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Original scientific paper

ILIA MITRUSHI (1904–1986), A PIONEER ALBANIAN BOTANIST

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A biography of Ilia Mitrushi and his contributions to the flora and vegetation of Albania before and after World War II is presented. These contributions include more than thirty-four scientific publications, including five books. Among the articles, the most significant are those on the ecology, distribution, and commercial use of the Horse Chestnut (*Aesculus hippocastanum*), European Chestnut (*Castanea sativa*), Balkan Pine (*Pinus peuce*), Bosnian Pine (*Pinus heldreichii*), European White Birch (*Betula pendula*), and Valonia Oak (*Quercus ithaburensis* subsp. *macrolepis*).

Of particular interest are his publications on the vegetation of Albanian pastures, the production of the first vegetation map of Albania, keys for distinguishing various genera and families, as well as a work on Albanian vernacular names of trees and shrubs. Unfortunately, these contributions were largely unavailable to foreign botanists due to Albania's political and geographical isolation during the Communist period. His first book, *Trees and Shrubs of Albania*, is still considered the most comprehensive and valuable publication in this field for Albania.

Key words: Albania, botany; flora and vegetation; Jokl; Mitrushi

INTRODUCTION

Botanical studies in Albania date back to the early 1800s when travelers to Ottoman lands documented plants from various regions of the Ottoman Empire, including the territory of present-day Albania [1–4]. They were followed by botanists such as August Grisebach, Ignaz von Szyszyłowicz, Eduard Formánek, Max Šoštarić, Antonio Baldacci, and Ignaz Dörfler [5].

The first accounts by Albanian botanists came relatively late, after the 1940s, with contributions from Nikolla Lako, Ilia Mitrushi, Lllazar Treska, Kolë Paparisto, Ilia Nako, Mustafa Demiri, and Xhafer Qosja. Their scientific publications were shaped by the political system that dominated the country after World War II. From 1945 to 1992, scientific research, including botany, was directed toward areas with economic value, and all achievements were credited to the "leadership of the party and its supreme leader." Consequently,

floristic studies focused on pastures, fodder plants, and those with medicinal or commercial use, while forestry studies emphasized cultivation and breeding to increase timber production.

Botanists were often required to include in their publications the composition and evaluation of recorded plants, for example: "Among the plants that would give good results on calcareous Gramozi mountain pastures are *Poa alpina* 8 kg, *Festuca ovina* 8 kg, *Dactylis glomerata* 8 kg, *Lolium perenne* 4 kg, *Trisetum flavescens* 5 kg, *Trifolium repens* 2 kg, *Medicago lupulina* 3 kg, etc." [6].

The political and geographical isolation of Albania from other European countries also led to the interruption of cooperation and communication between Albanian botanists and their international counterparts. This not only limited the quantity but also reduced the quality of botanical studies after 1965, which is one reason Albania remains one of the least studied European countries in terms of its flora and fauna.

Despite this dark period, a shining light in Albanian botany emerged — the forester Ilia Mitrushi, whose publications remain little known to most foreigners due to the country's isolation and because his works are written in Albanian.

CHILDHOOD AND EDUCATION

Ilia Mitrushi was born on June 13, 1904, in the small village of Panariti, located in the district of Korça, southern Albania (Figure 1). He spent the first ten years of his childhood in his native village, where he completed primary school (Figure 2). In 1914, during World War I, his village was burned down, and most of the population—men, women, and children—was massacred by Greek forces. The Mitrushi family then moved to the city of Korça. Ilia's father, Gjergji Mitrushi,

was a well-off merchant and was able to supplement a scholarship for Ilia to study at the Salzburg Gymnasium in Austria, where he enrolled in 1922 at the age of 18. Ilia completed high school in 1926 with excellent results, which allowed him to continue his university studies at the Faculty of Forestry at Vienna University (Figure 3).

In 1931, Ilia Mitrushi graduated as an "Engineer of Forest Science," a title (Engineer = Eng.) that he used in all his publications until his death in 1986, despite later achieving the academic title of "Senior Scientific Associate," equivalent to today's title of "Associate Professor." During his university studies in Vienna, Mitrushi spent much time attending lectures and conversing with the renowned Jewish Albanologist Norbert Jokl, with whom he formed a close friendship that continued after his return to Albania.



Figure 1. Panariti village in southern Albania, birthplace of Ilia Mitrushi



Figure 2. Mitrushi monitoring bees during his childhood



Figure 3. Mitrushi (third from right) with friends from Vienna University, in 1930

WORK AND RELATIONSHIPS

Mitrushi's father, Gjergji, passed away in 1926 at the age of 56. His remaining family of eight members emigrated to the USA, except for his older brother (the second of nine children), who stayed in Korça to manage the family bakery. After graduating in 1931, Ilia Mitrushi faced the dilemma of joining his family in the USA or returning to Albania. Driven by a strong desire to serve his country, he returned to Albania, where he became the country's first forestry engineer in the Ministry of Economy (Decree nr. 1306, dated 23 September 1931). When the Forestry Directorate in this ministry was established, he worked as a forest technol-

ogy specialist alongside a Hungarian forestry consultant.

In the summer of 1933, during a visit to the home of Hungarian colleagues, Mitrushi "accidentally" met 21-year-old Maria Bernath, a charming Hungarian woman who had come to Albania to visit her cousin (the Hungarian forestry consultant). On the recommendation of Hungarian doctors, Maria sought the mild maritime climate to cure a persistent cough. Love and marriage followed, and the couple had two daughters (Figure 4), Liljana (b. 1936) and Agnes (b. 1941). As of May 2024, Agnes, aged 83, is still alive, while Liljana passed away in 2021.



Figure 4. Mitrushi with wife Maria, and daughters Liljana and Agnes

Until mid-March 1947, Mitrushi worked as a forestry specialist in the Ministry of Economy and later in the Ministry of Agriculture, serving as Head of the Forestry Section until 15 October 1950. As a senior government official, he often received delegations of foreign visitors (Figure 5). However, he never abandoned his fieldwork and research on forests and mountain pastures. He was passionate about forests, describing them as "his love, spirit, and energy." In his writings, he em-

phasized the critical importance of forests, stating, "Whoever damages the forests does not merely cause harm, but intentionally or unintentionally contributes to the destruction of his own country because a country without forests lacks natural protection and becomes a desert" [7].

Between 1931 and 1950, Mitrushi traversed Albania, collecting thousands of specimens of trees and shrubs, representing nearly the entire woody flora of the country (Figure 6). His house became a

scientific laboratory where the specimens were identified, catalogued, and stored (Figure 7). In addition to mandatory propagandistic publications, he authored several scientific articles, including

"Our Pastures" (*Kullotat t'ona*) and "Gramozi Mountain: Flora, Forests, and Pastures" [6, 7]. These works marked him as one of the first Albanian researchers of the mountain's flora.



Figure 5. Mitrushi (third from right) with visiting Chinese and Russian forestry experts



Figure 6. Mitrushi (centre) before leaving on an expedition



Figure 7. Mitrushi relaxing at home, in 1948

His dedication to research earned him a position at the newly created Institute of Sciences on 5 December 1951, where he worked until August 1957. In 1956, he obtained the degree of "Candidate of Biological Sciences," and on 1 September 1957, with the establishment of the University of Tirana, he was appointed head of the Scientific Section of Flora within the Botanical Department in the Faculty of Natural Sciences, where he worked until his retirement.

As head of the flora section, Mitrushi focused on Albania's flora and vegetation, especially its trees and shrubs. His numerous expeditions in the early 1950s resulted in a series of publications

on the population ecology and distribution of various conifers, broad-leaved trees, and shrubs. Among his works are publications on the biology of Horse Chestnut (*Aesculus hippocastanum* L.), European Chestnut (*Castanea sativa* Mill.), Balkan Pine (*Pinus peuce* Griseb.), Bosnian Pine (*Pinus heldreichii* Christ), European White Birch (*Betula pendula* Roth), and Valonia Oak (*Quercus ithaburensis* subsp. *macrolepis* (Kotschy) Hedge & Yalt.).

In 1955, Mitrushi published *Trees and Shrubs of Albania* (*Drurët dhe Shkurret e Shqipërisë*), a 604-page volume (Fig. 8). This work details 330 taxa found in Albania, 85 % of which are native, with the remainder cultivated for ornamental or

practical purposes. For each taxon, he provides its taxonomic position, synonyms, Albanian and international names, botanical characteristics, distribution, ecology, uses, and information on diseases

and pests. The book also contains Albania's first phyto-climatic map, dividing the country into six zones. This book remains among the most cited in Albanian floristic literature [8–10].



Figure 8. Four of his books

Mitrushi placed special emphasis on creating keys for identifying trees and shrubs, based on fruit characters. He published his second major work, *Dendroflora of Albania (Dendroflora e Shqipërisë)* [11], nearly ten years later, which provided identification keys for Albanian trees and shrubs.

After retiring in 1971, Mitrushi continued working at home and at the National Library, contributing to the Bulletin of Natural Sciences. He collaborated with Prof. M. Demiri to produce the first Vegetation Map of Albania [12] and worked as a Regional Advisor for Albania for *Flora Europaea* and *Atlas Florae Europaeae* [13].

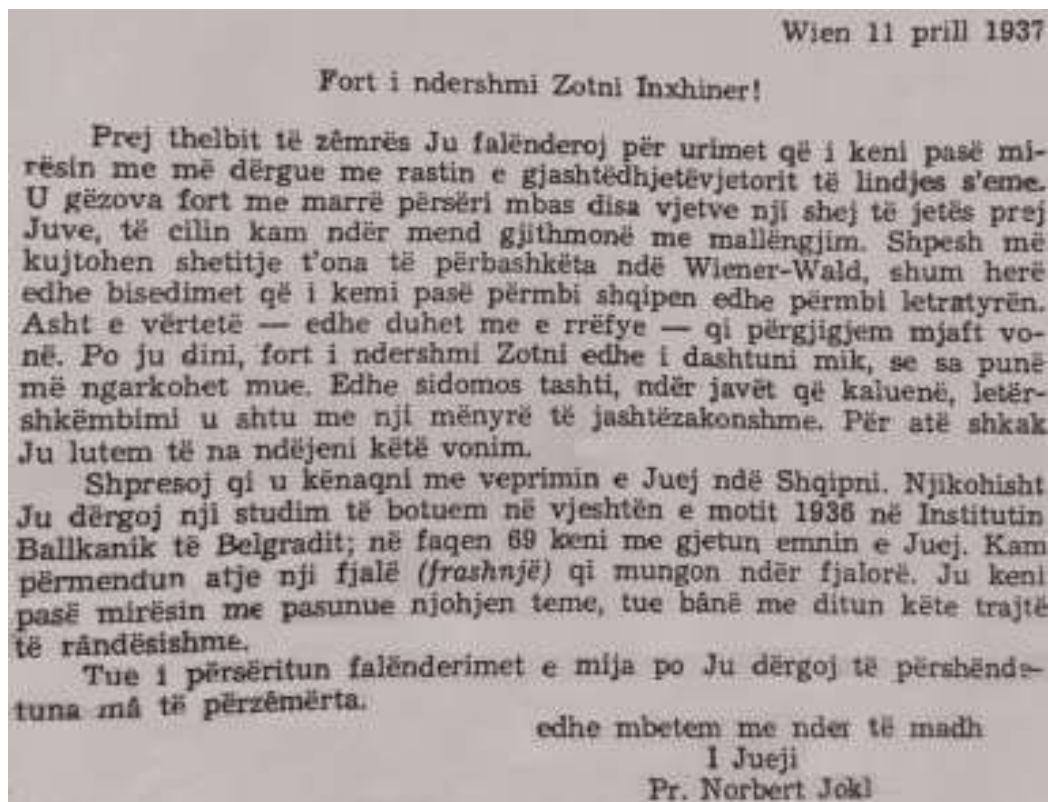
At the time of his death in July 1986, two of Mitrushi's manuscripts remained unpublished: a booklet on the "Oaks of Albania" and a "Dictionary of Vegetation." Although he was encouraged by Norbert Jokl to compile a dictionary of Albanian plant names, including regional variants, the manuscript was never published and was returned to the family after his death [14]. However, in 2005, with the help of two foresters and his daughters, his posthumous book, *Fruits and Seeds of Trees and Shrubs of Albania*, was published (Figure 8).

NORBERT JOKL

In his publications, Mitrushi sought to simplify the language and expressions used to make his writing clear and accessible to readers. His interest in the Albanian language began during his time at Vienna University, where he was especially influenced by the lectures of Norbert Jokl, a senior librarian at the university. This interest continued throughout his professional career. According to Eric P. Hamp (1920–2019), a renowned linguist of Indo-European languages, Jokl's passion was the history and comparative study of the Albanian language. One of Jokl's primary focuses was clarifying the connection between Albanian words and their Indo-European origins.

Jokl's interest in Albanian dialects, combined with Mitrushi's focus on the explanations of Latin and Albanian plant names, led to a productive collaboration that continued until 1937. Their communication was intermittent due to various circumstances and time constraints. In his final letter, Norbert Jokl expressed satisfaction with their mutual communication and cooperation, and apologized for the delay in his response [15].

Letter from Norbert Jokl



Wien, 11 April 1937

Most sincere and honorable Mr. Engineer,

I thank you from the bottom of my heart for the congratulations you kindly sent me on the occasion of my 60th birthday. I was very happy to receive a sign of life from you after so many years. I fondly remember our walks in the Wiener Wald and the many discussions we had about the Albanian language and literature. It is true, and must be said, that I have answered so late. But please know, dear sir and dear friend, how much work has been required of me. Especially in recent weeks, my response to your letter was delayed in an extraordinary way. For this, I sincerely apologize.

I hope you are content with your work in Albania. I am sending you a study that was published in the autumn of 1936 by the Balkan Institute in Belgrade; you will find your name on page 69. I mentioned the word *frasnjë* (fraxinus), which is absent from all dictionaries. You were so kind as to enrich my knowledge with this important word.

With many thanks again, I send my warm greetings,
and remain with great respect,
Yours,

Prof. Norbert Jokl

At the start of World War II, Italy invaded Albania on April 7, 1939, and forever altered the course of Jokl's friendship and collaboration. Norbert Jokl, due to his Jewish heritage, was dismissed from his position as senior librarian at Vienna University on May 20, 1938. Despite efforts by numerous Albanian intellectuals, including Bishop Fan S. Noli (the founder of the Albanian Orthodox Church in America) and Faik Konitza (Albania's top diplomat in Washington), who petitioned both the American consulate in Vienna and Adolf Hitler to allow Jokl to emigrate to America to continue his work, these efforts were unsuccessful [16].

With the support of Gjergj Fishta (a Franciscan priest and national writer), Ernest Koliqi (Minister of Education in Albania) appointed Jokl as Director of the National Library of Albania with an annual salary of 600 Napoleon gold coins. However, even the appeals of Gjergj Fishta, Carlo Tagliavini (Professor at the University of Padova), and the entreaties of Galeazzo Ciano (Minister of Foreign Affairs in Italy) to the German authorities could not save Jokl. He was not permitted to leave Austria.

In March 1942, Jokl was arrested by the Gestapo at his home in Vienna and transferred to a concentration camp. On May 6, 1942, he was taken to Maly Trostenets, where he was put to death. Jokl's life work, a handwritten text similar to Gustav Meyer's 1891 *Etymological Dictionary of the Albanian Language*, has yet to be found. It is believed to have been confiscated and "Aryanized" by the Nazis. His extensive and valuable personal library, which he had bequeathed to Albania, was instead taken by the National Library of Austria [17].

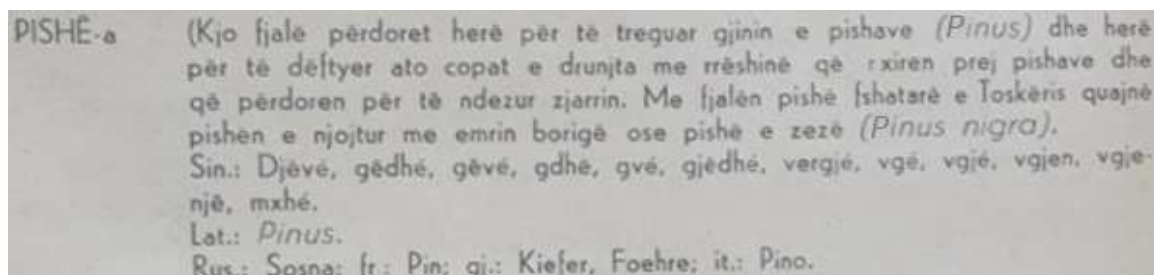
THE ALBANIAN LANGUAGE ENRICHED

While conducting fieldwork across the country, Mitrushi gathered and documented plant names used in various regions. He paid close attention to dialects and potential connections to place names and their origins. For example, he explained the name of Gramos Mountain as follows:

The name "Gramos" is derived from the Albanian word "gram," commonly known as Bermuda grass (*Cynodon dactylon*), also referred to as "bar" in Albanian (meaning "grass" in English). "Gramos" thus signifies a place covered with grass or "gram." The origin of the word "Gramos" is also compared to names such as Gramsh, Gremsh (the city of Gramsh), and suffixes like "-os" in words such as Linos (a forest in Shëngjergj, Tirana), Patos (a city in Mallakastër), Bagos (a village in Kavaja), and Mnos (Mner, the name of a pasture in Galush village, Peqin).

Over a period of twenty years in the rural areas of Albania, Mitrushi compiled over 4,500 plant names from different regions, along with their morphological and ecological characteristics. He published four scientific papers dedicated to the Albanian names of trees and shrubs in 1952 and 1953, followed by the book *Botanical Terminology*, in collaboration with A. Xhuvani. Mitrushi's scientific articles and books on plant names and geographical place names have been widely embraced by both local and foreign linguists, including E. Çabej, A. Xhuvani, L. Poradeci, M. Domi, A. Kostallari, S. Gashi, and R. Elsie [18–24].

The following paragraph indicates how Mitrushi had analyzed the name *Pishë* (*Pinus* = Pine).



PISHË-a

This name refers to the genus *Pinus* and also to the pieces of resinous wood taken from the pine stem, used to light a fire. In the southern region of Albania, known as Toskëri (where the Tosk dialect is spoken), the word "Pishë" (Pine) is used by villagers to refer to the Black Pine, also known as Borigë (Figure 9).

Synonyms: Djëvë, gëdhë, gëvë, gdhë, gjëdhë, vergjë, vgë, vgjë, vgjen, vgjenjë, mxhé.

Latin: *Pinus*

Russian: Sosna

French: Pin

German: Kiefer, Föhre

Italian: Pino

Many of the names and words noted and interpreted by Mitrushi help explain linguistic connections between the Albanian language and other languages. For instance, [22] explored these connections through the word *Kulumbri* (English: Blackthorn) in his publication *Latin-Roman Layers: On the Name of the Bush and the Bird Kulumbri in the Albanian Language*.



Figure 9. Mitrushi and *Pinus nigra* (Black Pine) tapped for resin

Kulumbri (*Prunus spinosa*): In Fushë-Krujë, it is called *kulmri*; in the Mati district, *kulumbri* and *kulumri*; in Kurvelesh and Tropoja, *kulumbri* and *kulumri*; in the Toskëri region, it appears as *kullumbri* and *kullumbrinë*. Albanians of Calabria in southern Italy use the forms *kumlëri* and *kumri*, as do those in the village of Selit' e Vogël near Tirana and in Tirana itself [25].

CONCLUSION

Ilia Mitrushi was an ethical, careful, and meticulous worker who never spared himself. His dedication and diligence were remarkable, and he took great responsibility in attending to every detail, including calligraphy on labels and documents. His papers are not only easy to read and understand but also reveal a wealth of orthographic variants. His handwritten, unpublished booklet *Dushqet e Shqipnis* (Oaks of Albania) would not have had the same character if prepared on a modern typewriter (Figure 8).

Mitrushi's life was neither smooth nor easy; he suffered many personal tragedies and hardships. However, these did not deter him from his determination to continue studying the flora and vegetation of Albania. After World War II, Albania was governed by an authoritarian communist regime that was unsympathetic to intellectuals who had studied in Western countries. The properties of Mitrushi's elder brother, who had stayed in Korça to run the family bakery, were confiscated, and his brother was imprisoned for being associated with the National Front (Balli Kombëtar), an opposition party. His brother was also punished for supplying bread to the National Front during the war. He was released from prison in the 1970s, only to pass away ten days later.

Due to his brother's political activities, his family members in the USA, and his marriage to a Hungarian woman, Mitrushi was viewed by the government as a "person of suspicion". After Albania's exit from the Eastern Bloc in 1965, all foreigners were considered spies by the communist regime. Almost all Albanians married to foreign women, particularly from Eastern countries, were forced to divorce, and 95% complied. Mitrushi refused, and as a result, his professional career suffered. Despite being the most scientifically productive in terms of work and botanical publications, he was not granted the title of Professor or Academician, honors he undoubtedly deserved. When he retired in 1971, he was not allowed to continue working from his office and could only conduct his research at the National Library, which he did until

two years before his death. His name was omitted from volumes 2, 3, and 4 of the *Flora of Albania*, despite his significant contributions to the data.

He passed away at home on July 5, 1986, in the arms of Maria, whom he had refused to divorce. Ilia Mitrushi had returned to Albania with a vision of serving his country and advancing botanical science; he died deeply disappointed by the actions of the Hoxha regime. His photograph, with clear eyes and an unclouded brow, tells more about his life and spirit (Figure 10).



Figure 10. Mitrushi, a man with a vision

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ИЛИЈА МИТРУШИ (1904–1986), ПИОНЕРСКИ АЛБАНСКИ БОТАНИЧАР

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Во трудот е прикажана биографијата на Илија Митруши и неговите придонеси во проучување на флората и вегетацијата на Албанија пред и по Втората светска војна. Овие придонеси вклучуваат повеќе од триесет и четири научни публикации, вклучително и пет книги. Меѓу написите, најзначајни се оние за екологијата, распространувањето и комерцијалната употреба на дивiot (коњски) костен (*Aesculus hippocastanum*), европскиот костен (*Castanea sativa*), моликата (*Pinus peuce*), босанскиот бор (*Pinus heldreichii*), европската бела бреза (*Betula pendula*) и валонскиот даб (*Quercus ithaburensis* subsp. *macrolepis*). Од особен интерес се неговите публикации за вегетацијата на албанските пасишта, изработката на првата вегетациска карта на Албанија, клучеви за дтерминација на различни родови и фамилии, како и делото за албанските народни имиња на дрвја и

грмушки. За жал, овие придонеси беа во голема мера достапни за странските ботаничари поради политичката и географската изолација на Албанија за време на комунистичкиот период. Неговата прва книга, Дрвја и грмушки на Албанија, сè уште се смета за најсеопфатна и највредна публикација во оваа област за Албанија.

Клучни зборови: Албанија, ботаника; флора и вегетација; Јокл; Митруши