

ISRG Journal of Agriculture and Veterinary Sciences (ISRGJAVS)



ISRG PUBLISHERS

Abbreviated Key Title: ISRG. J. Agri. Vet. Sci.

ISSN: 3048-8869 (Online)

Journal homepage: <https://isrgpublishers.com/gjavs/>

Volume – III Issue - II (March-April) 2026

Frequency: Bimonthly



Focus on historical origin, full-length breed characteristics, genetic information, and Western-centric breeds in Levi's book 'The Encyclopedia of Pigeon Breeds'

Ashraful Kabir

Department of Biology, Cantonment Public College, Saidpur Cantonment—5311, Nilphamari, Bangladesh

| **Received:** 09.04.2026 | **Accepted:** 16.04.2026 | **Published:** 22.04.2026

**Corresponding author: Ashraful Kabir*

Department of Biology, Cantonment Public College, Saidpur Cantonment—5311, Nilphamari, Bangladesh

Introduction

A monograph is a specialist work of writing that focuses on a single subject, topic, or theme in great detail. Wendell Mitchel Levi, is considered one of the most comprehensive and authoritative reference books ever published for pigeon fanciers. His book 'The Encyclopedia of Pigeon Breeds' first published in 1965, this massive work spans nearly 790 pages and is famously illustrated with approximately 768 natural color photographs representing breeds from around the world. The book serves as a vital resource for both novices and experts, offering detailed profiles for each breed with origins, physical descriptions, colors and patterns, and general care. This encyclopedia is uniquely valued for its extensive visual catalog, making it an essential guide for identifying extinct, exclusive, and rare breed of pigeons. The overarching goal of evolutionary developmental biology is to take all of the contributions, and many more, to a deep genetic relation between phenotype and genotype (Cooper and Shapiro, 2015). The

objective of this monograph is to bridge the gap between 1965 classical ornithology and modern South Asian avian science.

A terminology guide

Strain: This is a genetic lineage of an animal. In the case of pigeons, there are many homer pigeon lines by renowned experts in this line (eg. Hanssen line in homer pigeons).

Breed: This is also a genetic line of animals, and strictly inherited.

Variety: Variety designed any deviation from the type of the species (Mayr, 1978). This variety is exposed through external morphology.

Type: This is similar to variety which is focused with external morphology. Special version of the variety (eg. Exhibition pigeons).

Table 1. Major terms and examples in pigeons

Term	Scope	Primary identifier	Examples
Strain	Narrowest	Unique breeder bloodline	Special type of homer pigeons (Janseen line, eg. Janssen strain in racing homers);

			Runt
Breed	Specific	Distinct inherited morphology	English pouter (large globe, long legs, erect posture)
Variety	Sub-division (Linnaeus in Mayr, 1978)	Color, pattern, ornament, or minor trait	Blue pied (color varieties of the pouter); English long-faced tumbler; muffed and clean-legged
Type	Broadest	Aesthetic or structural group	Exhibition/Show type (English tippler, show tippler)

Extinct, exclusive, and rare breeds

Extinct breeds: Scientifically, fancy pigeons are not mentioned as an extinct, those breeds are transformed into different breeds as well. For instance, horseman pouter is now transformed into English pouter. Additionally, uplooper was used for the development of English pouter, Parisian pouter contributed to modern English varieties, Leghorn runt merged to Spanish runt or runt, finnikin and turner into modern tumblers, etc.

Exclusive breeds: Levi described exclusive pigeon breeds in his book like English pouter, jacobin, frillback, Saxon fairy swallow, oriental frills, and English trumpeter. These pigeons are very difficult to bred.

Rare breeds: Rare breeds are considered hard to find (eg. Groninger slenker, Dutch varieties, Bangladeshi lotan).

A short review of this book

In avian literature, this book is widely praised by Amazon reviewers and hobbyists as a ‘masterpiece’ and an absolutely necessary resource. Its greatest strength lies in its sheer scale, featuring 790 pages and nearly 768 color photographs that provide a unique visual record of breeds from around the world. While some modern readers note that certain genetic information has been updated since its 1965 publication, the book is still celebrated as an ‘up-to-date’ reference for breed identification and historical research. Experts at Foy’s Pet Supplies consider it a ‘commanding reference’ that captures rare colors and patterns difficult to find elsewhere, solidifying its status as a timeless treasure for any serious pigeon fancier all over the world.

Unsolved problems in breed classification

Wendell Mitchel Levi addressed the ‘unsolved problems’ in breed classification by acknowledging the immense difficulty in establishing a purely scientific or evolutionary taxonomy for domestic pigeons. He noted centuries of frequent interbreeding and the lack of strictly enforced standards in certain regions, many breeds exhibit striking genetic homogeneity despite their vastly different physical appearances. Levi highlighted relationships among major breed groups remain poorly understood, often relying on phenotypic traits like feather ornaments or beak shape that can result from convergent evolution rather than a shared direct lineage. By identifying these gaps, Levi framed classification in an alphabetical order for identification while admitting the precise evolutionary history of many varieties remains an open question for future geneticists.

Identified discrepancies

Levi’s work is a seminal work; modern researchers and hobbyists have identified several discrepancies and limitations primarily due to its publication date (1965) and the scientific methods available at that time.

Phylogenetic accuracy: The classification in this book relies heavily on phenotypic traits rather than genetic lineage. Modern genomic studies have shown that many breeds grouped together based on similar ornaments (like crests) actually lack a shared direct ancestor, this phenomenon known as convergent evolution. The ordering of breeds does not follow an obvious understandable system; in parts roughly alphabetically.

Short summary on Genetics: While the genetics section written by Dr. Willard F. Hollander was groundbreaking, it predates contemporary DNA mapping. Recent research has corrected Levi’s ‘mysteries’ regarding certain color patterns and hereditary characters that are now well-understood at the molecular level.

Regional evolution: Some breeds described in the book have evolved so significantly since 1965 that the original descriptions are no longer accurate for modern specimens. For instance, the American Carneau has been modified through outcrossing to be much larger than the French version Levi originally documented, to the point where they are arguably distinct breeds today. In Mughal Dynasty, there were many mentionable pigeons in Emperor Akbar’s court (Kabir, 2014). From the very beginning, Bangladesh was famous for many indigenous pigeon breeds with numerous colors and patterns (Kabir, 2022). In order to mention the actual name of pigeon breed, it is urgent to make them under grading consideration (Kabir, 2025).

Incomplete variety coverage: Some readers have noted that while the book is extensive, it lacks sufficient detail on the specific color variations and sub-types of certain popular flying breeds, such as the Birmingham roller. Not realistic to expect for every breed color-classes and varieties. Colors usually are not breed-characteristics from an animal breeding perspective.

Breeding for health: We should not focus such breeds which have excessive wattle or over-inflated crop of pigeons. We will discourage always on this type of characteristics.

Documentation gaps: Levi acknowledged that the history of many breeds was poorly documented compared to other domestic animals like dogs or horses. This led to occasional reliance on anecdote or unverified breeder lore for certain historical origins. More research is needed or we have to live with that.

Technical synthesis

The technical synthesis is a systematic integration of phenotypic classification, comparative morphology, and Mendelian genetics. The book functions as a structured bridge between traditional aviculture and biological science, organized around three primary pillars:

Morphological classification: The core technical framework categorizes breeds by physical structure and functional utility dividing them into sporting/flying, fancy, and utility groups. This

synthesis uses visual standards (beak length, feather ornaments, and posture) to define breed boundaries. Not a real classification at one of these characteristics, rather a morphological description.

Genetic integration: A critical technical component is the genetics section, authored by Dr. Willard F. Hollander, which synthesizes known hereditary characters. It provides a scientific basis for plumage colors and patterns, moving beyond simple description to explain the molecular basis of diversity as it was understood in 1965. To understand all about a pigeon breed, the phylogenetic tree will help more accurate.

Methodological documentation: The book serves as a technical manual for husbandry and propagation, detailing for the pigeon, including physiological requirements, nutritional needs, and ailment management.

Ultimately, the book's synthesis elevates pigeon breeding from a hobby to a respected scientific discipline by selective breeding impacts avian physiology and genetic inheritance.

Conclusion

The book by Levi 'The Encyclopedia of Pigeon Breeds' must be updated to reflect modern genomic data and regional accuracy. By integrating with the correction on Western-centric breeds, and restoring the Asian breeds, this monograph could help to revise this book. The future of modern taxonomy lies on historical record, genomic gap, and regional identity of pigeon breeds and varieties.

References

1. Cooper, K. L. and Shapiro, M. D. 2015. Preface to the special issue on evolution and morphological diversity. *Developmental Dynamics* 244: 1181-1183.
2. Kabir, A. 2022. Characteristics and productivity of some pigeon breeds in Bangladesh (Aves: Columbidae). *Jurnal Biota* 8(2): 66-70.
3. Kabir, A. 2025. Evaluating excellence: a guide to pigeon judging and breed characteristics. *Mathews Journal of Veterinary Science* 9(5): 1-8.
4. Kabir, M. A. 2014. Known and unknown pigeons in Mughal history. *Social and Basic Sciences Research Review* 2(5): 277-283.
5. Mayr, E. 1978. *Principles of Systematic Zoology*. TATA McGraw-Hill Publishing Company Ltd., New Delhi, India. 428 pp.