New *Oswaldocruzia* (Nematoda, Trichostrongylina, Molineoidea) parasites of Amphibians from French Guyana and Ecuador

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New Oswaldocruzia *(Nematoda, Trichostrongylina, Molineoidea) parasites of amphibians from French Guyana and Ecuador.*– The *Oswaldocruzia,* parasitizing French Guyana and Ecuador, amphibians are morphologically closely related. The species can be mainly distinguished by the relative disposition of bursal rays 6, 8 and 9, the pattern of the synlophe in the anterior part of the body and by the shape of the spicular tips. *Oswaldocruzia* sp., parasite of *Leptodactylus pentadactylus* from Guyana, known by a sole female possesses strong cervical alae with a chitinous support. *Oswaldocruzia lescurei* n. sp., parasite of *Bufo typhonius* from Guyana, differs from *Oswaldocruzia bonsi* in that rays 2 and 3 are joined together as are rays 5 and 6 and in that there are no extra branches at the bifurcation level of the fork. *Oswaldocruzia albareti* n. sp., parasite of *Leptodactylus pentadactylus* and *Bufo* spp. from Guyana and *Hyla* spp. from Ecuador, differs from *O. chambrieri* Ben Slimane & Durette-Desset, 1993, by the position of the excretory pore, the absence of a common trunk between the latero-ventral rays and rays 8 and by the absence of extra branches on the spicular shoe. *Oswaldocruzia chabaudi* n. sp., parasitizing some species of *Hyla* from Ecuador, differs from the closely related species *O. albareti* by the position of the excretory pore, by the length of rays 4 and 8 and by the division of the spicular blade.

Key words: *Oswaldocruzia* n. sp., Trichostrongylina, Amphibians, Guyana, Ecuador.

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Introduction

The *Oswaldocruzia* species (Trichostrongylina, Molineoidea) from neotropical fauna make up a homogeneous group since, unlike the holarctic species, they possess a common characteristic such as the absence of crests opposite the lateral hypodermic cords.

The study of a new collection originating from French Guyana and Ecuador reveals that the speciations are very numerous and mainly concern the variations of the synlophe, those of the spicular tips and the relative arrangement of the caudal bursa rays 6, 8 and 9. In this work, three new species from French Guyana and Ecuador are described, adding to the 17 species previously known in South America (Lent & Freitas, 1935; Travassos, 1935; Freitas & Lent, 1938; Ben Slimane & Durette-Desset, 1993, 1995, 1996; Ben Slimane et al., 1995, Rudolphi, 1819).

Material and Methods

The Nematodes were collected in the small intestine of two *Leptodactylus pentadactylus*, two *Bufo marinus*, three *Bufo typhonius* from French Guyana and nine *Hyla* species from Ecuador.

The study of the synlophe is based on the method of Durette-Desset (1985); The nomenclature of the synlophe in the oesophageal region follows Ben Slimane et al. (1993). More particularly, the cervical alae are defined as one or more latero-ventral ridges, more developed than the other adjacent ones. The nomenclature of the caudal bursa follows Durette-Desset & Chabaud (1981), concerning the relative arrangement of rays 6, 8 and 9 that of Durette-Desset et al. (1992). The spicules were studied after dissection and the nomenclature is that of Ben Slimane et al. (1993).

The material was stored in 70% ethanol and deposited in the Helminthological Collections of the Muséum National d'Histoire Naturelle de Paris (M.N.H.N.) and in those of the Muséum d'Histoire Naturelle de Genève (M.H.N.G.)

Results

Common characteristics of the species

The species are closely related to each other and to the other species previously described in the same region. Some characters do not provide specific differences and can be defined similarly for all the species:

Head
Cephalic vesicle present without anterior swelling. *En face* view: buccal aperture triangular, with six externo-labial papillae, four cephalic papillae and two amphids. Small dorsal oesophageal tooth present (figs. 2B, 3B).

Anterior extremity
Triangular-shaped deirids, posterior to excretory pore. Well developed excretory glands. Musculo-glandular oesophagus separation acutely visible at nerve ring level (figs. 1A, 2A, 3A, 4A).

Synlophe
Cuticular ridges (except cervical alae) orientated perpendicularly to body and regularly spaced. Cervical alae orientated towards the ventral side. Absence of ridges opposite lateral hypodermic cords.

Male
Two-three caudal bursa pattern which tends towards 2-1-2, i.e extremities of rays 4 directly towards anterior of body, nearer those of rays 3 than rays 5. Rays 2 and 3 joined together as are rays 5 and 6. Rays 9 arising distally on root of dorsal ray before division of the latter into two branches of which internal ones are longest. Gubernaculum absent. Genital cone bearing a large papilla «zero» on anterior lip and two minute papillae 7 on posterior lip. Spicules divided proxi-

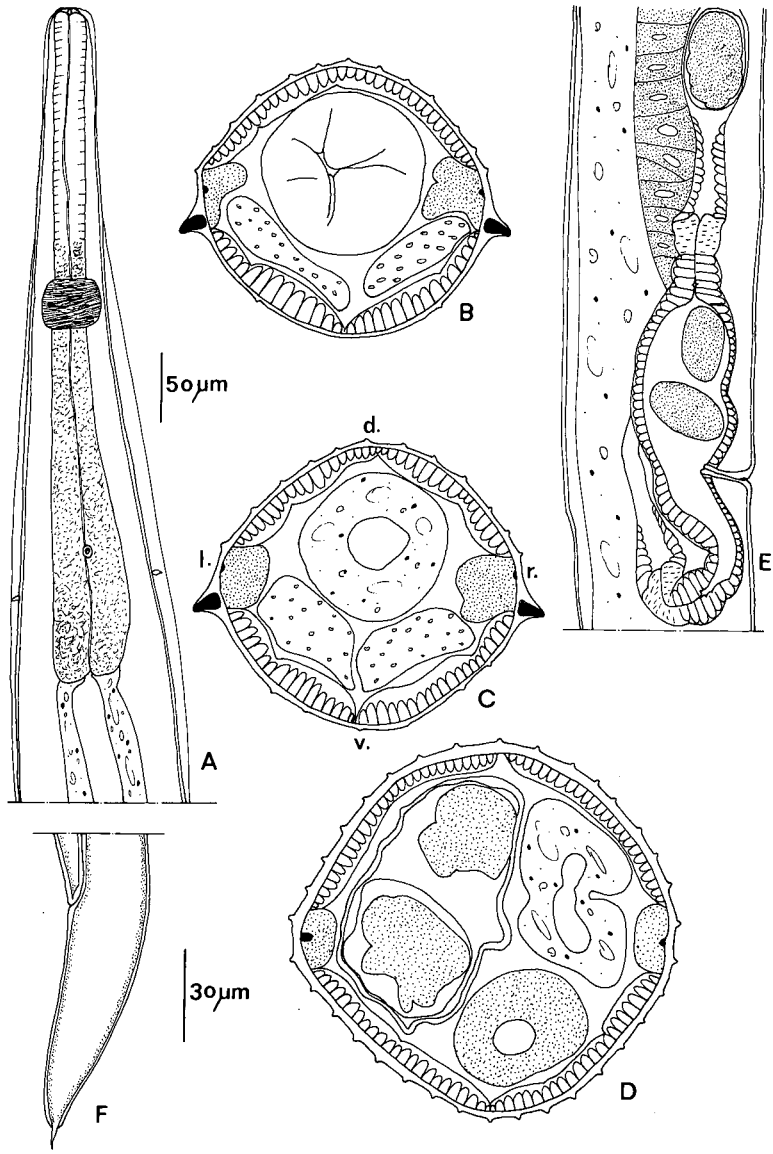

Fig. 1. *Oswaldocruzia* sp.: A. Female, anterior extremity, ventral view. B-D. Synlophe in transversal sections of body: B. At excretory pore level; C. At oesophago-intestinal junction; D. At mid-body. E. Ovejector, right lateral view. F. Tail, left lateral view. (All the sections are orientated as C.) (Scales: A, E, F = 50 µm; B, C, D = 30 µm.) (Abbreviations: d. Dorsal side; v. Ventral side; r. Right; l. Left.)

Oswaldocruzia *sp.: A. Hembra, extremidad anterior, vista ventral. B-D.* Sinlofo *en secciones transversales del cuerpo: B. A nivel del poro excretor; C. En la juntura esofágica-intestinal; D. A medio cuerpo. E. Ovejector, visión lateral derecha. F. Cola, visión lateral izquierda. (Todas las secciones están orientadas como C.) (Escalas: A, E, F = 50 µm; B, C, D = 30 µm.) (Abreviaturas: d. Cara dorsal; v. Cara ventral; r. Derecha; l. Izquierda.)*

mally into three main branches: externo-lateral branch or blade, interno-dorsal branch or shoe, interno-ventral branch or fork. Fork divided within distal third of spicule.

Female
Didelphic with very short infundibula.

Oswaldocruzia sp.

Material: one female, M.N.H.N. 91 MC.
Host: *Leptodactylus pentadactylus* (Leptodactylidae).
Site: small intestine.
Locality: Comté, French Guyana, 15 IX 1976.

Synlophe
Cuticle bears uninterrupted longitudinal ridges. Fifty eight per cent of ridges appear in oesophageal region within 70% of dorsal ridges and 35% of ventral ridges. Ventral ridges appear posteriorly to excretory pore level. Ridges disappear at phasmids level. Cervical alae 950 µm long and 11 µm at maximum width appear at 65 µm posterior to cephalic vesicle; each is composed of one triangular crest held up by a chitinous support, having a latero-ventral position and being orientated towards ventral side. Seventeen ridges (13 dorsal, Two ventral and alae) at excretory pore level (fig. 1B), 22 ridges (12 dorsal, six ventral and alae) at oesophago-intestinal junction (fig. 1C) and 34 ridges (17 dorsal, 17 ventral) at mid-body (fig. 1D).

Body 10,000 µm long and 140 µm wide at mid-body. Cephalic vesicle 85 µm long and 35 µm wide. Nerve ring, excretory pore and deirids 210µm, 430 µm and 450 µm from apex, respectively. Oesophagus 510 µm long (fig. 1A).

Vulva 3,100 µm from caudal extremity. *Vagina vera:* 40 µm long dividing vestibule 240 µm long into two parts, the posterior being slightly shorter. Sphincters both 25 µm long and infundibula both 25 µm long (fig. 1E). Anterior uterine branch 2,600 µm long with 78 eggs; posterior uterine branch 2,200 µm long with 75 eggs. All eggs at morula stage 75 µm long and 45 µm wide. Tail 185 µm long and 60 µm wide at anus level with caudal spine 16 µm long (fig. 1F).

Discussion
This female presents well developed cervical alae as does *Oswaldocruzia brasiliensis* Lent et Freitas, 1935, parasite of *Drymobius bifossatus* and *Oswaldocruzia lopesi* Freitas et Lent, 1938, parasite of *Leptodactylus ocelatus*. However the synlophes of the latter species have been not described in transversal sections of the body and the authors do not specify if the cervical alae have a chitinous support or not. Since the male of the studied material is unknown, the female specimen is named *Oswaldocruzia* sp.

Oswaldocruzia lescurei n. sp.

Type-material: holotype male, allotype female, M.N.H.N. 697 HAa; four males, six females paratypes, M.N.H.N., 697 HAb.
Host: *Bufo typhonius* (Bufonidae).
Site: small intestine.
Locality: Paramana, French Guyana, 14 VII 1971.

Voucher specimens
One male, three females, M.N.H.N. 695 HA from the small intestine of *B. typhonius,* Crique Grégoire, French Guyana, 13 VII 1991

Synlophe
(Studied in two males and three females paratypes and one female from voucher material. Number in brackets corresponds to voucher specimen.)

In both sexes, cuticle bears uninterrupted cuticular ridges. In the male, 67%, 70% of ridges appear in oesophageal region, within 64%, 71% of dorsal ridges and 61%, 68% of ventral ridges. In the female, 69%, 71%, 77% (75%) of ridges appear in oesophageal region, within 70%,

76%, 77% (74%) of dorsal ridges and 66%, 67%, 77% (77%) of ventral ridges. Ridges disappear just anterior to caudal bursa in male and at phasmids level in female.

In male 28, 35 ridges at oesophago-intestinal junction (fig. 2D), 40, 56 at mid-body (fig. 2E); in female 35, 41, 47 (40) at oesophago-intestinal junction and 51, 58, 61, (53) at mid-body (fig. 2F). In anterior part of body, ventral ridges are more spaced than dorsal ridges. Cervical alae and chitinous support absent.

Holotype male
6,000 µm long and 170 wide at mid-body. Cephalic vesicle 60 µm long and 45 µm wide. Nerve ring, excretory pore and deirids 160 µm, 230 µm and 250 µm from apex, respectively. Oesophagus 440 µm long (fig. 2A).

Caudal bursa with rays 8 arising on dorsal ray and overlapped by rays 6 only in their median part (type II) (fig. 2L). Genital cone 25 µm long and 25 µm wide at its base (fig. 2K). Spicules 210 µm long, blade divided at its distal part into six processes, fork distally divided at 21 % of whole length of spicule (fig. 2I-J).

Allotype-female
11,500 µm long and 250 µm wide at mid-body. Cephalic vesicle 80 µm long and 45 µm wide. Nerve ring, excretory pore and deirids 180 µm, 280 µm and 330 µm from apex, respectively. Oesophagus 500 µm long.

Vulva 3,300 µm from caudal extremity. *Vagina vera:* 50 µm long dividing vestibule 540 µm long into two equivalent parts. Sphincters both 35 µm long and infundibula both 25 µm long (fig. 2G). Anterior uterine branch 3,000 µm long with 100 eggs; posterior uterine branch 2 700 µm long with 85 eggs. All eggs embryonnated, 80 µm long and 50 µm wide. Tail 100 µm long and 80 µm wide at anus level with caudal spine 15 µm long (fig. 2H).

Discussion
The specimens parasite of *Bufo typhonius* belong to the neotropical *Oswldocruzia* characterized both by a cephalic vesicle without anterior part being swollen and a caudal bursa of type II. It deals with *O. mazzai* Travassos, 1935, parasite of Bufonidae and Leptodactylidae in Ecuador, Brazil and Paraguay; *O. touzeti* Ben Slimane & Durette-Desset, 1993 parasite of Eleutherodactylidae in Ecuador; *O. vaucheri* Ben Slimane & Durette-Desset, 1993 parasite of Leptodactylidae in Ecuador; *O. dlouhyi* Ben Slimane & Durette-Desset, 1995 parasite of Bufonidae in Brazil; *O. peruensis* Ben Slimane, Verhaag & Durette-Desset, 1995 parasite of Iguanidae in Peru and *O. bonsi* Ben Slimane & Durette-Desset, 1993. Only this latter species, parasite of *Bolitoglossa equatoriana* and *Ischnocnema quixensis* from Ecuador has no cervical alae as do our specimens. It is distinguished by rays 2 and 3 and rays 5 and 6 not being together in their median part, by the presence of extra processes at the bifurcation level of the fork, by a long thin female tail and by non embryonnated eggs. The specimens from *Bufo* are considered as belonging to a new species *Oswaldocruzia lescurei* n. sp. named after Pr. Y. Lescure who provided us with the material.

Oswaldocruzia albareti n. sp.

Type-material: holotype male, allotype female, M.N.H.N 474 HAa; two males, four females paratypes, M.N.H.N. 474 HAb.

Host: *Bufo marinus.*

Site: small intestine.

Locality: Cayenne, French Guyana, 7 IV 1972.

Voucher specimens
a. From the same site and the same locality as the types: in *Bufo marinus,* three males, M.N.H.N. 89 MC (one in small intestine, two in rectum), IV 1976; in small intestine of *Leptodactylus pentadactylus,* one male, two females,

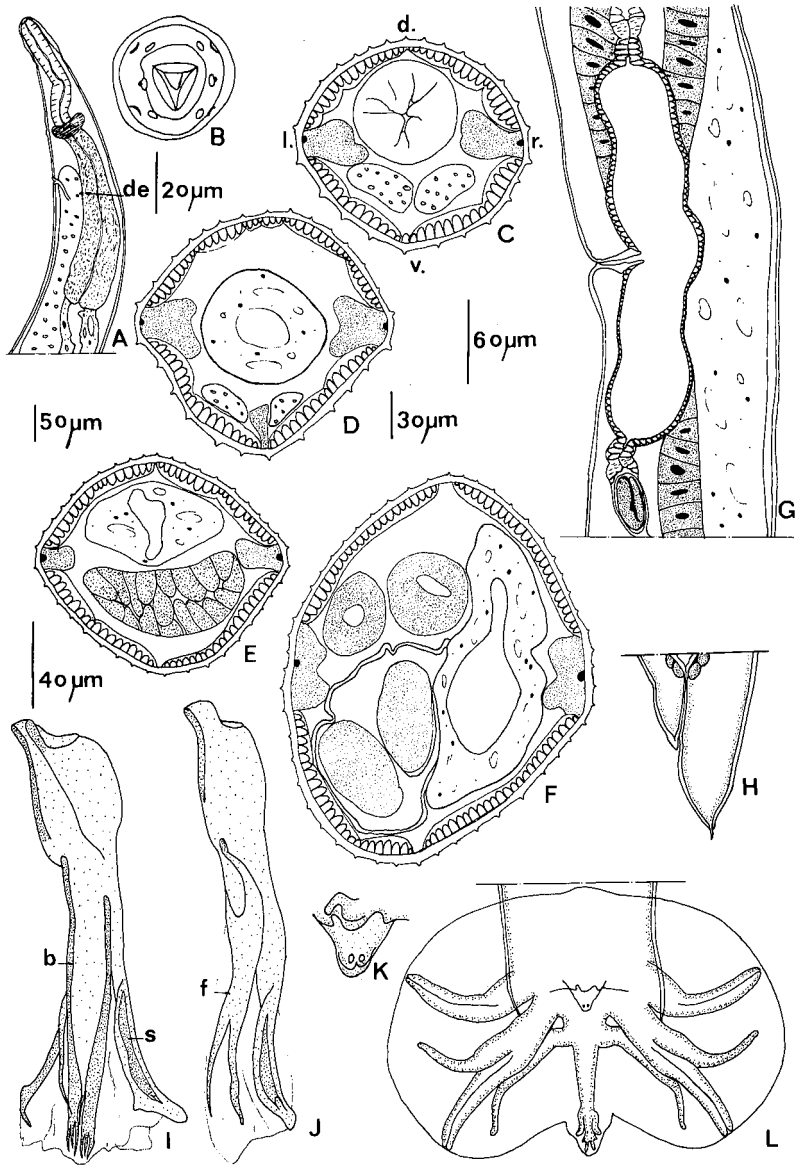

Fig. 2. *Oswaldocruzia lescurei* n. sp.: A. Male, anterior extremity, left lateral view. B. Female, head, *en face* view. C-F. Synlophe in transversal sections of body: C. Male, at excretory pore level; D. Male, at oesophago-intestinal junction; E. Male, at mid-body; F. Female, idem. G. Female, ovejector, left lateral view. H. Female, tail, idem. I-J. Male, dissected spicules: I. Left, externo-lateral view; J. Right, sub interno-lateral view. K. Male, genital cone, ventral view. L. Male, caudal bursa, ventral view. (All the sections are orientated as C.) (Scales: A, G, H = 50 µm; C, D, I, J = 40 µm; B, K = 20 µm; E, F = 30 µm; L= 60 µm.) (Abbreviations: d. Dorsal side; v. Ventral side; r. Right; l. Left; de. Deirid; b. Blade; s. Shoe; f. Fork.)

M.N.H.N. 90 MC, IV 1976; in small intestine of *Bufo typhonius,* one male, four females, M.N.H.N. 88 MC, IV 1976. b. In small intestine and from San Paulo, Ecuador: in *Hyla calcarata*, one male, MHNG-INVE 20510, 12 IX 1986, one male, MHNG-INVE 20505, 6 III 1986; in *Hyla fasciata,*one male, MHNG-INVE 20506, 17 XI 1985, three males, M.N.H.N. 185MD, 12 IX 1986; in *Hyla geographica,* two males, MHNG-INVE 20511, 25 XI 1985.

Synlophe

(Studied in one male and two females paratypes and one male, one female from *Leptodactylus pentadactylus*, two males from *Bufo marinus*, one male, one female from *Bufo typhonius,* one male from *Hyla calcarata*. The first number corresponds to the male paratype. Number in brackets correspond to voucher specimens.)

In both sexes, cuticle bears uninterrupted cuticular ridges. In male, 58% (62% -76%) of ridges appear in oesophageal region, within 67% (65%-88%) of dorsal ridges and 50% (60%-71%) of ventral ridges. In female, 53%, 64% (61%-66%) of ridges appear in oesophageal region, within 62%, 67% (63%-79%) of dorsal ridges and 44%, 62% (55%-59%) of ventral ridges. Ridges disappear just anterior to caudal bursa in male and at phasmids level in female.

In male 21, (25, 26, 27, 30) ridges at oesophago-intestinal junction (fig. 3D), 36 (34, 40, 40, 43) at mid-body (fig. 3E); in female 27, 34 (25, 46) at oesophago-intestinal junction and 51, 53, (38, 75) at mid-body (fig. 3F). Chitinous support and cervical alae absent.

Holotype male

7,750 µm long and 140 µm wide at mid-body. Cephalic vesicle 85 µm long and 40 µm wide. Nerve ring, excretory pore and deirids 170 µm, 410 µm and 430 µm from apex, respectively. Oesophagus 400 µm long.

Caudal bursa with rays 8 arising on dorsal ray and overlapped by rays 6 only in their median part (type II) (fig. 3M). Genital cone 30 µm long and 30 µm wide at its base (fig. 3L). Spicules 190 µm long, blade divided at its distal part into four processes, fork distally divided at 25 % of whole length of spicule (fig. 3I-J).

Allotype-female

114,500 µm long and 190 µm wide at mid-body. Cephalic vesicle 95 µm long and 50 µm wide. Nerve ring, excretory pore and deirids 210 µm, 450 µm and 470 µm from apex, respectively. Oesophagus 510 µm long (fig. 3A).

Vulva 4,650 µm from caudal extremity. *Vagina vera:* 45 µm long dividing vestibule 400 µm long into two equivalent parts (fig. 3G). Sphincters both 30 µm long and infundibula both 25 µm long. Anterior uterine branch 3,300 µm long with 25 eggs; posterior uterine branch 3,100 µm long with 25 eggs. All eggs at morula stage, 90 µm long and 40 µm wide. Tail 195 µm long and 95 µm wide at anus level with caudal spine 16 µm long (fig. 3H).

Oswaldocruzia lescurei: *A. Macho, extremidad anterior, vista lateral izquierda. B. Hembra, cabeza, en visión frontal. C-F. Sinlofo en secciones transversales del cuerpo: C. Macho, a nivel del poro excretor; D. Macho, en la juntura esofágica-intestinal; E. Macho, medio cuerpo; F. Hembra, idem. G. Hembra, ovejector, visión lateral izquierda. H. Hembra, cola, idem. I-J. Macho, espículas diseccionadas: Izquierda, vista externo-lateral; J. Derecha, visión sub-interno-lateral. K. Macho, cono genital, visión ventral. L. Macho, bursa caudal, visión ventral. (Todas las secciones orientadas como C.) (Escalas: ver a la izquierda.) (d. Cara dorsal; v. Cara ventral; r. Derecha; l. izquierda; de. Deirido; b; Rama externo-lateral; s. Rama interno-dorsal; f. Rama interno-ventral.)*

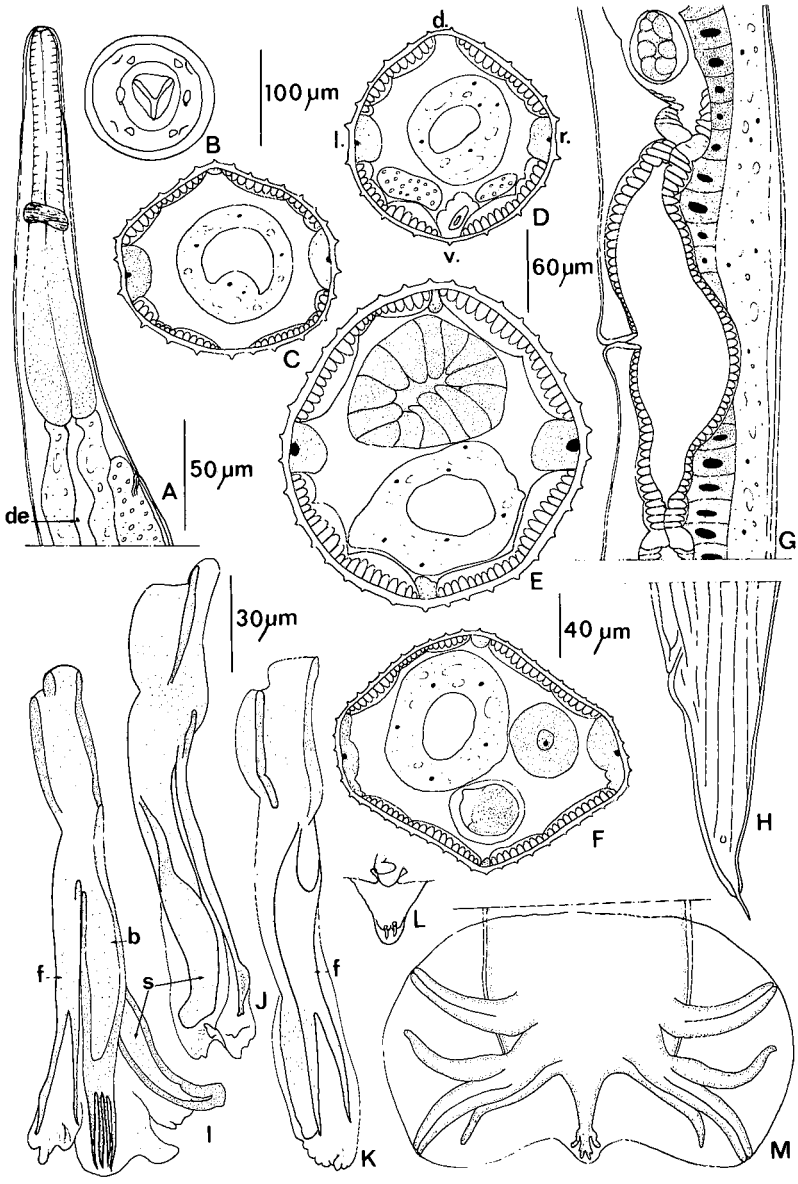

Fig. 3. *Oswaldocruzia albareti* n. sp.: A. Female, anterior extremity, right lateral view. B. Female, head, en face view. C-F. Synlophe in transversal sections of body: C. Female, at oesophago-intestinal junction; D. Male, id; E. Male, at mid-body; F. Female, id. G. Female, ovejector, left lateral view; H. Female, tail, left lateral view. I-K. Male, left dissected spicule: I. Externo-dorsal view; J. Sub interno-lateral view; K. Ventral view. L. Male, genital cone, ventral view. M. Male, caudal bursa, ventral view. (All the sections are orientated as D.). (Scales: A, G = 100 µm; B, I, J, K, L = 30 µm; C, D, E = 50 µm; F= 40 µm; H, M = 60 µm.) (For abbreviations see figure 2.)

Discussion

In the neotropical region, four species have a caudal bursa of type III and no cervical alae as the specimens described above : *O. taranchoni* Ben Slimane & Durette-Desset, 1995 parasite of Bufonidae in Brazil and *O. cassonei* Ben Slimane & Durette-Desset, 1996 parasite of Eleutherodactylidae in Ecuador but they have a spicular blade with spatulate extremity. *O. bainae* Ben Slimane & Durette-Desset, 1996, parasite of Iguanidae in Ecuador, has a poorly developed synlophe without sharp ridges. *O. chambrieri* parasite of Bufonidae in Ecuador is the closely related species due to the synlophe. Therefore, the excretory pore is situated anteriorly to the oesophago-intestinal junction; the spicular shoe is provided with extra branches and rays 8 have a common trunk with rays 4, 5 and 6. The specimens described above are considered as belonging to a new species *Oswaldocruzia albareti* n. sp. named after our colleague, Dr. J. L. Albaret who provided us with the material.

Oswaldocruzia chabaudi n. sp.

Type-material: holotype male, allotype female, MHNG-INVE 20508; seven males, four females paratypes, M.N.H.N. 182 MD.
Host: *Hyla boans* (Hylidae).
Site: small intestine.
Locality: San Paulo, Ecuador, 21 II 1985.

Voucher specimens

From the same site and the same locality as the types: in *Hyla fasciata,* one female, MHNG-INVE 20502, 18 II 1985, two males MHNG-INVE 20504, 14 III 1986; in *Hyla geographica,* one male MHNG-INVE 20509, 9 V 1985.

Synlophe

(Studied in three males and three females paratypes and three males from *Hyla fasciata*. Number in brackets correspond to voucher specimens.)

In both sexes, the cuticle bears uninterrupted cuticular ridges. In male, 72%, 80%, 87% (79%-91%) of ridges appear in the oesophageal region, within 71%, 85%, 86% (77%-94 %) of dorsal ridges and 74%, 75%, 89% (81%-87%) of ventral ridges. In female, 71%, 72%, 79% of ridges appear in oesophageal region, within 73%, 81%, 88% of dorsal ridges and 69%, 73%, 84% of ventral ridges. Ridges disappear just anterior to caudal bursa in male and at phasmids level in female.

In male 29, 32, 35 (29, 33, 34) ridges at oesophago-intestinal junction (fig. 4B), 40, 40, 40 (32, 40, 43) at mid-body (fig. 4E); in female 44, 46, 50 at oesophago-intestinal junction and 61, 63, 65 at mid-body (fig. 4D). Cervical alae and chitinous support absent.

Holotype male

6,900 µm long and 140 µm wide at mid-body. Cephalic vesicle 80 µm long and 40 µm wide. Nerve ring, excretory pore and deirids 220 µm, 410 µm and 430 µm from apex, respectively. Oesophagus 520 µm long.

Oswaldocruzia albareti *n. sp.: A. Hembra, extremidad anterior, vista lateral derecha. B. Hembra, cabeza, en visión frontal. C-F. Sinlofo en secciones transversales del cuerpo: C. Hembra, en la juntura esofágica-intestinal; D. Macho, idem; E. Macho, a medio cuerpo; F. Hembra, idem. G. Hembra, ovejector, visión lateral izquierda. H. Hembra, cola, visión lateral izquierda. I-K. Macho, espícula izquierda diseccionada: I. Visión externo-dorsal; J. Visión sub interno-lateral; K. Visión ventral. L. Macho, cono genital, visión ventral. M. Macho, bursa caudal, visión ventral. (Todas las secciones están orientadas como D.) (Escalas: ver a la izquierda.) (Para abreviaturas ver figura 2.)*

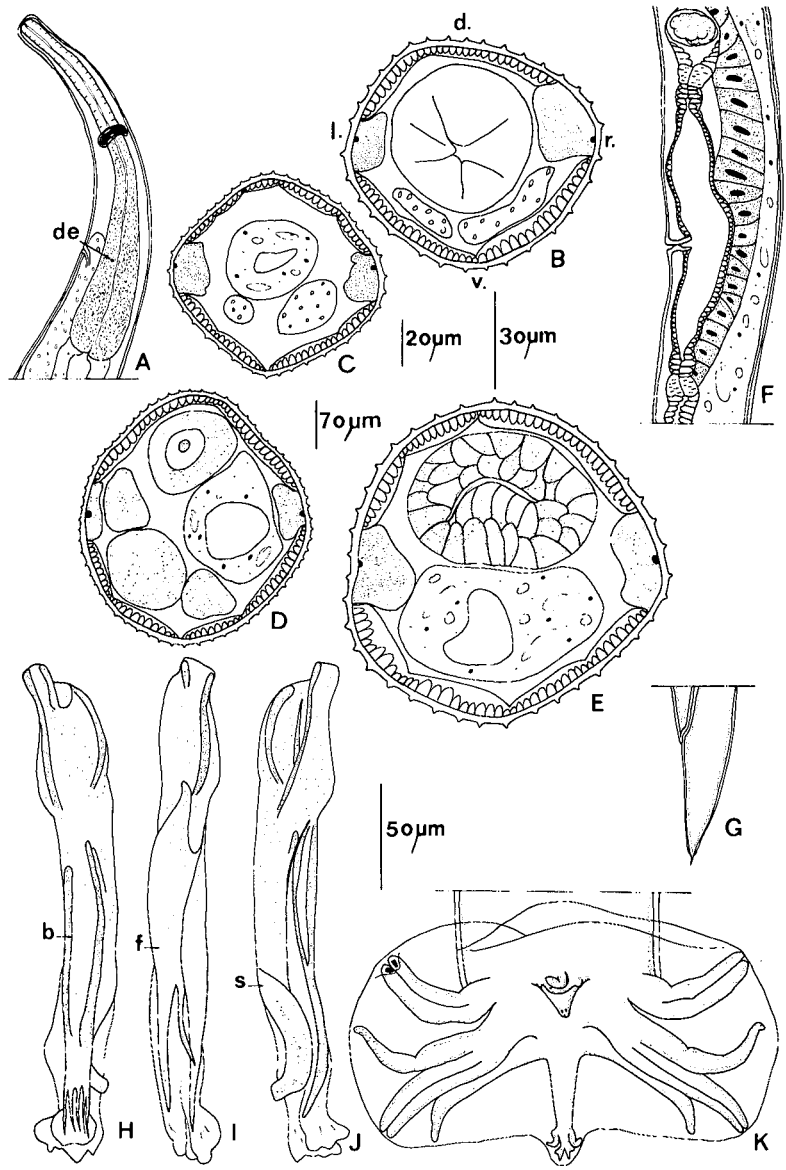

Fig. 4. *Oswaldocruzia chabaudi* n. sp.: A. Female, anterior extremity, left lateral view. B-E. Synlophe in transversal sections of body: B. Male, at oesophago-intestinal junction; C. Female, at oesophago-intestinal junction; D. Female, at mid-body; E. Male, at mid-body. F. Female, ovejector, left lateral view. G. Female, tail, left lateral view. H-J. Male, left dissected spicule: H. Externo-lateral view; I. Ventral view; J. Interno-lateral view. K. Male, caudal bursa, ventral view. (All the sections are orientated as B.) (Scales: A, F, G = 70 µm; K= 50 µm; B, E, H-J = 30 µm.) (For abbreviations see figure 2.)

Caudal bursa with rays 8 arising on dorsal ray and overlapped by rays 6 except in their distal part (type III) (fig. 4K). Rays 4 and rays 8 long, almost reaching the edge of caudal bursa. Genital cone 30 µm long and 30 µm wide at its base (fig. 3L). Spicules 175 µm long, blade divided at its distal part into fiveprocesses, fork distally divided at 20 % of whole length of spicule (fig. 4H-J).

Allotype-female
10,700 µm long and 160 µm wide at midbody. Cephalic vesicle 80 µm long and 40 µm wide. Nerve ring, excretory pore and deirids 200 µm, 390 µm and 410 µm from apex, respectively. Oesophagus 560 µm long (fig. 4A).

Vulva 3,500 µm from caudal extremity. *Vagina vera:* 50 µm long dividing vestibule 390 µm long into two equivalent parts. Sphincters both 30 µm long and infundibula both 30 µm long (fig. 4F). Anterior uterine branch 2,400 µm long with 37 eggs; posterior uterine branch 2,500 µm long with 37 eggs. All eggs at morula stage, 90 µm long and 50 µm wide. Tail 160 µm long and 80 µm wide at anus level with caudal spine 15 µm long (fig. 4G).

Discussion
The specimens described above belong to the *Oswaldocruzia* having an arrangement of rays 6, 8 and 9 of type III and no cervical alae. Amongst these species, the most closely related is *O. albareti* n. sp. with no common trunk between rays 8 and rays 4, 5, 6 and no extra-branches on the dorsal branch of the fork. However in *O. albareti*, rays 4 and 8 are short, the blade is divided into four processes and the excretory pore is situated anteriorly to the oesophago-intestinal junction. The specimens described above are considered as belonging to a new species *Oswaldocruzia chabaudi* n. sp. named after Pr. A. G. Chabaud.

Resumen

Nuevos Oswaldocruzia *(Nematoda, Trichostrongylina, Molineoidea) parasites of Amphibians from French Guyana and Ecuador*

Los *Oswaldocruzia* que parasitan a los amfibios de la Guayana Francesa y del Ecuador, están ampliamante relacionados morfológicamente.

Las especies pueden distinguirse principalmente por la disposición relativa de los radios 6, 8 y 9 de la bursa, la forma del sinlofo en la parter anterior del cuerpo y por la forma de las puntas de las espículas.

Oswaldocruzia sp., parásito de *Leptodactylus pentadactylus* de la Guayana, del que se conoce únicamente una hembra, posee alas cervicales fuertes con un soporte quitinoso. *O. lescurei* n.sp., parásito de *Bufo typhonius* de la Guayana, se diferencia de *O. bonsi* en que los radios 2 y 3 están juntos igual que los 4 y 5 y en que no hay ramificaciones adicionales en el punto de bifurcación de la

Oswaldocruzia chabaudi *n. sp.: A. Hembra, extremidad anterior, visión lateral izquierda. B-E. Sinlofo en secciones transversales: B. Macho, en la juntura esofágico-intestinal; C. Hembra, idem.; D. Hembra, a la mitad del cuerpo; E. Macho, idem. F. Hembra, ovejector, visión lateral izquierda. G. Hembra, cola, visión lateral izquierda. H-J. Macho, espícula izquierda diseccionada; H. Visión lateral exterior; I. Visión ventral; J. Visión lateral interior. K. Macho, bursa caudal, visión ventral. (Todas las secciones están orientadas como B.) (Escalas: A, F, G = 70 µm; K= 50 µm; B, E, H-J = 30 µm.) (Para abreviaturas ver figura 2.)*

rama interno-ventral. *O. albareti* n.sp., parásito de *Leptodactylus pentadactylus* y *Bufo* spp. de la Guayana e *Hyla* spp. de Ecuador, difiere de *O. chambrieri* Ben Slimane & Durette-Desset, 1993, en la posición del poro excretor, la ausencia de un tronco común entre los radios latero-ventrales y los radios 8 y por la ausencia de ramificaciones adicionales en la rama interno-dorsal espicular. *Oswaldocruzia chabaudi* n. sp., que parasita algunas especies de *Hyla* de Ecuador, difiere de *O. albareti* con la que está estrechamente relacionada, en la posición del poro excretor, en la longitud de los radios 4 y 8 y en la división de la rama externo-lateral espicular.

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