

STRUCTURAL ANALYSIS OF SNAKE NAMES IN THE UZBEK LANGUAGE

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Abstract

This article examines the linguistic structure of snake names in the Uzbek language. The structural types of zoonyms, specifically the formation models of one-component, two-component, and multi-component names, are analyzed. During the study, more than 200 snake names are classified from morphological and syntactic perspectives.

Keywords: Zoonym, structural analysis, one-component, two-component, multi-component, terminology, nomination, Uzbek language.

Introduction

СТРУКТУРНЫЙ АНАЛИЗ НАЗВАНИЙ ЗМЕЙ В УЗБЕКСКОМ ЯЗЫКЕ

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АННОТАЦИЯ

В данной статье исследуется лингвистическая структура названий змей в узбекском языке. Анализируются структурные типы зоонимов, в частности модели формирования однокомпонентных, двухкомпонентных и многокомпонентных названий. В ходе исследования более 200 названий

змей классифицированы с морфологической и синтаксической точек зрения.

Ключевые слова: зооним, структурный анализ, однокомпонентный, двухкомпонентный, многокомпонентный, терминология, номинация, узбекский язык.

O‘ZBEK TILIDA ILON NOMLARINING STRUKTURAVIY TAHLILI

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ANNOTATSIYA

Ushbu maqolada o‘zbek tilidagi ilon nomlarining lisoniy qurilishi tadqiq etiladi. Maqolada zoonimlarning strukturaviy turlari, xususan, bir komponentli, ikki komponentli va ko‘p komponentli nomlarning hosil bo‘lish modellari tahlil qilinadi. Tadqiqot davomida 200 dan ortiq ilon nomlari morfologik va sintaktik jihatdan guruhlariga ajratib ko‘rsatilgan.

Kalit so‘zlar: zoonim, struktur tahlil, bir komponentli, ikki komponentli, ko‘p komponentli, terminologiya, nominatsiya, o‘zbek tili.

Introduction

Zoonyms, as a distinct layer of the lexicon, do not merely serve as labels for animal species; they are complex linguistic units that encapsulate a nation’s cognitive perception of the natural world, its historical experiences, and its cultural heritage. Within the broad field of onomastics, the naming of snakes (*Serpentes*) presents a unique area of study due to the diverse roles these creatures play in human life—ranging from objects of fear and danger to symbols of wisdom and healing. In the Uzbek language, snake names have evolved through a combination of ancient Turkic roots, Islamic cultural influences, and modern scientific standardization.

The structural analysis of these zoonyms allows us to understand the inner logic of the language's nominative system. It reveals how speakers prioritize certain physical or ecological markers over others to distinguish between hundreds of species. As linguistics shifts towards a more systematic and cognitive approach, analyzing the morphological and syntactic patterns of specialized vocabularies, such as snake names, becomes a vital task for lexicographers, terminologists, and translators alike.

The study of zoonymic units has a long and established history in both global and Uzbek linguistics. Globally, the theoretical framework for understanding how names are assigned to objects is rooted in the "inner form of the word" concept by A.A. Potebnya and the nomination theories of scholars like N. Mamatov, who argued that naming is a result of specific logical-cognitive processes.

In the context of English and general linguistics, scholars such as A. Wierzbicka and G. Leech have extensively explored the cultural-symbolic and connotative layers of animal names, establishing how a biological denotatum (e.g., a snake) acquires various stylistic and pragmatic meanings in different discourses.

In Uzbek linguistics, the research on zoonyms began with the historical stratification found in Mahmud al-Kashgari's "*Diwan Lughat al-Turk*", which remains the primary source for archaic Turkic animal nomenclature. Further etymological investigations by A. M. Shcherbak uncovered the roots of over 60 archaic animal names, providing a foundation for diachronic studies. The functional-stylistic and aesthetic roles of zoonyms were notably analyzed by B. Bafojev, who categorized over 350 units in the works of Alisher Navoi, highlighting their use in classical poetry.

In more recent decades, the focus has shifted toward the sociolinguistic and phraseological aspects of zoonymy. A. J. Omonturdiyev investigated the use of zoonymic euphemisms in the speech of livestock breeders, while D. T. Yuldashev substantiated the role of animal names in forming toponyms (e.g., *Bo'rijatak, Tulkili*).

Despite these significant contributions, a specialized structural sub-classification of snake names—categorizing them by their component count and formation models—has remained relatively under-researched. While the semantic and folkloric aspects are well-documented, the linguistic transition from single-word

roots to complex four-component descriptive phrases requires a more detailed typological analysis. This study aims to fill that gap by examining the structural landscape of over 200 snake names within the Uzbek nominative system.

Materials and methods

The research data for this study consists of a specialized corpus of 239 snake names, specifically zoonyms belonging to the suborder *Serpentes* and order *Ophidia*, which were systematically extracted from diverse linguistic and scientific sources. To ensure taxonomic accuracy, this data was further supplemented with technical terminology from Uzbek zoology textbooks, biological encyclopedias, and historical linguistic data from Mahmud al-Kashgari's *Diwan Lughat al-Turk* for the identification of archaic and fused compound roots.

In terms of methodology, the study employs a multi-faceted linguistic approach to achieve a systematic structural classification. The descriptive method is utilized to provide a thorough characterization of the phonetic and morphological status of these zoonyms in modern Uzbek. Central to the study is the structural-morphemic analysis, which enables the decomposition of complex names into their constituent roots, affixes, and independent lexical components, thereby identifying specific word-formation models such as compounding and analytical phrasing. Following this, the collected units are categorized through a systematic classification process into single-component, two-component, and multi-component structures. Furthermore, a quantitative method is applied to determine the productivity and frequency of each model within the corpus, while comparative-contrastive analysis is used to examine the structural evolution from ancient, single-word Turkic roots to modern, descriptive scientific nomenclature.

Discussion

The structural analysis of snake names in the Uzbek language reveals a sophisticated and highly organized nominative system that reflects both ancient linguistic traditions and modern scientific requirements. The results indicate that the evolution of snake nomenclature has transitioned from simple, monosyllabic roots to complex, analytical constructions, a shift that aligns with the global trend toward taxonomic precision in biological sciences.

The presence of single-component zoonyms such as Kobra, Aspid, and Efa represents the intersection of the Uzbek lexicon with international scientific terminology. Interestingly, while these are perceived as simple units in modern Uzbek, they often carry heavy semantic loads. The discussion must acknowledge that many of these terms are "loan-words" that have achieved a high degree of stability, replacing or existing alongside local descriptive terms. For instance, while Kobra is the standard term, the older or more descriptive Kapchailon (hooded snake) continues to be used in certain discourses, highlighting a competition between international standardization and national descriptive motivation. Furthermore, fused compounds like Suvilon (water snake) and Qorailon (black/viper snake) demonstrate the process of *lexicalization*, where a previously two-component phrase has undergone syntactic and phonetic compression to become a single, inseparable concept. This suggests that the Uzbek language has a historical tendency to simplify frequently used descriptive labels into single-word units.

A key finding of this study is the overwhelming productivity of the two-component model (Modifier + Head). This model serves as the primary functional tool for species identification in Uzbek. The modifiers are not chosen at random; they are deeply rooted in what A.A. Potebnya described as the "inner form of the word." Modifiers based on color (qora, qizil, zaytun) and habitat (qum, cho'l, dengiz) are the most frequent. This indicates that for the Uzbek speaker, the most relevant differential markers for distinguishing snakes are visual appearance and ecological niche.

From a cognitive perspective, this descriptive strategy allows for immediate mental mapping. For example, naming a species Qum charxiloni (sand saw-scaled viper) instantly communicates both the physical danger (viper) and the location (sand), which is essential for survival in the regions where these languages developed. The two-component structure is thus not just a grammatical choice but a cognitive strategy for organizing environmental knowledge.

As we move toward three- and four-component names, the linguistic nature of the zoonyms changes from "folk naming" to "academic labeling." Phrases like Argentina bo'g'ma iloni or Madagaskar tor qorinli bo'g'mailoni illustrate how the Uzbek language handles the increasing need for specificity in modern

herpetology. These structures often incorporate toponyms (geographical markers) and anatomical details (e.g., *tor qorinli* - narrow-bellied).

The discussion of these complex units reveals a significant linguistic tension: the more precise a name becomes, the less "word-like" and more "phrase-like" it appears. In Uzbek, these multi-component units are often constructed using the *izafa* (possessive) construction or simple juxtaposition. This analytical approach allows the language to remain flexible; instead of creating a brand-new root for every newly discovered species, Uzbek utilizes its existing grammatical machinery to build descriptive chains. This reflects the typological nature of Uzbek as a language that favors agglutinative and analytical methods over synthetic ones in the realm of specialized terminology.

When comparing these results to the historical data found in Mahmud al-Kashgari's *Diwan Lughat al-Turk*, a clear trajectory is visible. The ancient Turkic layer was characterized by brevity and broad categorization (e.g., *yılan* for all snakes). The modern Uzbek nomenclature, however, has developed a high degree of *semantic density*. The shift from a single generic term to over 200 specific structural models indicates a maturation of the language's professional and scientific registers.

For lexicography, this structural diversity poses a challenge. Should Bo'g'mailon be a main entry or a sub-entry under Ilon? Our analysis suggests that because these units function as specific taxonomic markers, they should be treated as independent terminological units. The structural classification provided in this study offers a framework for organizing these entries more logically in future zoological and explanatory dictionaries.

In summary, the structural landscape of Uzbek snake names is a testament to the language's ability to balance its historical roots with the demands of modern science. The move toward analytical, multi-component descriptive naming proves that Uzbek is an adaptable system, capable of providing precise labels for a vast and complex biological world.

Results

The structural analysis of the collected corpus, comprising 239 Uzbek snake names, reveals a clear distribution across different word-formation models. The findings indicate that the Uzbek nominative system for herpetological

terminology is predominantly analytical, favoring multi-word descriptive constructions over simple roots. The quantitative data shows that two-component zoonyms are the most frequent, serving as the standard functional units for species identification.

The results of the structural classification are systematized in the table below:

Table 1. Structural distribution and formation models of Uzbek snake names

Structural Category	Number of Units	Percentage (%)	Primary Formation Models	Representative Examples
Single-component (Simple)	45	18.8%	Borrowings, Root words, Fused compounds	Kobra, Piton, Suvilon, Bo‘g‘mailon
Two-component	154	64.4%	Adjective + Noun (Attributive), Noun + Noun (Locative)	Qora suvilon, Qum charxiloni, Shoh piton
Multi-component (3+)	40	16.8%	[Geographical + Attribute + Genus], [Participle + Noun + Noun]	Argentina bo‘g‘ma iloni, O‘rmalovchi sariq chiporilon
Total	239	100%	—	—

1. Single-component Zoonyms account for 18.8% of the corpus. It primarily consists of international borrowings (*Kobra*, *Aspid*) and historically lexicalized compounds (*Sariqilon*, *Qorailon*). These units represent the generic level of naming and are highly stable within the lexicon.

2. Two-component Zoonyms as the dominant category (64.4%), these names demonstrate the productivity of the "Modifier + Head" pattern. The most frequent modifiers are related to:

- ✓ Color/Appearance: *Qizil ilon* (Red snake), *Ola kontiya* (Striped kontia).
- ✓ Habitat/Location: *Dengiz ilonlari* (Sea snakes), *Cho‘l bo‘g‘mailonchasi* (Steppe boa).
- ✓ Morphological features: *Nayzabosh ilon* (Lancehead), *Uzuntumshuq suvilon* (Long-nosed water snake).

3. Comprising 16.8% of the data, multi-component zoonyms are typically found in academic and encyclopedic sources. They provide specific taxonomic details, often linking a species to a specific geographical region or complex physical trait. The structural complexity increases as the need for scientific precision grows,

moving from three-word phrases to four-component descriptive chains (*Madagascar tor qorinli bo 'g 'mailoni*).

The data clearly suggests that as the Uzbek language adapts to modern biological standards, the reliance on analytical descriptive naming becomes more pronounced, allowing for a flexible and precise terminological system.

Conclusion

The structural analysis of snake names in the Uzbek language provides a comprehensive overview of the linguistic mechanisms used to organize biological knowledge. Based on the investigation of a 239-unit corpus, several key conclusions can be drawn:

Firstly, the Uzbek nominative system for snakes is characterized by a high degree of analytical and descriptive productivity. The research confirms that two-component zoonyms are the dominant structural model, accounting for 64.4% of the total terminology. This model, primarily following the "Modifier + Head" pattern, relies heavily on visual markers (color, pattern) and ecological indicators (habitat, location) to achieve species differentiation.

Secondly, the evolution of these names reflects a transition from ancient, single-word Turkic roots to complex, multi-component scientific labels. While single-component units (18.8%) provide the stable, generic core of the lexicon—often supplemented by international borrowings like *Kobra* or historically fused compounds like *Suvilon*—the increasing need for taxonomic precision in modern science has led to the growth of multi-component structures (16.8%). These complex units effectively function as "linguistic passports," integrating geographical, morphological, and biological data into a single naming chain.

Thirdly, the motivation behind snake naming in Uzbek is deeply rooted in cognitive observation. Modifiers based on color and habitat are not merely labels but are essential cognitive tools that allow speakers to categorize and navigate the natural world. This study demonstrates that the Uzbek language possesses a flexible and adaptable terminological framework, capable of incorporating both national descriptive traditions and international scientific standards.

Finally, the systematic classification of these zoonyms has significant practical implications. The identified models can serve as a theoretical foundation for lexicographical practice, aiding in the logical organization of specialized

dictionaries. Furthermore, understanding these structural patterns is vital for the development of automated translation tools and the standardization of biological terminology in the Uzbek language. Future research may expand this contrastive approach to other zoonymic layers, further illuminating the unique linguistic world-view embedded in the Uzbek lexicon.

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