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HERPETOLOGICAL HISTORY

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Louis Amédée Lantz (1886-1953): The Life and Work of an Alsatian Pioneer of European Herpetology

I. LOUIS AMÉDÉE LANTZ, WHO WAS HE?

Louis Amédée Lantz was born at Mulhouse (Department of Haut-Rhin, Alsace, France) on March 20, 1886 and given the name Ludwig Amedeus Lantz during the annexation of Alsace to the German empire. He was the son of Albert Amédée Lantz, pharmacist at Porte-Haute in Mulhouse (deceased at Mulhouse in 1909) and his wife born Caroline (Elisa) Herrmann (deceased at Mulhouse in 1902) (Departmental archives of Haut-Rhin, Colmar – registered AL 90806, vol. 363, deed N° 903). His birth certificate, dated March 20, 1886 was written in German and bears the number 580 of civil status at Mulhouse (N° 580/1886).

In the German military system in use during Lantz's youth, young people making secondary level studies could ask to perform a military service of just a single year, on presentation of a school certificate. Louis Lantz made such a request in January 1906, by attaching a *curriculum vitae* that summarized his complete academic background.

Louis Lantz studied in a private school—Dollfus at Mulhouse—from the autumn of 1891 to the autumn of 1893 and then joined the college of Mulhouse, a high school (Fig. 1). He passed an examination for the voluntary military service of one year during the summer of 1900 and obtained his baccalaureate in January 1903 after the continuation of his schooling at the high school of Mulhouse.

Lantz conducted brief studies of zoology and botany at the University of Montpellier (1903–1904), a city where his sister Henriette (marital name Benner) lived. She unfortunately died in 1904. Louis Amédée Lantz then joined the chemistry school in Mulhouse during the autumn of 1904. He obtained his diploma as a chemical engineer with an “excellent” distinction in 1907

(Departmental archives of Haut-Rhin 8 AL 1/14358 and 8 AL 1/14341) (Fig. 2).

The current “Ecole Nationale Supérieure de Chimie” in Mulhouse (ENSCMu) was the first school of chemistry in France, founded in 1822 by industrialists whose objective was to develop the training of their employees and hence the competitiveness of their companies. As early as 1750, a powerful textile printing industry developed in Mulhouse, in present-day Alsace, modifying



PHOTO SOURCE UNKNOWN

FIG. 1. Louis Lantz in Mulhouse most likely around 1896 when about ten years old.

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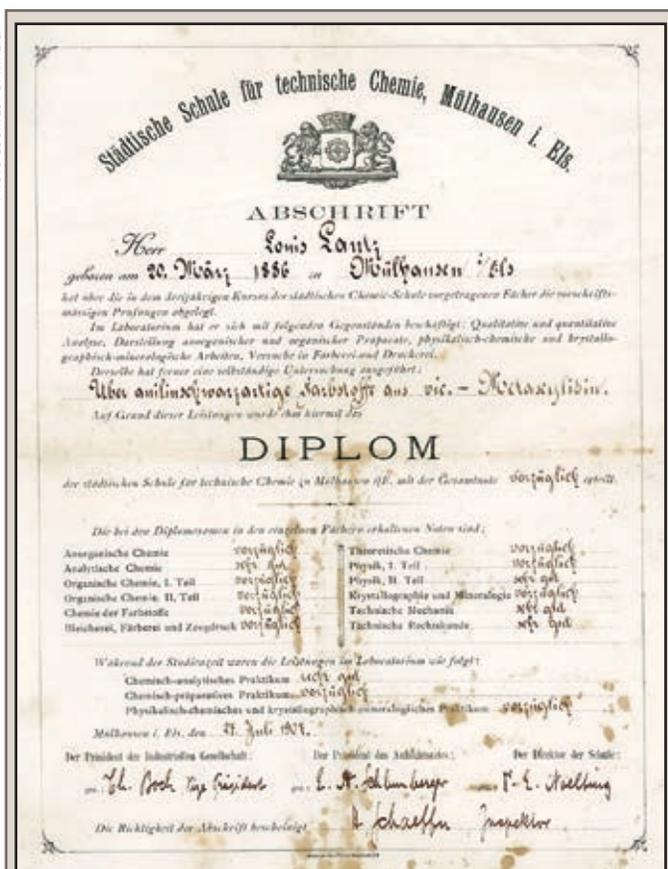


FIG. 2. The diploma of chemistry-engineer from the Chemistry School of Mulhouse awarded to Louis Lantz on July 27, 1907.

the economic and social framework of this modest village. The idea of creating a chemistry school in Mulhouse was launched, in order to train chemists specializing in the use of dyes, and found it difficult to affix the new dyes firmly to the fabrics and thus to diversify the colors. In 1870 war broke out between Prussia and France and the chemistry school had to be closed. Only the Professional School was saved as well as the chemistry section, which in 1871 became the Municipal School of Industrial Chemistry, financed by the city of Mulhouse and supported by the very dynamic Industrial Society of Mulhouse. With the increase in staff, the lack of space was beginning to be felt. A new building was then built in 1879. The new School of Chemistry was launched and in 1880 Emile Noelting was called upon to direct it. An experienced chemist, he developed courses in chemistry applied to dyes and the textile industry, a branch in which he excelled. During the 20 years when Noelting ran the school, the School was constantly developing. It welcomed a large number of foreigners, including a large contingent of Russian students, who first the textile handling industry in their country.

It is undoubtedly the presence of this important Russian community which allowed Lantz to get his first job by travelling to Moscow at the end of his studies. At the beginning of the 20th century, the "École de Chimie de Mulhouse" was a rapidly expanding institution of international reputation, equipped with modern equipment and engines. As early as 1908, the first woman was enrolled in the School, which displayed its innovativeness because mixing the sexes was not permitted before, as in the majority of the French "Grandes Écoles" [selective "higher schools" in the American sense].

PHOTO SOURCE UNKNOWN



FIG. 3. Louis Lantz in July 1907 at Mulhouse just before his graduation as chemist engineer.

Shortly after his departure from this school, Lantz obtained his first position as a chemical engineer in Moscow at the end of 1907 (Fig. 3). He then studied dyeing and printing of cotton fabrics at the manufacturing company of N. N. Konchine in Serpoukhov until 1908. The exchanges and collaborations between the Chemistry School of Mulhouse and Russia were extensive.

In 1908 Lantz was employed by the manufacturing company Zundel, founded in 1825 in Moscow, whose management was then assured by the French. He stayed there until 1918. They produced "indienneries" or impressions on cotton fabrics with workshops of dyeing and engravings. Its founder, Emile Zundel was native of Mulhouse, like Lantz. This colossal factory, the size of a village, covered an area of 22 ha and employed 3000 workers and a total population of about 4000.

On the death of Emile Zundel on January 17, 1874, in Mulhouse, Alsace, his heirs founded in Moscow the Emile Zundel Indienneries Company in collaboration with Russian partners and the participation of some of the first houses of business in Moscow: Knoop, Zenker & Co., P. Malioutin Sons, a company per share with a capital of 1.5 million rubles. Since its creation, the company mainly carries out printing on calico (unbleached fabrics). It was undoubtedly the largest printing factory in Russia and remained so until 1917.

In 1914, the company known for its dye chemistry laboratory and its engineers (among whom was Louis Lantz)—inventors of the "Rongalite," a printing process that controls coloring (indigo in particular) without damaging the fabric and adopted by all Indians—owned 18 wholesale depots in Moscow, Warsaw,

Kharkov, Odessa, Helsingfors (Helsinki), Riga, Samarkand, Tashkent, Bukhara, in addition to the Omsk depot in 1904, Kharbine in 1908, and sales in the main cities of Russia and many other depots in Europe.

The Emile Zundel Company received a Grand Prize for the “remarkable exhibition of printed cotton, velvet, and other cotton fabrics, very artistic design, admirable coloration.” In addition to numerous awards at the exhibitions in St. Petersburg (1861), Amsterdam (1883), Antwerp (1885), Zundel Impression was awarded the gold medal at the World Exhibition in 1878. Lantz remained in this factory until 1918, where he worked as a chemist, first in the research laboratory, then in production, and finally as deputy director in the technical department.

At the age of 28, Lantz married Nadiejda Baldine (then aged 24) in Moscow on November 9, 1914. She was of Russian nationality, born in Moscow on August 16, 1890. His marriage certificate noted the origin of Lantz as “Alsatian-Lorraine,” two French areas annexed by the German Empire at that time. A daughter was born on June 3, 1921 in Mulhouse, Irène Marguerite Lantz, who married Conrad Antoine Rynert in 1949, then divorced and then married Walter Ritter in 1962. She remained in Lucerne, Switzerland (double French and Swiss nationality) after her first marriage. She was the mother of a daughter from her first marriage, Antoinette Marguerite Rynert, born on August 17, 1952 in Lucerne, shortly before her grandfather’s death.

Louis Lantz did not fight during the First World War because he was then in Russia. Obligated to flee the country during the Russian Revolution in 1918, Lantz moved to France. He was then deputy director of the St. Julien factory near Troyes, French department of Aube (1918–1920), at the Gillet Thaon Laundry and Tinting, then technical director of the Frans factory in Villefranche-sur-Saône, French department of Rhône (1921–1923).

Lantz moved to England in 1923 to serve as Director of the Research Laboratory at Calico Printers’ Association Ltd. in Manchester from 1924 to 1951. The laboratory comprised about 20 university-level employees and 40 assistants. This illustrious British textile company was founded in 1899 by the merger of 46 textile printing companies and 13 merchants. At that time this large British company produced more than 80% of the printed clothing in the UK. Lantz developed new methods for testing the solidity of dyes. He kept the company informed of any new developments made in the treatment of fabrics, including those of cotton, artificial fibers derived from cellulose, and synthetic fibers. He contributed to the improvement of the bleaching, dyeing, printing, and finishing processes used in the factories of the house, and control of the quality of the production. His office also included the invention and production of new articles and processes while liaising with the Official Textile Research Institutes and Scientific and Technical Societies. During that period Lantz obtained numerous patents in England and USA for the textile industry, especially for the amelioration of existing processes, new pigments, or to reduce tissue wrinkling (Fig. 4).

Lantz defined himself as a specialist in synthetic resins and plastics, their chemical constitution and their applications, notably in the field of textiles but also as competent in the development of patents for inventions for all countries and particularly for England and the United-States.

He was the principal inventor of 26 methods of dyeing, printing, and finishing of textile or synthetic materials patented by the Calico Printers Association. He received a silver medal for his outstanding services in dyeing and dye research.

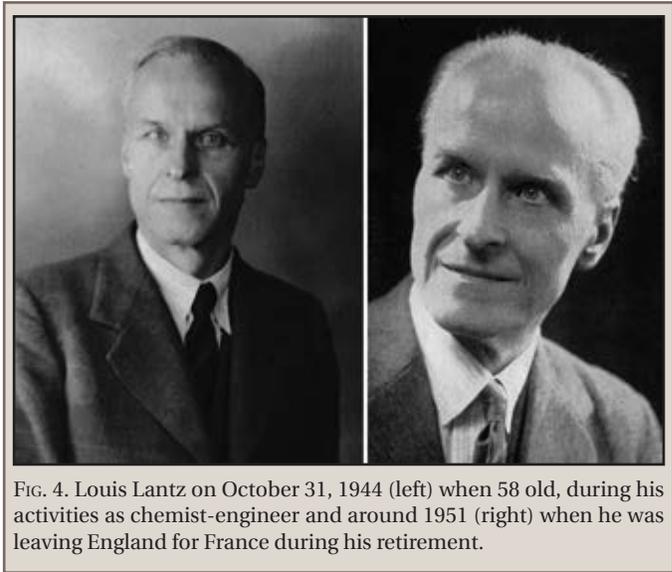


PHOTO SOURCE UNKNOWN

FIG. 4. Louis Lantz on October 31, 1944 (left) when 58 old, during his activities as chemist-engineer and around 1951 (right) when he was leaving England for France during his retirement.

He left this post in 1950 to return to France at the age of 64 years. His employer provided him with a letter of recommendation dated December 21, 1951, intended to help him find a new job. He planned to live in Paris in order to pursue his herpetological work at Herpetology section of the National Museum of Natural History. Unfortunately, Lantz died soon after his return from the UK. He died at the hospital in Lucerne, Switzerland, on 3 February 1953 at the age of 66 after a short period of illness (Departmental archives records, Haut-Rhin, quotation 2363 W 28, volume 533, declaration no. 18). He was then living in Lucerne to be with his daughter during this difficult period. He was cremated according to his wishes, and his ashes are deposited in the Garden of Remembrance in Lucerne (Switzerland). The goods bequeathed after his death make no mention of scientific materials. Shortly before his death, he lived at no. 4, rue Saint-Jean in Mulhouse, in the family home.

II. LANTZ’S HERPETOLOGICAL WORK

I. LANTZ, A RECOGNIZED SCIENTIST

Louis A. Lantz is known worldwide for his varied herpetological work dealing with amphibians and reptiles of several countries of the Palaearctic region (France [Northeast, Pyrénées, and Mediterranean area], the former USSR, Turkey, Iran, and Japan). He carried out scientific studies dealing with systematics as well as reproduction, ecology, and maintenance in captivity. He was the source of numerous unpublished observations on captive animals and even attempted several hybridization experiments to assess the status of certain taxa.

In 1914, when Lantz was only 28 years old, Willy Wolterstorff, a famous German herpetologist (see below), dedicated a subspecies, the Caucasus Spotted Newt or Lantz’ Newt, *Triturus vulgaris* subsp. *typica* forma *lantzi* Wolterstorff, 1914 (Fig. 5), which is now considered to be a separate species, *Lissotriton lantzi* (see Skorinov et al. 2008, 2014).

Tributes were paid to him after his death by the German (Mertens 1953) and the British (Hazelwood 1953; Parker 1953, 1954) herpetological communities, and later in a majestic synthesis of the history of herpetology (Adler 2007), but no mention of his death could be found in any French-language magazine. Lescure and Le Garff (2006: 170–171) were the first

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FIG. 5. *Lissotriton lantzi* (Wolterstorff, 1914), female (above) and male (below). Ldzaa (= Lidzava), Abkhazia, May 26, 2006.

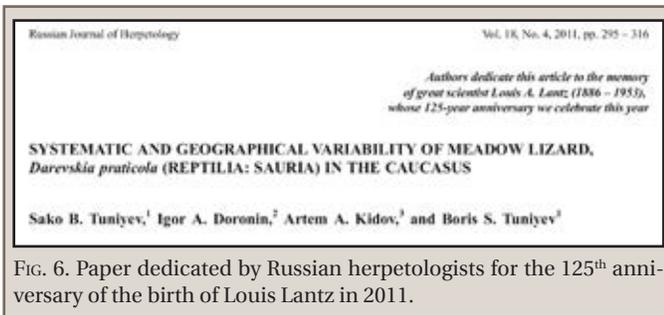


FIG. 6. Paper dedicated by Russian herpetologists for the 125th anniversary of the birth of Louis Lantz in 2011.

to establish a small biography in French more than 50 years after his death; they misnamed him as “Amédée Louis Lantz.” The first drawn portrait of Lantz was included by them, inspired by the photograph published in the obituary written by Mertens (1953). Lescure and Le Garff also noted that Lantz was too little known.

In 2011 a team of Russian herpetologists paid homage to him on the occasion of the 125th anniversary of his birth (Fig. 6).

Shortly before this tribute by Russian herpetologists, Arribas (2009) dedicated to Lantz a new subspecies, *Zootoca vivipara louislantzi* Arribas, 2009. It was Lantz (1927), during a stay in the Pyrénées in 1924, who first found eggs of this supposedly viviparous lizard under a stone at a low-elevation locality. He then suspected the mid-elevation mountain populations of the Pyrénées to be oviparous whereas those of high elevation had to be viviparous. However, a pregnant female given to him by Jean-Louis Bonnal from high mountains laid eggs in captivity, which showed Lantz that his hypothesis was not correct (it turns out that all Pyrenean populations lay eggs [Pottier 2016]). The subspecies dedicated to Lantz corresponds to the oviparous populations of southwestern France and northwestern Spain of the viviparous lizard that he had identified in the French Pyrénées. This taxon is still considered a valid subspecies (Arribas 2009; Speybroeck et al. 2010), but its status could possibly be called into question because an older name could be available (Schmidler and Böhme 2011).

In addition, several new taxa of gastropod mollusks were dedicated to Louis Lantz by his malacologist friend, W. A. Lindholm, as early as 1913 (see below). The specimens originated most likely from the collections made by Lantz during his trips:



PHOTO SOURCE UNKNOWN

FIG. 7. The breeding facilities of Louis Lantz at 2 Kinnaird Road, Wittington (Manchester, UK). Undated photo.

- Crystallus lantzi* Lindholm, 1913
(synonym of *Vitrea angystropha* (Boettger, 1880)
(Gastropoda, Zonitidae)
- Clausilia lantzi* Lindholm, 1924
(synonym of *Armenica unicristata* (Boettger, 1877)
(Gastropoda, Clausiliidae)
- Laciniaria lantzi* Lindholm, 1924
(synonym of *Armenica unicristata* (Boettger, 1877)
(Gastropoda, Clausiliidae)
- Helicella lantzi* Lindholm, 1926
(synonym of *Helicopsis filimargo* (Krynicky, 1833)
(Gastropoda, Hygromiidae)
- Bradybaena lantzi* Lindholm, 1927
(now *Fruticicola lantzi* (Lindholm, 1927))
(Gastropoda, Bradybaenidae)

Note, however, that there are species dedicated to other persons named Lantz: *Accipiter lantzi* Verreaux, 1866, an endemic diurnal raptor, and an insect of Madagascar, *Cryptocephalus lantzi* Pic, 1924 (Coleoptera, Cryptocephalinae). Auguste Lantz was a laboratory technician at the National Museum of Natural History in Paris before becoming curator of the Reunion Museum. He made important collections in Madagascar, notably during his trips with Auguste Grandidier. He was the founder of the natural history collections in Reunion Island. An insect, Cicindelidae, *Cicindela lantzi* Harris, 1913 (now considered a synonym of *Cicindela decemnotata* Say, 1817)

is another homonym of L. A. Lantz, dedicated to the American David Ernest Lantz (1855–1918).

2. LANTZ, EUROPEAN AMBASSADOR FOR REPTILES AS PETS

Louis A. Lantz was a terrariophilic herpetologist in the tradition of the German school, especially that of W. Wolterstorff, who was then a leader of this practice. He was probably in contact with Raymond Rollinat in France, who was also a leader in this field, but we found no actual evidence for this. The two men could have met in the early 1920s when Lantz lived in the Lyon region before moving to England. Lantz, however, possessed the original 1934 edition of Rollinat's book with a quality binding, which attests to his interest in this work. He was interested in keeping captive amphibians and reptiles at least from the age of 16 when he resided in Alsace.

The collections of the Zoological Institute of the Russian Academy of Sciences (ZISP, former Zoological Museum of the Imperial Academy of Sciences) have two juveniles of "*Chalcides lineatus*" (*Chalcides striatus*) that were born in Lantz's terraria in 1905 and had originated from Montpellier where his sister resided. He was then 19 years old. Lantz was appreciated and indispensable to the European herpetological community thanks to his knowledge about captive amphibians and reptiles that he acquired as a young boy, as noted by Parker (1954), who was the head of the Department of Herpetology of the British Museum of London. In Parker's obituary of Lantz, he wrote: "[Lantz's] greatest contributions to zoology probably sprang from his skill in aquarium and vivarium techniques."

At that time Lantz did not yet know that he would soon make expeditions to distant lands to bring back some extraordinary animals for breeding. As a specialist on Palaearctic salamanders and lizards, he was particularly dynamic and involved in several important discoveries and observations. His attraction to salamanders undoubtedly came from the fact that they breed more easily in captivity than frogs.

Very soon after his arrival in Russia in 1908, Lantz took advantage of his holidays to make field trips, especially to the Caucasus. These excursions allowed him to obtain the specimens he wished to raise. He kept salamanders in captivity at home and showed real skill in reproducing them, often for the first time, and even succeeded in hybridizing certain taxa. He also showed that the eggs of an American salamander (*Ambystoma opacum*) could stay on the soil for a long time until they hatch during a downpour after opening of the fetal membranes.

Willy Wolterstorff, the renowned German specialist on the systematics of salamanders and their care in captivity, quickly became his mentor. Wilhelm Georg Wolterstorff (1864–1943) was a German zoologist who pioneered the development of terrariophilia. He was the founder of what was once the world's largest collection of salamanders, preserved at the University of Magdeburg in Germany, but unfortunately largely destroyed in a fire that occurred when it was kept in a salt mine to avoid Allied bombing. The first terrariophile magazine, *Blätter für Aquarien- und Terrarienfremde* (later *Terrarienkunde*), was created in 1890 and Wolterstorff became editor of it from 1909 until his death in 1943.

This journal provided a close link between scientists and terrariophiles and it was the progenitor of the DGHT (Deutsche Gesellschaft für Herpetologie und Terrarienkunde), undoubtedly the most important and dynamic herpetological terraristic society in the world. Wolterstorff was regularly consulted by

Lantz while residing in Russia or England and by another amateur herpetologist who was a chemical engineer, Otto Cyrén, in Sweden. Very interested in the problems linked to hybridization (it was Wolterstorff who demonstrated the hybrid nature of "*Triturus blasii*" resulting from the cross between *T. cristatus* and *T. marmoratus*), he undoubtedly initiated the work of Lantz in this field and, later, in genetics (Adler 2007).

The numerous breeding experiments by Louis A. Lantz (Fig. 7) also enabled him to describe the reproductive barriers (sterility) between species and the existence of hybridization zones, thus completing several old works by Wolterstorff. In 1934, Lantz published a very useful bibliographic synthesis of the hybrids known to date in the genus *Triturus*. Lantz's interest in this and other salamandrids quickly made him aware of the need for genetic studies. His last article, published after his death in *Journal of Genetics*, concerned adaptations to substrate color, phenotypes, and spermatogenesis of interspecific hybrids in the genus *Triturus*. A strange observation must be made here: there is very seldom any mention of snakes in Lantz's published works and his collections contain very few snakes. Lantz was not afraid of these reptiles, but their scarcity in his research probably stemmed from the fact that their maintenance in captivity was difficult at the time, because food was not so easy to obtain then as today with the widespread availability of white mice.

From 1922 to 1925, Lantz attempted cross-breeding between taxa: *Lacerta saxicola* [genus *Darevskia*], *L. oxycephala*, *L. sardoa* [*Archaeolacerta bedriagae sardoa*], *L. serpa campestris* [*Podarcis siculus campestris*], *L. muralis quadrilineata*, *L. m. brueggemanni*, *L. m. muralis*, and *L. fiumana*. All hybrids he obtained were sterile, except those between *L. fiumana* [*Podarcis melisellensis fiumana*] and *L. m. muralis* [*Podarcis m. muralis*]. Knowing the European lizards very well and being a specialist on those of the Caucasus and a talented terrariophile, Lantz also wanted to test through hybridization experiments, thanks to his breeding, the points of view of certain herpetologists who decreed that some forms of European "wall lizards" warranted species-level recognition, whereas Boulenger (1920) considered them only to be varieties. Lantz concluded that "it would be premature to interpret these negative results [in his hybridization experiments] as a proof of the impossibility of crossings" but he nevertheless believed that these taxa were quite distinct species.

In 1924, Lantz wrote an article in French on the breeding of the Common Chameleon (*Chamaeleo chamaeleon*) and its reproduction in captivity. The most competent terrariophiles to whom we asked for their opinion about Lantz's work were unanimous. His article is perfectly coherent and even up to date almost a century later! The climatic parameters advocated by Lantz are good, as are his recommendations on feeding (especially that of avoiding mealworms for this type of lizard, although this diet is still erroneously recommended in modern articles). His egg incubation technique is quite similar to the "bain marie" incubators used at the present time. Modern incubators are, of course, equipped with thermostats, but the current "bain marie" incubators are based on the same principle as that described by Lantz (1924): a reserve of heated water and eggs placed in a container filled with a wet substrate. Good ventilation is always the key to success in maintaining captive chameleons as he suggested. The progress since his 1924 publication mainly concerns the terrarium illumination by UV-A and UV-B which did not exist at that time.

Good UV light is paramount and it must be carefully dosed because too much poses problems. Lantz probably used artificial

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FIG. 8. Louis Lantz (left) and Otto Cyrén in Manchester, England (June 14, 1936).

light and direct access to the sun. Chameleons have long been known as being very difficult to maintain and many species still are, especially mountain-dwelling species or those of small size. One of the major difficulties remains the one noted by Lantz, namely, aeration. The parameters necessary for the success of the hatching of the eggs, which begins with their incubation, are mentioned. Vincent Noël and Francis Girard (pers. comm., May 20, 2016) note that in rewriting the Lantz article of 1924 based on the material available today, it would be perfectly up to date. Bons and Bons (1960) wrote a similar article several decades after Lantz, who must be recognized, without a doubt, as an excellent terrariophile.

3. PUBLICATIONS

The work of Lantz also owes much to the researches of the Austrian Paul Kammerer (1880–1926), a great defender of the Lamarckian theory of the heritability of acquired traits. His publications are widely quoted in the research published by Lantz. Kammerer's misconceptions applied to the observations of his breeding allowed Lantz to discover the evolution towards viviparity of *Salamandra salamandra fastuosa*, oviparity of the populations of *Zootoca vivipara* in the Pyrenees (now considered at subspecific level), and to suspect for the first time parthenogenetic reproduction in some lacertids of the Caucasus.

Louis A. Lantz was fluent in several languages (French, German, English, and Russian, knowledge of Spanish) and he also translated data from German to French. He published

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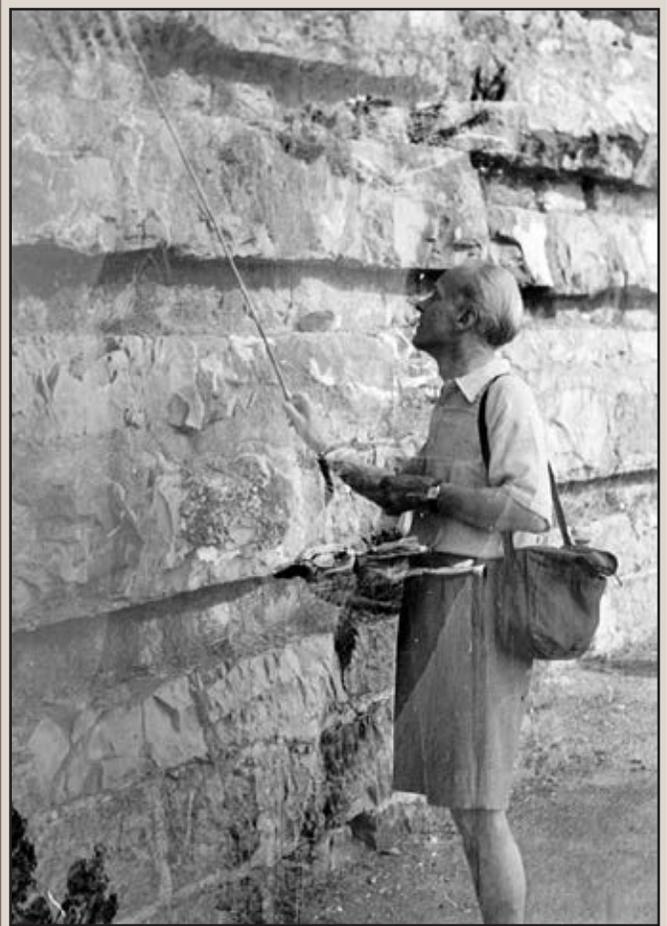


FIG. 9. Louis Lantz in the field during his English period (after 1918) with hand net to catch lizards.

about 35 articles during a period spanning from 1909 to 1954 in Russian, German, English, and French journals. In one of his CVs dated January 1952, Lantz mentions 34 publications in the field of animal biology. They mainly concern urodeles and lizards. His first articles are published in the German magazine *Blätter für Aquarien- und Terrarienkunde*, edited by Willy Wolterstorff.

It is most likely through Wolterstorff that Lantz met Otto Cyrén (1878–1946), who was to become his longtime friend and field companion. Cyrén worked as a chemical engineer in Germany, Poland, and Sweden from 1899 to 1917 (Bischoff and Schmidler 2014). He was a pioneer of Greek herpetology and more generally of the Balkans. He spent several years in Germany and published in German (Pafilis 2010). A beautiful photograph of Lantz and Cyrén, two friends posing together, was published by Adler (2007: 139) and is reproduced here (Fig. 8). The resulting collaborations between Lantz and Cyrén were numerous and fruitful, both for expeditions in the field and for scientific publications (see Appendix 1).

The North of France.—After the First World War and his precipitous return from Russia, Lantz settled in the Lyon region of France. He was interested in the French herpetofauna and had the very good idea to compile and publish in French the data gathered by German soldiers in the north and east of France, especially during this war and that was scattered in local German magazines (Lantz 1924). As noted by Graitson et al. (2000) this is a very useful document because, without it, this information would have remained unknown to herpetologists. The data concern

several French departments: Nord, Aisne, Oise, Somme, Marne, Meurthe-et-Moselle, Ardennes, Meuse, Moselle, Aube and Haut-Rhin, and several interesting species are reported (*Bufo viridis* [*Bufo viridis*], *Bombina variegata*, *Rana arvalis*, *Pelobates fuscus*, and *Pelodytes punctatus*). Thus we learn that *Rana arvalis* and *Pelobates fuscus* were found in the departments of North and Aisne. In the same article, Lantz adds personal observations made during his youth in Mulhouse: he saw the Common Spadefoot at Napoleon Island and Neudorf (two localities around Mulhouse in the Haut-Rhin department). He was also shown a Green Lizard captured at the Bollenberg near Soultzmatt (Haut-Rhin). His results are to be added to the data of Schreitmüller and Wolterstorff (1923). Unfortunately, they are based on observations, though often very original, and verification is no longer possible in the absence of voucher collections. Some of the records published by Louis A. Lantz were confirmed only recently after unjustified criticisms had condemned them (see the discussion in Graitson et al. 2000, which restores the reputation of Lantz's work).

The Caucasian Region.—Most of the snakes and lizards from the Caucasus harvested by Lantz were transferred to the ZISP. The first articles by Lantz concern the Caucasus and the Transcaucasian region. He traveled to Azerbaijan in March 1912 (Kaladagna, District Lenkoran) and in Iran (Kheyran, Astara-Ardebil; Alborz mountains north of Iran, near Ardebil) in April 1912 (Lantz and Cyrén 1939; Tuniyev et al. 2011). During three months in 1914 he also visited Turkestan and Transcaucasia where he made collections among which lacertids were apparently the most interesting (Lantz 1928).

He kept many species in captivity. For example, he and Cyrén wrote (Lantz and Cyrén 1939:229) about *Lacerta brandtii* (now *Iranolacerta brandtii* [De Filippi, 1863]), which he observed in captivity for about a year, that it is tamed very easily, without losing any of its vivacity.

In 1918, Louis A. Lantz published the first inventory of reptiles encountered along the Tajan River in Iran [36°48'53"N, 53°06'47"E], in the north-central part of the country. This Iranian river flows into the Caspian Sea, not far from the border between Iran and Turkmenistan. Alone or with Cyrén [for his first (1913–1920) and latest publications (1936–1948)], Lantz named some taxa of lizards.

Lantz also studied a historical herpetological collection obtained from 1768 to 1769 in several Russian provinces (Lantz 1922) by Ivan Ivanovich Lepechin (sometimes spelled Lepekhine)^[1].

The major work of Louis A. Lantz in this region of the world, "*Les Eremias de l'Asie Occidentale*," was published in 1928 in Tbilisi, Georgia, in two parts, and then published a second time the same year *in extenso* as a book. Lantz recognizes four subgenera within the genus *Eremias*: *Eremias* Wiegmann, 1834 [type-species *Eremias velox*], *Rhabderemias* and *Ommateremias* both described and named by him, and *Scapteira* Wiegmann, 1834 [type-species *Eremias grammica*] (see Appendix 2).

[1] Lepechin was born on September 10, 1740 in St. Petersburg where he died on April 6, 1802. He was a Russian explorer, naturalist and botanist. He began his studies at the Academy of Sciences in St. Petersburg and then obtained his doctorate from the Faculty of Medicine in Strasbourg (Alsace, France). In 1768 he explored the region of the Volga and the Caspian Sea, alone or with Peter Simon Pallas. The following year, he left for the Urals, where he stayed for five years. He was appointed to the Imperial Academy of Sciences of Russia in 1771 and then left for Siberia from 1774 to 1775. He became Permanent Secretary of the Imperial Academy of Russia in 1783 and participated in the drafting of the Russian dictionary. He directed the botanical garden of St. Petersburg for a long time and was one of the first Russians to become a great naturalist. His name was honored in several eponymous plant genera.

This important work on the Caucasus was interrupted in 1917 following the events that forced Lantz to leave Russia. He resumed only ten years later, following publications by Boulenger and after examining many specimens at the Natural History Museum in London which he visited through the courtesy of H. W. Parker and James C. Battersby. He had previously examined the collections of the University of Petrograd (St. Petersburg) with the support of Konstantin Mmikhaylovich Derjugin (1878–1938) and Piotr Vladimirovich Nesterov (1883–1941) and those of the ZISP, which contained many types. Note that the collections of the University of St. Petersburg have now been transferred to the ZISP. The Museum of the Caucasus (Tbilisi, Georgia), through Youry Nikolaevich Voronov (1874–1931), sent him unexamined material. For this study, Lantz also benefited from the valuable material communicated by his many contacts, including A. M. Nikolsky (University of Kharkov) and his two friends O. Cyrén and Wilhelm A. Lindholm. For this remarkable study, Lantz had at his disposal a large number of specimens including types. He made an analysis of the coloration patterns of these lacertids that is quite original. The types (often syntypes) derived from his *Eremias* study are mainly conserved in Tbilisi, Georgia (e.g., *Eremias velox caucasia*) and to a lesser extent at the St. Petersburg Zoology Institute (e.g., *Eremias (Scapteira) zarudnyi*). In another work (Lantz 1930c) concerning *Ophisops elegans*, he examined 172 specimens. It is clear that in the list of material studied, Lantz separated the specimens from the Museum of Georgia from the 17 specimens of his own collection. The register including all the characters on all the *Ophisops* specimens he examined and other information has been deposited at the Museum of Lucerne in Switzerland by his daughter, Irène. These records show that Lantz wrote in French for his herpetological work. Lantz left Russia in 1918 by the famous port of Arkangel (Arkhangelsk, 990 km north of Moscow), bastion of the resistance against the Bolsheviks until 1920 and then a rare remaining point of connection with Europe.

In 1916, important lacertid material were collected in the Mount Sekhend massif, south of Tabriz, during an expedition organized by the Caucasian Museum to explore Lake Urmia (Iranian Azerbaijan) region. The study of this collection, now at the Institute of Zoology in St. Petersburg, was entrusted to Lantz by his friend, the botanist G. N. Voronov, then Director of the Museum of the Caucasus. Most of the Lantz collections are in fact deposited in the ZISP with entries dated 1919, 1920, 1921, and 1923 for specimens from e.g., the Caucasus, Central Russia, and France (see below).

Even after his departure from Russia in 1917, Lantz kept many contacts in this country, such as with Nikolay Ippolitovich Sobolevsky (1901–1975), with whom he exchanged correspondences now kept in the latter's family archives (Shuvahina and Dunayev 2003). He returned to the USSR several times, as in 1926 and 1931.

Lantz and Cyrén dedicated *Lacerta saxicola lindholmi* to one of these collectors, W. Lindholm, in 1936 (now *Darevskia lindholmi*) (see Appendix 2) shortly after Lindholm's death^[2].

[2] Wilhelm (sometimes called Wassili) Adolfovich Lindholm (1874–1935) was a Russian with Swedish origins, and a malacologist and herpetologist born in St. Petersburg, whose mother tongue was German (Hesse 1936). In 1900, Lindholm went to Germany where he worked in a chemical industry in Wiesbaden. He then moved to Moscow in February 1907 and held a post at the Zoological Museum of the Imperial University from 1909 to 1913. He was appointed curator of mollusks at the Museum of Zoology of the Russian Academy of Sciences in St. Petersburg in 1914 (Adler 2012). Several species of mollusks were dedicated to Lantz by his friend Lindholm (see above), the first as early as 1913 when Lantz was only 27 years old.

After his visit to Russia was brutally interrupted in 1917, Lantz also collaborated with Georgy Feodorovich Suchov (1899–1942), a lizard specialist (Doronin 2015; Sukhova 2015) with whom he described *Apathya cappadocica urmiana* Lantz & Suchov, 1934.

In an important work, Lantz and Cyrén (1936) divided *Lacerta saxicola* into 13 subspecies. They described each of them and specified a type locality and distribution. They planned to later describe another subspecies of the Crimea Peninsula, which they suggested naming *lindholmi* if, however, additional material was available. No diagnosis of *L. s. lindholmi* is provided by Lantz and Cyrén (1936), either the material examined or the type-locality, although the taxon is generally recognized and attributed to these authors (Szczerebak 1962; Darevsky 1967; Bannikov et al. 1977; Bischoff 1991; Ananjeva et al. 1998, 2004, 2006; Szczerebak 2003; Arnold et al. 2007). In accordance with article 13 of the International Code of Zoological Nomenclature, *Lacerta saxicola lindholmi* Lantz & Cyrén, 1936 is considered a *nomen nudum* by Mertens and Vermouth (1960). However, Szczerebak (1962) considered Lantz and Cyrén as the specialists of this group of lizards and recommends designating the Crimean populations as *L. saxicola lindholmi* Lantz & Cyrén, 1936. He then described those populations based on important Crimean material. However, in accordance with Article 13 of the ICZN, Szczerebak (1962) himself has to be regarded as author of the description of the lizard dedicated to Lindholm, *Lacerta saxicola lindholmi* Szczerebak, 1962 and the type material becomes that which he then used, namely 183 specimens. Doronin (2012) designated a lectotype thereof (NMNH 2057/14097; the original label indicated “*Lacerta saxicola* Crimea, Yalta 18.V.1961 Leg. Szczerebak” [44°29'N, 34°9'E]).

With his friend Cyrén, Lantz was also responsible for the first indirect observation of unisexual reproduction in “*Lacerta saxicola*” (Lantz and Cyrén 1936). Parthenogenesis was first reported by Louis Lantz without designating it as such (Lantz 1923a) based on a case of an intersexual individual that he considered as an anomalous hermaphrodite. Such specimens with degenerated genital tract are directly derived from crosses between parthenogenetic and sexual individuals. Parthenogenesis was later suspected (again without naming it) by Lantz and Cyrén (1936) who sought in vain to find males in their populations of *Lacerta saxicola armeniaca* (now *Darevskia armeniaca*). Parthenogenesis was finally demonstrated by Darevsky (1958) and Darevsky and Kulikowa (1961).

The Pyrénées and the Mediterranean.—The work of Lantz went in a new geographic direction after his arrival in Manchester in 1923. He then turned towards the Pyrénées (Lantz 1927) and the Mediterranean coast (Hyères Islands in April 1931; Lantz 1931b). This allowed him to describe a new French mountain species (*Iberolacerta bonnali*) and to demonstrate, for the first time, the existence of oviparous populations in the viviparous lizard of southwestern France (Lantz 1927). This population was later given a subspecific rank (*Zootoca vivipara louislantzi*) by Arribas (2009), thus paying a well-deserved tribute to Lantz.

Lantz continued to deepen his knowledge of the French herpetofauna. Undoubtedly intrigued by an article by his friend Wolterstorff (1925) on the various forms of the Pyrénées endemic urodele, *Calotriton asper* (Al. Dugès, 1852), he explored the Saint-Martin-d’Uriage area in September 1922 and that of Bagnères-de-Bigorre in September 1924, guided this time by M. Bonnal who organized a stay at the Lac Bleu of Bigorre where a particular lizard lived and had been observed by Bonnal as early as 1922, and was suspected to be new. Jean-Louis Bonnal knew the Pyrénées

very well. He conducted genealogical research and showed that some of his ancestors belonged to the nobility of Auvergne, which earned him from time to time the attachment of the particle “de Bonnal.” Pottier (2016) is undoubtedly a bit excessive when he wrote that Bonnal contacted one of the “best herpetologists of his time” when speaking of Lantz. It would have been more accurate by restricting it to French-speaking herpetologists. Many photographs from Lantz’s visits to the Pyrénées are kept in his personal photograph albums. Lantz failed to see the mountain lizard of the Pyrénées due to bad weather conditions, but after his return to England, he received 17 live specimens sent by post by Bonnal, and he reared and reproduced them. Lantz realized that this was a distinctive form and described it in 1927 as *Lacerta monticola bonnali*, now *Iberolacerta bonnali* (Lantz, 1927). Lantz was thus the first to describe an endemic lizard from the Pyrénées. *Iberolacerta monticola*, previously described by Boulenger in 1905, is confined to the Cantabrian Mountains in Spain (Pottier 2016).

Lantz also collected a somewhat distinctive brown frog in the vicinity of Bagnères de Bigorre and determined them to be *Rana iberica*, as did Belloc (1893) earlier. However, these frogs are not *Rana iberica* but Brown Frogs with long hind legs, “Gasser Frogs” as called by Dubois (1982), and more precisely *Rana temporaria canigonensis* Boubée, 1833 (Dubois 1983).

Knowing the famous experiments of Kammerer (1909) on the reproduction of the Fire Salamanders that were deprived of water for their deposition of larvae, Lantz (1927) was not too surprised to observe peculiarities in the reproduction of the Fire Salamanders of the Bagnères-de-Bigorre region. He observed a natural tendency towards viviparity in these: females sometimes “lay” larvae that are almost completely metamorphosed. Lantz was the first to observe the particular reproduction in *Salamandra salamandra fastuosa* and verified that it is not influenced by altitude or absence of aquatic places in their habitat.

Lantz (1927) also saw that in the vicinity of Bagnères-de-Bigorre, *Zootoca vivipara* is oviparous, and in 1924 he observed a collection of parchment-shelled eggs at various stages of development from ten to fifteen laying events of this species. He knew that this area is at the limit of the range of the species and added that one might be tempted to invoke the influence of a warmer climate on subjects emanating from a dispersion center located in a colder region, causing, as in the experiments of Kammerer, a return to oviparity. This is not the case, said Lantz, because a female—caught near the Lac Bleu of Bigorre at 1967 m elevation and therefore in a much colder climate—was also oviparous. Lantz concluded that Kammerer believed that he had experimentally developed a new character, the parturition of transformed young, in *S. salamandra*, and recreating a lost character, oviparity, in *L. vivipara* (*Zootoca vivipara*). In fact, he concluded that these capabilities did not exceed the limits of variability existing in these species in their natural environment and there was, strictly speaking, no acquired character in these two cases.

Lantz was the first to mention the presence of *Discoglossus* in Port Cros, a French Mediterranean island. A photograph taken at Port Cros by Lantz and kept in one of his albums showed three persons including Marcel Henry, then owner of the island. The latter created the national park on the island after donating his land to the country (M. Cheylan, pers. comm.). Also represented in the photo was Émile Jahandiez, a famous botanist to whom we owe, among others, the big book *The Islands of Hyères*. The third person depicted was Henri Parent. Later, in 1933, Lantz wrote a note on the natural history of Bandol with these two persons (Jahandiez, Lantz, and Parent 1933); he included a report on

the presence of two lizards from there, *Euleptes europaea* and *Podarcis muralis*.

Other Regions of the World.—During the period around the 1930s, however, Lantz's research covered an even wider area including North America, with two articles published in 1930 on *Ambystoma opacum* (Lantz 1930a, b), and Japan with the description of two new species of the genus *Hynobius* (Lantz 1931a). One of them, *Hynobius hirosei* Lantz, 1931, corresponds to the populations of Shikoku Island referred to *Hynobius boulengeri* (Thompson, 1912) with which it was placed in synonymy. Its specific status was recently restored by Nishikawa et al. (2007), demonstrating once again the great sense of observation of L. A. Lantz.

4. CORRESPONDENCE

Lantz maintained an intense correspondence throughout Europe (England, France, Turkey, USSR) and beyond (Israel). His ease in several languages greatly facilitated these exchanges. He corresponded in French with Muhtar Basoglu (Faculty of Sciences, University of Istanbul) on 25 February 1948 and sent him two of his publications while asking him for his article describing three new lacertids from Turkey, an article that Basoglu sent him in 1949 and which is kept in the Lantz archives. They also exchanged information on particular species.

We have found some correspondence addressed to Lantz in his personal archives.

4.1. WITH ALEXANDER BEGBUTOVICH SHELKOVNIKOV (1870–1933)

Shelkovnikov was a brilliant Armenian naturalist and zoologist. He was a correspondent of the Zoological Museum of the Academy of Sciences of the former USSR. He was a long-time member of the Society of Geography of Russia and member of the research section of the Committee for the Study and Protection of the Nature of Armenia to the People's Commissariat of the Republic. In 1922 he founded the herbarium of Armenia then attached to the Institute of Botany. He described and named more than 30 plant taxa and about 20 invertebrates from the Caucasus and Persia (Iran). Several vertebrates, including *Hyla arborea schelkownikowi* Cernov, 1926 [now *Hyla orientalis* Bedriaga, 1890] bear his name. Part of his career was devoted to the management of the scientific collection of the Moscow State University. He was subjected to terrible repression in the 1930s. Shelkovnikov was a nobleman, the son of a General and Governor. Such persons were subjected to repression during "The Stalkin Period." He was thus imprisoned for more than a year in Tiflis Prison (now Tbilissi). On his return to Yerevan, he died of a heart attack on 19 May 1933.

He sent a letter to Lantz dated March 10, 1929 from Yerevan in excellent French, for which he apologized nevertheless. He then told Lantz how happy he was in his current duties while recognizing the important administrative burden that weighs on him. He proposed to Lantz to send him Armenian material to be studied through the "Academic Zoological Museum in Leningrad."

4.2. WITH LÉON BERTIN (1896–1956)

Bertin, chiefly a specialist on abyssal fishes, was Director of the Laboratory of Zoology (Reptiles and Fishes) at the Paris

Museum of Natural History (MNHN) from 1944 until his accidental death in his car. Lantz drew up a letter dated 19 April 1951 to the Director of the CNRS to propose his own candidacy for a post of Research Associate at the Laboratory of Zoology (Reptiles and Fishes) of MNHN. He announced his retirement from his career as a chemist, mentioned his stay in Russia from 1907 to 1918, his five herpetological journeys between 1908 and 1914 in the Caucasus and another in Turkestan, his 34 scientific publications, and his numerous collections of specimens. He reported on his experiments on the hybridization of newts and his research on their adaptation to their environment (work reported in course of publication). He stated that he spoke German, English, and Russian fluently. Lantz was then still in Manchester but noted that he planned to return to France soon. In January 1952, Lantz wrote another letter to ask for a position at the CNRS, which is the main French National Research Center.

4.3. WITH ION EDUARD FUHN (1916–1987)

Fuhn is the founding father of Romanian herpetology. He was a great friend of Willy Wolterstorff, whom Lantz knew as well. The herpetological publications of Fuhn were issued during the years 1950–1986 (Adler 1989). In a letter dated January 28, 1951, Fuhn told Lantz that he has to work every day beginning at 8am in the office and 3–4 h at home for financial reasons. He was a specialist in international law and history of philosophy but no longer has time to devote himself to these disciplines [*Sometimes, it happened that I prefer herpetological studies by their concrete character, they are more restful, even after 8–10 hours of work behind you*]. Fuhn congratulated Lantz on his choice to settle in France [*France and its laughable landscape, which is all that a man can desire more*]. He then gives him herpetological news of *Lacerta agilis* in Romania and the various subspecies, before bringing up the genus *Triturus* and asking for advice from Lantz [*By the way, how do you deal with the living specimens? Are you anesthetizing them?*]. He told Lantz of his wish to introduce aquaria and terraria to schools in Romania. On January 15, 1952, Lantz sent a letter to Fuhn to encourage him to carry out a systematic study of *L. agilis* using "the statistical method."

4.4. WITH GENERAL LAURENT MAURICE BERQUET (1881–1965)

General Berquet was born in Besançon in the Doubs department on May 15, 1881. He died on July 21, 1965. He was a very competent lizard breeder who resided in the Palmeraie de l'Ermitage in Antibes. We contacted most of the natural history museums in France but none of those who responded had any specimens donated by General Berquet (Aix-en-Provence, La Rochelle, Marseille, Nice). Our colleague, Roger Bour, has succeeded in obtaining the civil status information from this person on the Léonore Database (summarizing Légion d'Honneur medal holders).

In a letter dated November 23, 1951, Berquet announced to Lantz that he had come into contact with Mr. Aubinaud, who had a sort of vivarium at the Prado (Marseille). This vivarium was damaged during the war. This gentleman provided chameleons to General Berquet, two "*Eumeces algeriensis*" and two small American turtles, "*Chrysemys scripta elegans*." Berquet cited Doumergue's work on North Africa, which showed that he was perfectly well documented. He talked to Lantz about his solarium in Antibes and wondered how his chameleons resist the cold, a phenomenon that he had already observed in *Chamaeleo dilepis*

while living in the Belgian Congo. Berquet also informed him that he had obtained two “muralis” [originally not in italic] brought from Corsica by his wife, but without any locality (probably the mountainous region of Corte). He suspected these two lizards (two different males of green color) to belong to “Bedriaga” and “quadrilineata.” He also gave Lantz news of the “Dugesii” whose breeding was easy. He wrote that he attempted several crosses between “Dugesii” male x “muralis” female and the reverse but without success. His “Lepida” born in 1946 are still far from their adult size. His “malpolons” grow slowly and the oldest born in 1946 grew over 5 years from 35 cm to 110 cm approximately.

In a second letter dated January 2, 1952, addressed to Lantz by Berquet, the latter regretted that the year 1951 was particularly difficult in Paris for Lantz. Berquet acknowledged that his breeding of reptiles was still his only distraction and his only pleasure. He knew that Lantz then had only 2 or 3 “Dugesii” while he still retained two males and three females sent to him by Lantz. Berquet noted the very powerful claws in this burrowing species. He informs Lantz that he has succeeded in identifying his Corsican lizards with the books “Schreiber’s *Herpetologia europaea*, *Terrarium* of Krefft and Angel’s *Faune de France*.” He knew that they are not “campestris” because he once said he has captured many in Bastia and Calvi, near the Corsican sea border. His two lizards were different and belonged to two distinct taxa. He confirmed their identity: “Bedriaga” and “quadrilineata” (probably *Archaeolacerta bedriagae* and *Podarcis tiliguerta*). Berquet also gave him news of his *Anolis carolinensis* and reported that an individual had escaped. He set up a vaporization system for his chameleons that cannot drink but recognized that some German works mention chameleons that come to drink in a bathtub or a birdcup.

In a third letter dated December 2, 1952, Berquet informed Lantz of the success of his crosses between “*Lacerta muralis quadrilineata* male” and “*Lacerta muralis* female,” but of the failure of the cross between “Bedriaga” and “muralis.” He obtained births from “Dugesii” on December 16, 1951. His collection has now been enriched with *Uromastix* from Fezzan obtained by Mr Beck (Pierre Beck de Vernet (1911–1970), a renowned scientist and terrariophile from Nice; see Thireau 2002), professor of natural sciences at the Lycée de Nice: “*They are not very active but friendly.*”

4.5. WITH GEORGE ALBERT BOULENGER (1858–1937)

Lantz maintained a regular correspondence with Boulenger as soon as he arrived in France after Russia. A letter addressed to him by Boulenger in 1918 contains information about M. de Bedriaga, and Boulenger thanks him for the information sent concerning the “*Lacerta* of Nikolsky.” In this same letter Boulenger told Lantz that he had not yet seen Nikolsky’s *Fauna of Russia* (1915), or recognized his difficulty in separating the genera *Latastia* and *Lacerta* among lacertids. He also mentioned the acceptance of Lantz’ “*very interesting*” note by the famous Zoological Society of London, while complimenting him for his perfect English. In a second letter to Lantz in June 1920, Boulenger replied that he had received nothing from the Caucasus and confirmed Lantz’ first mention of *Rana arvalis* for Alsace [“*Rana arvalis has only been found in Alsace on the Rhine, near the Swiss border, around the city of Basel*”]. Boulenger also told him that his permanent address is now at the Botanical Garden of the State in Brussels.

4.6. WITH YOURY NIKOLAEVICH VORONOV (1874–1931)

Voronov, a very good friend of Lantz, sent him a letter from Berlin dated December 14, 1926. He told him about the botanical and zoological collections he made during his 16-months trip to Latin America (Mexico, Colombia, Venezuela) in search of rubber plants to be acclimatized on the shores of the Black Sea. Voronov collected only a few reptiles but many insects. The numerous details in this letter attest to the great friendship between the two men.

4.7. WITH YAAKOV H. HOOFIEN (1913–1997)

The correspondence between these two men originated in a letter from Hoofien to Lantz dated March 1, 1948. Hoofien was an amateur herpetologist then employed in his father’s bank in Tel Aviv, Israel. He learned of the publication by Lantz of an article on the genus *Ophisops* and asked him for a reprint. He says he found Lantz’s address in the membership file of the British Herpetological Society. Hoofien also mentions a new subspecies of Palestine to be described, which will no doubt be named *Ophisops elegans wettsteini*. It was, however, never described. Lantz replied on March 8 by sending the requested publication. Hoofien rewrote on April 25, 1948, mentioning that he had at Lantz’s disposal all his data on the herpetofauna of Israel.

Hoofien responded to Lantz in a third letter dated October 25, 1949. He announced the shipment of 20 specimens of *Ophisops* from Israel. In another letter of May 28, 1950, he informed Lantz of the dispatch of four additional adult specimens, and in the letter Lantz indicated that he replied on June 18, 1950. Lantz did not find time to examine this material until 1952. In his letter to Hoofien dated February 8, 1952, he concluded that the examination of this material confirmed the validity of the *ehrenbergii* subspecies for the populations of Israel. Lantz is then still in England but indicated his soon-to-be new address with his daughter in Lucerne (Switzerland) for future exchanges. In a letter dated February 17, 1952, Hoofien thanked Lantz for his reply and allowed him to deposit his Israeli specimens in the collections of the British Museum with his compliments because Lantz did not wish to keep them. On February 28, Lantz replied that the specimens have been given to Parker at the British Museum, and another letter of the same date was sent to Parker with the specimens. Lantz again confirms that he considered the *ehrenbergii* subspecies as valid.

4.8. WITH C. H. WADDINGTON, HELEN HALDAN, AND H. G. CALLAN

A first letter addressed to Lantz by Prof. C. H. Waddington (Institute of Animal Genetics, Edinburgh) dated March 8, 1951, informed Lantz that his Painted Frogs are in breeding and that his advice was followed closely. Another letter addressed to Lantz by Helen Haldan (University College, London) dated December 4, 1951 notes that Madame Lantz’s illness is partly responsible for the departure of Lantz from England. Haldan tells Lantz that she has to teach speciation in the genus *Triturus* for which his work will be very useful (“It is morally and intellectually much more satisfactory to be able to quote *Lantz and Callan in press*”). She also gave Lantz news of the specimens of newts he gave her. Another letter addressed to Lantz by Prof. H. G. Callan (Department of Natural History, Bell Pettigrew Museum, St. Andrews), dated March 7, 1952, informed him of

the death of two specimens of *Triturus marmoratus* sent by Parizy for the study of meiosis. During the last years of his life, Lantz collaborated with these British researchers on *T. cristatus* and a letter from that country whose author's name cannot be read (dated February 12, 1953) mentions Lantz as a leader in the domain.

III. HERPETOLOGICAL COLLECTIONS

Lantz made his own collections of specimens. The majority of his specimens collected in Russia are now preserved at the Institute of Zoology of the Russian Academy of Sciences, St. Petersburg (ZISP, formerly Petrograd and then Leningrad [ZIL]), and at the Museum of Tbilisi in Georgia (NMG). The Lantz material deposited with the ZISP and the NMG is generally of poor quality because of its suboptimal preparation, but especially because of the damage caused by the long periods of revolution and war in these regions. The Paris Museum of Natural History (MNHN) has no specimens from Lantz. Similarly, none of Lantz's reprints in the Reptiles & Amphibians library of the MNHN is personally dedicated, reflecting rather distant links between Lantz and MNHN, probably due to his expatriation. The collections deposited by Lantz in Russia originated from his own collecting trips (e.g., April and May 1914) or from legacies made by W. A. Lindholm, G. Baldamus, Nikolai Alekseyivich Zarudny (1859–1919), and Lorenz Müller (1868–1963; Munich, Germany), among others. Lantz was also particularly well acquainted with the Curator of the Department of Herpetology of ZISP, Sergey Fedorovich Tsarevsky (Tzarevsky) (1887–1971). The latter made available to Lantz his lizards collected in the Caucasus, which allowed him to describe *Lacerta praticola pontica* (*Darevskia pontica*). Obviously, Lantz corresponded and collaborated with the most eminent herpetologists of his time, undoubtedly due to his ability to speak several languages, and to his dynamism.

It should also be noted that the Lantz collections are often very poorly labeled, especially with regard to the status of type specimens, and in all museums possessing his specimens. Thus, no specimen should be designated as a type before a thorough and complete study is undertaken, even when the registers indicate type status, as is the case for *Iberolacerta bonnali* at the National Museum of Natural History (MNHN, Paris). At the BMNH, specimens of *Iberolacerta bonnali* are indicated as “type” or even “co-type,” in error. One of us (ID), despite great effort, has not managed to find all the syntypes of *Lacerta praticola pontica* and obviously some are missing.

TBILISSI IN GEORGIA (NMG)

The NMG in Georgia (Georgian National Museum) possesses 20 specimens of salamanders collected by Lantz or issued from his breedings (see Lantz 1912): *Ommatotriton ophryticus* and *Triturus karelini*. They also host the type-series of *Apathya cappadocica urmiana* Lantz & Suchov, 1934 and several specimens included in Lantz' study on *Ophisops elegans* (Lantz 1930c). All types were transferred to ZISP but other specimens were kept at Tbilisi. Unfortunately, the collections of the NMG of Tbilisi are in a very poor state of conservation and many specimens were lost or destroyed in the 1990s. The newts mentioned above are the only specimens of urodeles from the Lantz collection still available in this museum.

ZOOLOGICAL INSTITUTE OF THE RUSSIAN ACADEMY OF SCIENCES (ZISP, St. PETERSBURG)

The ZISP catalogs indicate that many specimens deposited by Lantz were destroyed during the Second World War and especially during the siege of Leningrad. This is attested by the annotations of Lyudmila N. Lebedinskaya (1906–1989), collection technician at the Herpetology Department from 1942 to 1978, who was assisted by Pavel Terentjev during the Second World War. In total, we could find traces of his deposit of 230 urodeles and anurans. Among them only 165 specimens are present in the shelves today.

In total we were able to find about half of the deposit of 1116 specimens of reptiles at ZISP including lizards, snakes, and even two crocodiles. Of these, only 570 specimens were present in the shelves.

A series of 74 specimens of *Eremias strauchi* was handed over to ZISP (N° 16656). They were collected by Lantz in May 1914 in Julfa, Azerbaijan, close to the Iranian border. One of the specimens was sent to Otakar Stepanek (Prague, Czech Republic) in 1959 and two others to the Field Museum of Natural History in Chicago (USA) the same year. Other specimens from the Lantz collection (*Eremias pleskei* and *E. velox*) were also deposited in the same two collections, all after the death of Lantz (Marx 1976).

THE NATURAL HISTORY MUSEUM, LONDON (BMNH)

After his departure from Russia in 1918, Lantz moved only a minor part of his Russian collection to England. On the other hand, the collection made by Lantz during his English period (France and North Africa in particular) are preserved at the Natural History Museum in London (BMNH). It includes 246 lizards and 25 amphibians. Lantz had expressed the wish that this herpetological collection should be deposited at the British Museum after his death.

PARIS NATURAL HISTORY MUSEUM (MNHN-RA)

The collection of the MNHN does not possess any specimens from the Louis Lantz collection. A single specimen of *Iberolacerta bonnali*, considered to be a syntype by Brygoo (1988: 10), is present (MNHN-RA 8530) among the 17 that make up the type-series (Lantz 1927). It is indicated in the catalogs “leg. of Bonnal 6-49” and the date of 7 January 1952 is also mentioned. We believe that the type status of this specimen must be strongly questioned. It is possible that this specimen was handed over to the MNHN-RA collections in 1952 by Louis Lantz, but this is unlikely. Lantz would no doubt have also deposited other specimens. It seems also unlikely that this specimen, which would then have been preserved by the Bonnal family more than 20 years after its description, is a type subsequently handed over to the MNHN in 1949 or 1952.

Only specimen no. 1209 R of Lantz's personal collection is illustrated in the original description of *I. bonnali* based on the whole set of syntypes without describing one in more detail. However, the latter specimen could be designated as lectotype if it is identifiable. Uetz et al. (2017) incorrectly mention a holotype present in the collections of the Natural History Museum in London (BMNH), perhaps 1209 R of Lantz, but this has to be checked. It is quite probable that all the types of this taxon are in London because they were obtained by Lantz and described (Lantz 1927) when he was stationed in Manchester (UK). The two

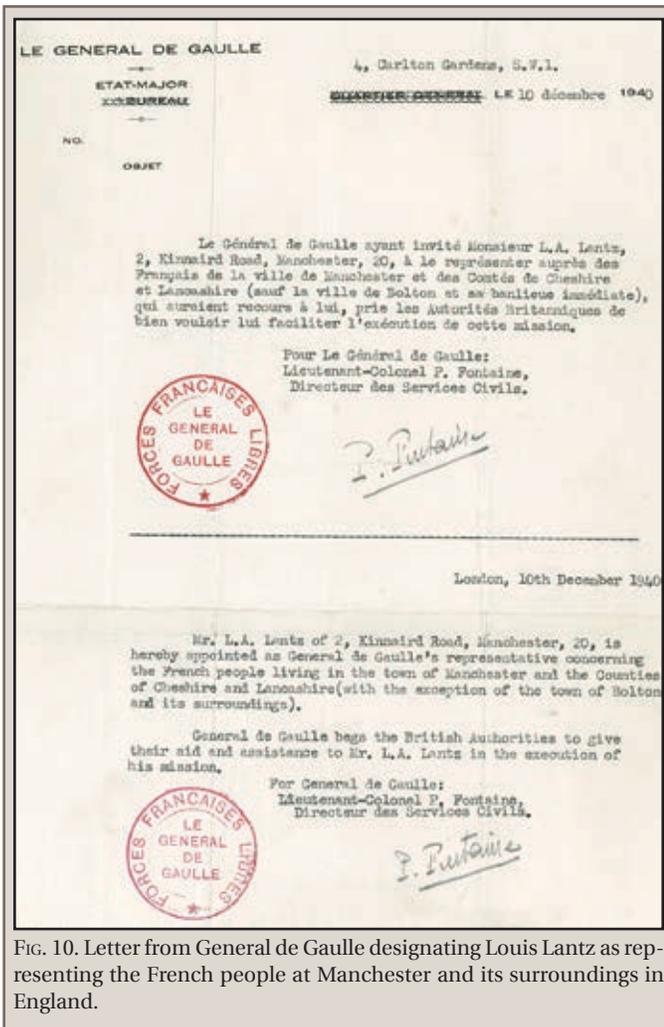


FIG. 10. Letter from General de Gaulle designating Louis Lantz as representing the French people at Manchester and its surroundings in England.

additional specimens at BMNH (19 in total) came from Lantz's breeding studies after the description and they do not belong to the type-series; they are however not yet identified among the 19 specimens.

GUIMET MUSEUM OF LYON (ACTUAL *MUSÉE DES CONFLUENCES*)

From 1921, the birth date of his daughter Irène, until 1923, Lantz resided and worked in the Lyon region. He then deposited a young crocodile specimen (*Crocodylus niloticus* Laurenti, 1768, N° 42003914 [204B]) from Africa, without any further details about the locality (Bour et al. 2007). He also took the opportunity to examine several lizards from the collection of Ernest Chantre (1843–1924) made in 1881 and 1890 which he then identified as "*Lacerta saxicola armeniaca*," "*L. saxicola defilippii*," and "*L. saxicola parvula*." Many of these identifications are no longer valid in light of recent revisionary work on these lizard groups. In 1923, he also deposited in Lyon a Slow-worm skeleton (*Anguis fragilis*) collected at St. Julien near Troyes (N° 42006696 [L.8]) (Ineich et al. 2005).

IV. LOUIS A. LANTZ, EUROPEAN TERRARIOPHILE HERPETOLOGIST

Lantz was a fervent admirer of General Charles de Gaulle. His patriotism and activities during the Second World War, while residing in England, earned him the French distinction of Grand Cross of the Legion of Honor.

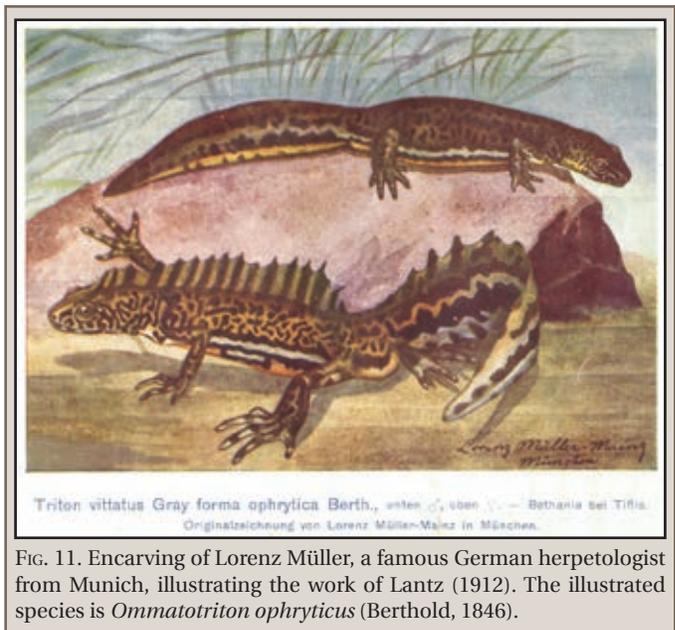


FIG. 11. Encarving of Lorenz Müller, a famous German herpetologist from Munich, illustrating the work of Lantz (1912). The illustrated species is *Ommatotriton ophryticus* (Berthold, 1846).

His ease in speaking several languages offered Lantz a great deal of freedom and allowed him greatly diversified contacts. Many colleagues from all over Europe provided him with the material he studied (living specimens for breeding or preserved specimens).

Louis Amédée Lantz was unquestionably a brilliant herpetologist with a keen sense of observation. He was both a field herpetologist and a laboratory man who had taken advantage of all his travels, producing pioneering works that are still widely quoted. He was able to make available to the international scientific community all the herpetological data gathered by German soldiers during the period of German occupation of Alsace and northern France during his youth, thanks to the help he obtained from his mentor, Wolterstorff. Later, he managed to escape the two wars by leaving Alsace, thus avoiding the great sufferings of his native region bruised by the second German occupation. During his Russian period he managed many contacts and his works were much appreciated. He is considered a great herpetologist in Russia. Very sociable and endearing, once in England he established a network of researchers with whom he collaborated by bringing his enormous knowledge on amphibian and reptile breeding. In his obituary, Parker (1954), who knew Lantz well, noted: "herpetology has lost one of its outstanding figures" and "Lantz was an amateur of herpetology in the true sense of the word." Lantz was very open and modern, initiating herpetological observations in captivity, conducting cross breedings and recognizing their potential for the study of interspecific hybridization, as for example in the Blasius Newt. As early as 1925, Lantz (1925: 206–207) wrote of the lacertids of the genus *Podarcis*, that despite the fact that very frequently two or more forms of *Podarcis* inhabit the same places, they do not appear to interbreed; in any case, no author has described specimens that are confirmed hybrids. Under these conditions, it seemed interesting to him to undertake tests of hybridization between those forms of *Podarcis* from which he would manage to obtain living specimens. He was also aware of the advent of genetics and its potentialities.

Lantz practiced photography with great skill. His daughter Irène still has numerous albums (about 15) gathering together all his dated and historic photographs depicting the landscapes,

his family, and the personalities encountered during his travels. One of his albums entitled “Mediterranean Amphibians and Reptiles” was deposited at the Museum of Lucerne in Switzerland by Irène. One of the pages shows photographs that make it possible to distinguish, side by side, “*Bufo viridis*” from “*Bufo mauritanicus*,” photographs made in Tunis in 1935. Another page presented in a similar way compares “*Discoglossus pictus pictus*” with “*Discoglossus pictus sardus*” of Sardinia (1942). Other photographs and a short text describe a mating of European Leaf-toed Gecko from Port Cros observed on August 14, 1933. There are also photographs of “*Stenodactylus guttatus*” (Djerba, January 8, 1935), two specimens of *Uromastyx acanthinura* bought in Mulhouse in 1927 (Lantz indicates “probably Tunisia”), “*Lacerta lepida lepida*” male obtained in Marseille in 1932 and photographed in 1942. All these photographs suggest that Lantz made many travels during his English period, in particular to Tunisia (1934), Algeria (1935), Morocco (1942), and Sardinia (1942). Lantz also kept the autographs of herpetologists but we could not locate his collection.

First of all, Lantz was a European who had fully undergone the historical vicissitudes of his native region. He felt French and had a great admiration for General Charles de Gaulle, who entrusted him with certain responsibilities during the Second World War (Fig. 10). Bischoff and Schmidler (2014: 42) cite him as “the Alsatian Lantz” while they use “the Swedish Cyrén” for his colleague, which seems to reflect his country of belonging and the difficulty of assigning him a nationality. Adler (2007) called him as a French citizen, which is the case for all Alsatians born during German occupation. Indeed, by an official letter from General de Gaulle dated December 10, 1940, Lantz was appointed to represent the French in the city of Manchester and the counties of Cheshire and Lancashire (except the city of Bolton and its immediate suburbs). Modest, Lantz was appreciated by his friends from all over Europe, with whom he often maintained a regular correspondence. After his brief studies at the University of Montpellier, Lantz kept in touch with his professors and every year while he was studying in Mulhouse, he took part during his holidays in study trips to countries such as Spain, Balearic Islands, and Algeria.

Louis Amédée Lantz deserves our greatest respect. His contribution to Palaearctic herpetology is considerable and exceptional for a non-professional. If Lantz had had proper zoological training and been associated with an academic department or museum, one can imagine that, with his great insights and industry, he would have become one of the leading herpetologists of Europe by the mid-20th century.

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illustrating this text were entrusted to us by Kraig Adler and Dmitriy Skorinov. Irène Ritter, daughter of Louis A. Lantz, was located thanks to the support of Marzio Tartini, General Consul of Switzerland in Strasbourg, to whom we would like to express our thanks. Kraig Adler is warmly thanked for his appreciated corrections and clarifications of the translation of this paper from French to English. Finally, we extend our sincere gratitude to Irène Ritter for her support, her energy, and her help in the completion of this work devoted to her father.

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APPENDIX 1: PUBLICATION LIST OF LOUIS AMÉDÉE LANTZ

1911

LANTZ, L. A. 1911a. *Salamandra caucasica*^[3] Wagn. Blätt. Aquar.-Terr.-Kunde, Stuttgart 22(3–5):19–20, 31–35.

LANTZ, L. A. 1911b. *Salamandra caucasica* Wagn. [in Russian]. J. Friends aquar. and terr. (illustrated magazine published by the Society of Nature Friends of Kiev), 2 (15 mars):29–30.

1912

LANTZ, L. A. 1912. Beitrag zur Biologie von *Molge (= Triton) vittata* Gray forma *ophrytica* Berthold. Blätt. Aquar.-Terr.-Kunde, Stuttgart, 23(12):181–188 + pl. (see Fig. 11 below).

1913

LANTZ, L. A., AND O. CYRÉN. 1913. Eine neue Varietät der Felseidechse *Lacerta saxicola* Eversmann *parvula* nov. var. Bull. Mus. Caucase, Tiflis 7(2):163–168.

[3] That paper describes the breeding of the salamander *Mertensiella caucasica* from the area of Artvin in Turkey. It was translated in Russian.

1914

LANTZ, L. A., AND O. CYRÉN. 1914. Über die Identität von *Rana macronemis* und *Rana camerani*. Zool. Anz., Leipzig 43:214–220.

1915

LANTZ, L. A. 1915. Quelques observations sur le mimétisme chez les reptiles caucasiens. Bull. Mus. Caucase, Tiflis 9:163–168.

1918

LANTZ, L. A. 1918. Reptiles from the River Tajan (Transcaspia). Proc. Zool. Soc. London (1-2):11–17, pl. i.

LANTZ, L. A., AND O. CYRÉN. 1918. Note sur *Lacerta praticola* Eversm. Bull. Mus. Géorgie, Tiflis 11:192–195.

1919

LANTZ, L. A., AND O. CYRÉN. 1919. On *Lacerta praticola*, Evers. Ann. Mag. Nat. Hist. 9(3):28–31.

1920

LANTZ, L. A., O. CYRÉN. 1920. Note sur les *Lacerta viridis* du Caucase. Bull. Soc. Zool. Fr. 45:33–37.

1922

LANTZ, L. A. 1922. Révision des Reptiles décrits dans le «Journal de voyage» d'Iwan Lepechin. Bull. Soc. Zool. Fr. 47:191–194.

1923

LANTZ, L. A. 1923a. Hermaphroditisme partiel chez *Lacerta saxicola*. Bull. Soc. Zool. Fr. 48:289–290, 4 figs.

LANTZ, L. A. 1923b. Altes und neues von der kaukasischen Agame. Blätt. Aquar. und Terr. Kunde 34: 67–68.

1924

LANTZ, L. A. 1924a. Note sur le caméléon vulgaire et sa reproduction en captivité. Rev. Hist. nat. appl., Paris 5(1):9–17.

LANTZ, L. A. 1924b. Quelques données récentes sur l'herpétologie du Nord-Est et de l'Est de la France. Rev. Hist. nat. appl. [1923], Paris (1) 5(3):76–86.

LANTZ, L. A. 1924c. Mantres et Lézards. Rev. Hist. nat. appl., Paris 5(9):281–284, pl. 6.

LANTZ, L. A. 1924d. Liste d'orthoptères observés dans la région de Villefranche-sur-Saône. Bull. mens. Soc. Linn. Lyon 3:19–21.

1925

LANTZ, L. A. 1925. Essais d'hybridation entre différentes formes de Lézards du sous-genre *Podarcis*. Rev. Hist. nat. appl., Paris 7:205–212.

1926

LANTZ, L. A. 1926. Note sur *Lacerta riveti* Chabanaud. Bull. Soc. Zool. Fr. 51:39–44, 3 figs.

1927

LANTZ, L. A. 1927. Quelques observations nouvelles sur l'herpétologie des Pyrénées centrales. Rev. Hist. nat. appl., Paris 8:16–22 + 54–61, figs. 1–4.

1928

LANTZ, L. A. 1928a. Les Eremias de l'Asie occidentale. Tiflis [Tbilissi, Georgia], 136 pp., pls. 1–3 [Extract from *Bulletin du Musée de Géorgie*, t. IV and V].

LANTZ, L. A. 1928b. Les Eremias de l'Asie occidentale. Bull. Mus. Géorgie, Tiflis [Tbilissi] 4:1–72 & 5:1–64 + 6 figs. and 3 pls.

1930

LANTZ, L. A. 1930a. Notes on the breeding-habits and larval development of *Ambystoma opacum*. Ann. Mag. Nat. Hist. 10(5):322–325.

LANTZ, L. A. 1930b. Einiges über Lebensweise und Fortpflanzung von *Ambystoma opacum* Grav. Blätt. Aquar.-Terr.-Kunde 41(4):63–67 + pls. 9–10.

LANTZ, L. A. 1930c. Note sur la forme typique d'*Ophisops elegans* Ménières. Bull. Mus. Géorgie, Tbilissi 6:31–42.

1931

LANTZ, L. A. 1931a. Description of two new salamanders of the genus *Hynobius*. Ann. Mag. Nat. Hist. 10(7):177–181, pl. VI.

LANTZ, L. A. 1931b. Note sur la faune herpétologique des îles d'Hyères. Bull. Soc. Zool. Fr. 56:420–422.

1933

JAHANDIEZ, E., L. A. LANTZ, AND H. PARENT. 1933. Note sur l'histoire naturelle de l'île de Bandol (Var). Ann. Soc. Hist. nat. Toulon 1932–1933, 17:47–52.

1934

LANTZ, L. A. 1934. Molchbasterde. Blätt. Aquar.-Terr.-Kunde, Stuttgart, 45(2):23–32.

LANTZ, L. A., AND G. F. SUCHOV. 1934. *Apathya cappadocica urmiana* subsp. nov., eine neue Eidechsenform aus der persischen Kurdistan. Zool. Anz. 106(11):294–299.

1936

LANTZ, L. A., AND O. CYRÉN. 1936. Contribution à la connaissance de *Lacerta saxicola* Eversmann. Bull. Soc. Zool. Fr. 61:159–181.

SUNDER, H., AND L. A. LANTZ. 1936. Note sur un perfectionnement du noir d'aniline Prud'homme, Pli cacheté N° 2532, déposé le 27 août 1923. Bull. Soc. Indust. Mulhouse, Febr. 1936, 102:106–109.

WOLTERSTORFF, W., L. A. LANTZ, AND W. HERRE. 1936. Beiträge zur Kenntnis des Kaukasussalamander (*Mertensiella caucasica* Waga). Zool. Anz. 116(1/2):1–13.

1938

LANTZ, L. A. 1938. Einiges über *Pelodytes punctatus* Daudin. Blätt. Aquar. Terr. Kunde 49:148–149.

1939

LANTZ, L. A. 1939. Über die Bastardierung von Kammolch und Marmorolch. Abh. Ber. Naturk. Vorges. Magdeburg 7:113–120.

LANTZ, L. A., AND O. CYRÉN. 1939^[4]. Contribution à la connaissance de *Lacerta brandtii* De Filippi et de *Lacerta parva* Boulenger. Bull. Soc. Zool. Fr. 64:228–243 + 2 pls.

1947

LANTZ, L. A. 1947a. Hybrids between *Triturus cristatus* Laur. and *Triturus marmoratus* Latr. Proc. Zool. Soc. London 117, Pt. 1:247–258 + 3 color plates.

LANTZ, L. A. 1947b. Note on *Discoglossus* in captivity. Proc. R. Soc. London 134, ser. B, 874:52–56.

LANTZ, L. A., AND O. CYRÉN. 1947. Les lézards sylvoles de la Caucase. Bull. Soc. Zool. Fr. 72(4–5):169–192.

1948

LANTZ, L. A., AND O. CYRÉN. 1948. La forme typique de *Lacerta taurica* Pallas. Bull. Soc. Zool. Fr. 73(2):84–89.

1953

LANTZ, L. A. 1953. Adaptation to background in *Triturus cristatus* Laur. J. Genet. 51(3):502–514 [published after his death].

1954

LANTZ, L. A., AND H. G. CALLAN. 1954. Phenotypes and spermatogenesis of interspecific hybrids between *Triturus cristatus* and *Triturus marmoratus*. J. Genet. 52:165–185 [published after his death].

APPENDIX 2: LIST OF TAXA DESCRIBED BY LOUIS AMÉDÉE LANTZ
(CHRONOLOGICAL ORDER)

AMPHIBIA**HYNOBIIDAE**

HYNOBIUS HIROSEI LANTZ, 1931

ACTUAL STATUS: *HYNOBIUS (TACHYPALAMINUS) HIROSEI* LANTZ, 1931 (fide Dubois and Raffaëlli 2012).

HYNOBIUS LONGIMANUS LANTZ, 1931

ACTUAL STATUS: *HYNOBIUS LICHENATUS* BOULENGER, 1883 (fide Dubois and Raffaëlli 2012).

REPTILIA**GEKKONIDAE**

GYMNODACTYLUS MICROLEPIS LANTZ, 1918

ACTUAL STATUS: *TENUIDACTYLUS LONGIPES MICROLEPIS* (LANTZ, 1918) (fide Rösler 2000).

LACERTIDAE

LACERTA SAXICOLA VAR. *PARVULA* LANTZ AND CYRÉN, 1913

ACTUAL STATUS: *DAREVSKIA PARVULA* (LANTZ AND CYRÉN, 1913) (fide Arribas 1999, Arnold et al. 2007).

[4] Now *Iranolacerta brandtii* (De Filippi, 1863) and *Parvilacerta parva* (Boulenger, 1887).

LACERTA PRATICOLA PONTICA LANTZ AND CYRÉN, 1918

ACTUAL STATUS: *DAREVSKIA PONTICA* (LANTZ AND CYRÉN, 1918) (fide Tuniyev et al. 2011, Doronin 2016).

LACERTA VIRIDIS MEDIA LANTZ AND CYRÉN, 1920

ACTUAL STATUS: *LACERTA MEDIA MEDIA* LANTZ AND CYRÉN, 1920 (fide Arnold et al. 2007).

LACERTA MONTICOLA BONNALI LANTZ, 1927

ACTUAL STATUS: *IBEROLACERTA BONNALI* (LANTZ, 1927)

EREMIAS VELOX CAUCASIA LANTZ, 1928

ACTUAL STATUS: *EREMIAS VELOX CAUCASIA* LANTZ, 1928 (fide Liu et al. 2014)

SUBGENUS *OMMATEREMIAS* LANTZ, 1928

ACTUAL STATUS: REVISION NEEDED.

SUBGENUS *RHABDEREMIAS* LANTZ 1928 (complex *E. scripta/lineolata*)

ACTUAL STATUS: VALID SUBGENUS (FIDE BISCHOFF (1991)).

APATHYA CAPPADOCICA URMIANA LANTZ AND SUCHOV, 1934

ACTUAL STATUS: *APATHYA CAPPADOCICA URMIANA* LANTZ AND SUCHOV, 1934 (fide Kapli et al. 2012).

LACERTA SAXICOLA TRISTIS LANTZ AND CYRÉN, 1936

ACTUAL STATUS: *DAVEVSKIA BITHYNICA TRISTIS* (LANTZ AND CYRÉN, 1936) (fide Arribas et al. 2013).

LACERTA SAXICOLA LINDHOLMI LANTZ AND CYRÉN, 1936 [*Nomen nudum*]

ACTUAL STATUS: *DAREVSKIA LINDHOLMI* (SZCZERBAK, 1962) (fide Doronin 2012, Doronin et al. 2013).

LACERTA SAXICOLA OBSCURA LANTZ AND CYRÉN, 1936

ACTUAL STATUS: *DAREVSKIA RUDIS OBSCURA* (LANTZ AND CYRÉN, 1936) (fide Darevsky 1967, Arribas et al. 2013).

LACERTA SAXICOLA MEHELYI LANTZ AND CYRÉN, 1936

ACTUAL STATUS: *DAREVSKIA VALENTINI LANTZICYRENI* (DAREVSKY AND EISELT, 1967) (fide Darevsky and Lukina 1978, Ananjeva et al. 2006).

GLIMPSES OF THE PAST

Herpetology as a discipline is comparatively modern, but it still boasts its iconic figures and its famous (or infamous) expeditions from the early days. Moreover, reptiles and amphibians often figured in the chronicles of other explorers or adventurers. Today's digital wizardry allows us to enjoy an unprecedented feast of color images featuring rare species from all corners of the globe; but what of the images of yesteryear? Sepia, black & white, and early color-toned photographs are largely unnoticed as they languish in institutional and personal archives. Often, they convey the hardships faced by early explorers and scientists. Some may be humorous; still others show legendary figures at work or

at rest. From remote field camps to exotic locales, images from the past stir our imaginations, or they bring back memories of a time when life was different, there was less development, more nature, and more mystery in the world.

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