

FIRST CONFIRMED BREEDING RECORD
OF THE WHITE STORK (*CICONIA CICONIA* L.)
IN KOTAYK REGION, ARMENIAL. H. AGHAJANYAN ^{1,2*}, N. H. TARASYAN ^{2,3**}¹ Scientific Center of Zoology and Hydroecology, Armenia² Branch of the German Nature Protection Union (NABU) in the RA, Armenia³ Institute of Geological Sciences, Armenia

The White Stork (*Ciconia ciconia* L.) is one of the best monitored bird species in the Western Palearctic, with national censuses conducted roughly every ten years since 1934. In Armenia, systematic monitoring between 2005 and 2016 documented breeding pairs in seven of the country's eleven administrative regions – Ararat, Armavir, Aragatsotn, Yerevan, Lori, Shirak, and Vayots Dzor – with no confirmed breeding records from Kotayk Region. During Armenia's participation in the 8th International White Stork Census in June 2024, seven breeding pairs were confirmed across three settlements in Kotayk (Yeghvard, Kanakeravan, and Mrgashen), all nesting on electric poles. This represents the first documented breeding occurrence of the species in this region. We report the details of this finding and discuss two non-exclusive explanations: genuine range expansion associated with Armenia's broader national population increase in 2024, and improved survey coverage relative to earlier monitoring efforts that did not include Kotayk. Continued monitoring will be needed to determine whether this represents a stable and expanding foothold for the species in the region.

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Introduction. The White Stork's close association with human-modified landscapes – nesting on rooftops, chimneys, and increasingly on electric infrastructure within villages and towns – has made it one of the best-monitored bird species in the world [1]. Since the first large-scale inventory in 1876 and the launch of the coordinated International White Stork Census (IWSC) in 1934, national censuses have been conducted roughly every ten years, most recently in 2014 [1], with an eighth round conducted in 2024/25. These censuses have documented substantial variation in population size and trend across the species' range [1, 2].

Armenia lies near the Eastern edge of the species' Western Palearctic breeding range, within the broader South Caucasus flyway [3]. Systematic, country-wide monitoring of the species in Armenia is comparatively recent. Annual surveys

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conducted between 2005 and 2016 recorded a national population increase from 548 to 654 breeding pairs, alongside a marked shift toward nesting on electric poles [4]. This monitoring effort, and Armenia's earlier national contribution to the 6th IWSC in 2004/05 [5], covered seven regions: Ararat, Armavir, Aragatsotn, Yerevan, Lori, Shirak, and Vayots Dzor.

Kotayk Region does not appear to have been included in this monitoring, and no breeding records for the species appear to have been previously published from this region.

Armenia's participation in the 8th IWSC in June 2024 – a synchronized, nationwide census that aimed to cover all eleven regions in a single survey round – recorded a substantial national population increase, to 3166 breeding pairs, alongside the first confirmed breeding records of the species in Kotayk [6]. Here we report the details of this occurrence and consider its possible explanations.

Study Area. Kotayk Region lies in Central Armenia, immediately Northeast of the capital, Yerevan, and comprises a mix of urban, suburban, and agricultural landscapes at moderate elevation (Fig. 1) [7]. It borders Ararat Region, a long-established strongholds of the national White Stork population, as well as Yerevan, Aragatsotn, Tavush, Gegharkunik, and Lori [7]. The three settlements, where breeding was confirmed – Yeghvard, Kanakeravan, and Mrgashen – lie in the Western part of the region, in low-lying agricultural land close to the Ararat Valley.

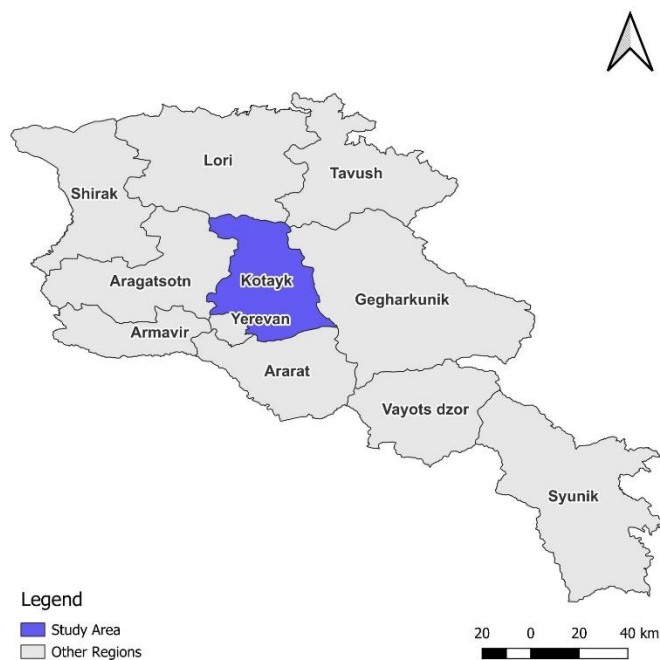


Fig. 1. Geographic location of the study area – Kotayk Region.

Materials and Methods. Fieldwork followed the protocol used for the national 2024 census [6, 8]. In brief, preliminary data on nest occurrence were compiled through communication with regional administrations and confirmed in the field during the winter of 2023. The main census was conducted in June 2024, and for each nest, data were recorded on location, substrate, occupation (active,

newly active, abandoned, newly abandoned, or destroyed), number of adults and nestlings, and GPS coordinates.

Results and Discussion. Eight nest records were documented across three settlements in Kotayk Region (see Table and Fig. 2). Seven were classified as active (four active, three newly established), and one – in Yeghvard – was newly abandoned. All eight nests were located on electric poles; no nests were recorded on trees, roofs, or other structures. Yeghvard held the majority of records (five of eight), with single nests recorded in Kanakeravan and Mrgashen.

Nest records for White Stork in Kotayk Region, June 2024

N	Settlement	Nest occupation	Substrate	Adults	Nestlings
1	Kanakeravan	active	electric pole	1	1
2	Mrgashen	active	electric pole	1	2
3	Yeghvard	new active	electric pole	1	2
4	Yeghvard	new abandoned	electric pole	0	0
5	Yeghvard	new active	electric pole	1	2
6	Yeghvard	active	electric pole	1	1
7	Yeghvard	active	electric pole	0	4
8	Yeghvard	new active	electric pole	1	unknown

Breeding outcome was determined for six of the seven active pairs, which together produced at least 12 fledglings, giving a minimum productivity of 1.7 fledglings per pair – comparable to the national average recorded in the same census [6]. The outcome of one pair (a newly established nest in Yeghvard) could not be determined.

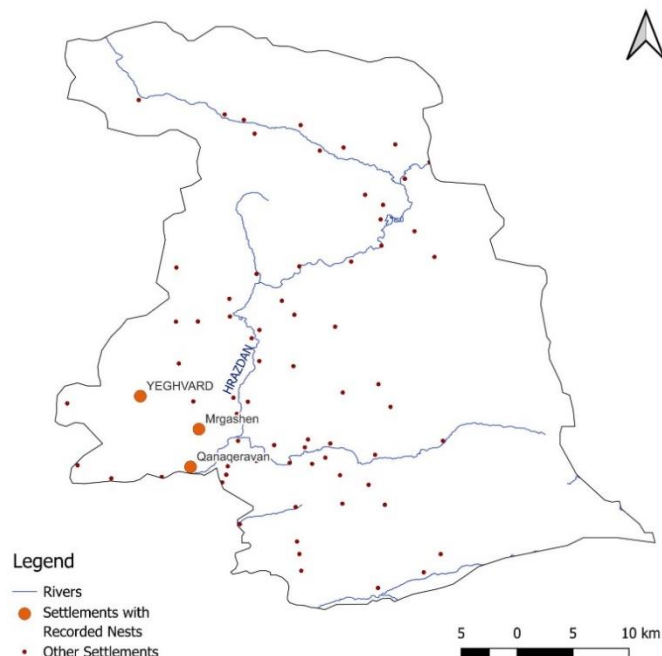


Fig. 2. Location of the three settlements with confirmed White Stork breeding records in Kotayk Region, Armenia, in 2024 – Yeghvard, Mrgashen, and Qanaqeravan.

Our findings represent the first documented breeding occurrence of the White Stork in Armenia's Kotayk Region. This local record coincides with a dramatic increase in the national population documented during the 2024 census – from 654 pairs in 2016 to 3166 pairs in 2024 – raising the strong possibility of a genuine range expansion driven by broader national population growth [6]. In expanding White Stork populations, initial colonization typically occurs in unoccupied habitats directly adjacent to established strongholds [9]. The geographic position of our Kotayk records, situated near the primary population stronghold in the Ararat Valley, aligns well with this established spatial pattern.

Assuming this occurrence reflects a true geographic expansion, its primary drivers are likely identical to those underpinning the broader national surge: increased food availability linked to poorly managed waste at dumpsites and expanding poultry and aquaculture operations in the Ararat Valley [10]. A similar pattern has been documented elsewhere in the species' range – in Spain, feeding at urban refuse dumps has been identified as one of the main drivers behind the national population's recovery, with several major colonies clustering directly around large dumps [2]. Kotayk's proximity to both the Ararat Valley and the Nubarashen dumpsite – a known foraging hub for wintering storks [11] – makes it a natural candidate for expansion into high-quality, adjacent habitat. While establishing causation from a single census remains speculative, this ecological context warrants serious consideration alongside future monitoring efforts.

An alternative, non-exclusive hypothesis must also be evaluated: observer bias. Kotayk was excluded from Armenia's previous monitoring efforts (2005–2016) [4], meaning breeding pairs may have been present prior to 2024 without being recorded. As observed elsewhere in national census data, apparent range expansions can sometimes stem from expanded survey effort and improved spatial coverage rather than underlying demographic shifts.

In Kotayk, storks nested exclusively on electric poles, mirroring broader national and regional patterns where artificial structures have become the primary nesting substrate [6]. This reliance introduces specific conservation vulnerabilities identical to those faced by the national population, notably electrocution risks and nest destruction during infrastructure maintenance [12]. Given that Kotayk represents a newly established breeding foothold, proactive engagement with local electric utility providers is recommended to implement mitigation measures before the local population grows.

Ultimately, long-term monitoring across subsequent census cycles will be critical to resolve the status of this population: specifically, whether Kotayk represents a permanent, self-sustaining expansion, a transient edge occurrence, or simply the delayed identification of a long-standing breeding population.

Conclusion. The 2024 census documented the first confirmed breeding records of the White Stork in Kotayk Region, Armenia – seven pairs across three settlements, all nesting on electric poles. Whether this reflects genuine range expansion, improved survey coverage, or both, cannot be determined from a single census round, underscoring the value of continued, geographically comprehensive monitoring of the species in Armenia.

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ՍՊԻՏԱԿ ԱՐԱԳԻԼ (*CICONIA CICONIA* L.) ՏԵՍԱԿԻ
ԱՌԱՋԻՆ ԲՆԱԴՐՄԱՆ ԱՐՁԱՆԱԳՐՈՒՄԸ
ՀՀ ԿՈՏԱՅՔԻ ՄԱՐԶՈՒՄ

Սպիտակ արագիլը (*Ciconia ciconia* L.) Արևմտյան Պալեարկտիկայում ամենալավ ուսումնասիրված տեսակներից է, որի պոպուլյացիայի հաշվառումներն իրականացվում են գրեթե մեկ դար՝ սկսած 1934 թ.-ից՝ տեսակի տարածման արեալում գտնվող երկրներում: Հայաստանում, 2005–2016 թթ. իրականացված հաշվառումները ցույց են տվել տեսակի առկայությունը ՀՀ յոթ վարչատարածքային մարզերում: Արարատ, Արմավիր, Արագածոտն, Երևան, Լոռի, Ծիրակ և Վայոց ձոր: Տվյալ ժամանակահատվածում Կոտայքի մարզում տեսակի բնադրում չի նկարագրվել: 2024 թ.-ին, Սպիտակ արագիլների 8-րդ միջազգային հաշվառման ընթացքում Հայաստանի Կոտայքի մարզի երեք բնակավայրերում (Եղվարդ, Քանաքեռավան և Մրգաշեն) արձանագրվել է տեսակի յոթ բնադրող զույգ: Արձանագրված բոլոր բները տեղակայված են էլեկտրասյուների վրա: Սա Սպիտակ արագիլ տեսակի առաջին բնադրման գրանցումն է Կոտայքի մարզում: Մենք ներկայացնում ենք տեսակի բնադրման մանրամասները և քննարկում տեսակի տարածման երկու, իրար չբացառող բացատրություն. պոպուլյացիայի բնական աճ՝ հաշվի առնելով ՀՀ պոպուլյացիայի աճի տենդենցները և բարելավված հաշվառման մեթոդաբանություն և ընդլայնված ծածկույթ, քանզի նախորդ հաշվառումներում Կոտայքի մարզը ներառված չի եղել: Հետագա մշտադիտարկումը թույլ կտա հասկանալ, թե արդյոք ընդլայնվող պոպուլյացիան կայուն է տվյալ մարզում:

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ПЕРВАЯ ПОДТВЕРЖДЕННАЯ РЕГИСТРАЦИЯ
ГНЕЗДОВАНИЯ БЕЛОГО АИСТА (*CICONIA CICONIA* L.)
В КОТАЙКСКОМ РЕГИОНЕ, АРМЕНИЯ

Белый аист (*Ciconia ciconia* L.) представляет собой один из наиболее изученных видов птиц в Западной Палеарктике; национальные учеты численности этого вида проводятся около века, начиная с 1934 года. В Армении в ходе систематического мониторинга, проходившего с 2005 по 2016 год, гнездящиеся пары были зарегистрированы в семи из одиннадцати административных регионов страны – Арарате, Армавире, Арагацотне, Ереване, Лори, Шираке и Вайоц Дзоре, тогда как для Котайкской области подтвержденные данные о гнездовании отсутствовали. В июне 2024 года в рамках участия Армении во VIII Международном учете белого аиста в трех населенных пунктах Котайка (Егвард, Канакераван и Мргашен) было подтверждено гнездование семи пар, при этом все гнезда располагались на опорах ЛЭП. Это

первая зафиксированная регистрация гнездования данного вида в исследуемом регионе. Мы приводим подробное описание этой находки и рассматриваем два не взаимно исключающих объяснения: истинное расширение ареала, связанное с общим ростом национальной популяции вида в Армении в 2024 г., и повышение охвата учета по сравнению с предыдущими мониторинговыми исследованиями, не включавшими Котайкскую область. Для определения того, является ли эта регистрация признаком формирования устойчивого и расширяющегося очага гнездования вида в регионе, потребуется продолжение мониторинга.