), whereas the examined material listed by ANDERSEN (1975) show a rate of 81 % (n = 62). Summarizing both data, 66 % of *L. curriei* are winged (n = 101).

Remarks on wing dimorphism

All species of *Limnogonus* are dimorphic (ANDERSEN 1975). Dealate specimens are unknown. The rate of winged specimens differs within the examined species. Whereas the rate of winged *L. hypoleucus* and *L. nigrescens* is very high (97 % and 95 % respectively), it is low in *L. poissoni* (14 %). *Limnogonus pectoralis*, *L. capensis*, and *L. curriei* show intermediate rates. For sound comments concerning *L. intermedius* and *L. guttatus* more material should be studied.

Because of the strong relationships between permanence of habitat and the frequency of apterous and macropterous individuals within many species of the Gerridae (see ANDERSEN 1993), one may assume, that *L. hypoleucus* and *L. nigrescens* mainly inhabit temporary water bodies, and *L. poissoni* permanent water habitats.

Zusammenfassung

Neue Funddaten aller *Limnogonus* Arten des Subgenus *Limnogonoides* POISSON 1965 werden präsentiert. Weiters werden Angaben zu Variabilität, Flügeldimorphismus und diagnostischen Merkmalen einiger Arten gemacht.

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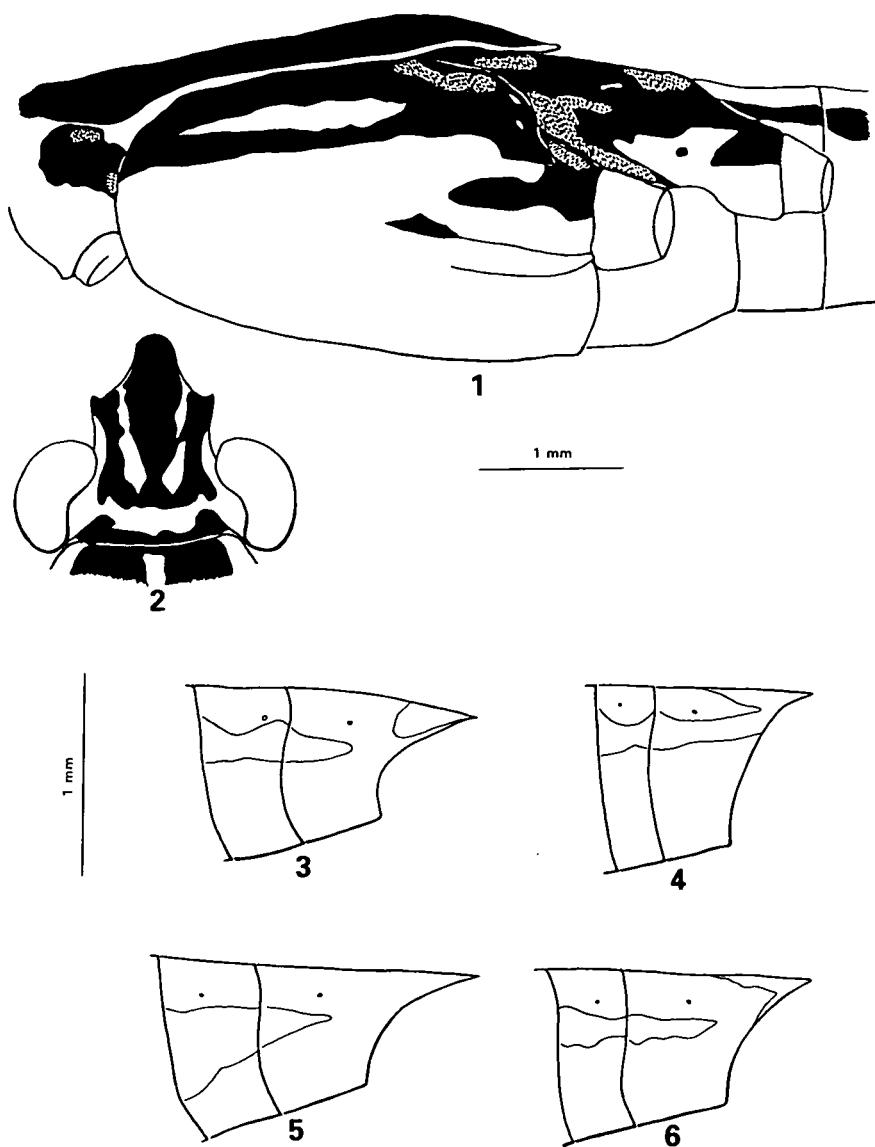
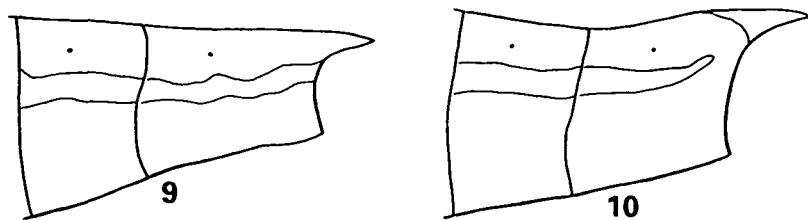
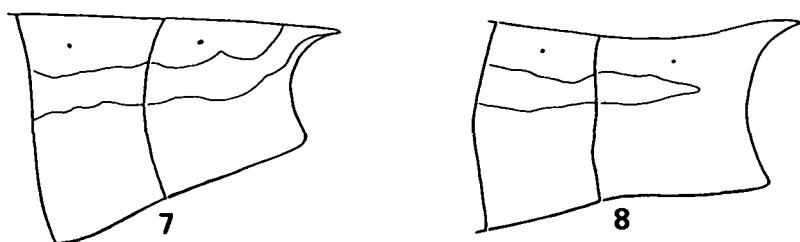


Fig. 1: *Limnogonus hypoleucus*, thorax of wingless ♀ in lateral view, aberrant colour pattern. The hatchings mark the silverish areas caused by pale hairs on dark surface.

Fig. 2: *Limnogonus poissoni*, head of wingless ♀ in dorsal view, aberrant colour pattern.

Figs. 3-6: Apex of the connexivum VII in lateral view; males of *Limnogonus hypoleucus* (3: wingless, 5: winged) and *Limnogonus poissoni* (4: wingless, 6: winged).



1 mm

Figs. 7-10: Apex of the connexivum VII in lateral view; females of *Limnogonus hypoleucus* (7: wingless, 9: winged) and *Limnogonus poissoni* (8: wingless, 10: winged).

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