TETTRIs

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POLICY BRIEF

Taxonomy for Transformation: A Blueprint for Bridging Science, Capacity, and Biodiversity Action

Executive summary

Europe will not meet its biodiversity objectives without a stronger and better coordinated taxonomic system. Taxonomic capacity across Europe is shrinking, unevenly distributed and still weakly embedded in education, infrastructures, funding and policy. This weakens biodiversity monitoring, restoration and species-level decision-making.

TETTRIs has shown that this gap can be addressed. Across its core work and satellite projects, it has tested practical responses that combine training, digital tools, infrastructures and community engagement.

The next step is set out in the Blueprint. It is not only a summary of TETTRIs results, but a strategic document that offers a shared vision, policy recommendations and a Cookbook of Recipes through which other institutions and actors can join and strengthen a European system for integrative taxonomy.

From validated TETTRIs results to a strategic Blueprint for action

POLICY CONTEXT

As biodiversity loss accelerates, European biodiversity policy increasingly depends on reliable species-level knowledge. Conservation, restoration and monitoring cannot be delivered effectively without accurate identification, accessible data and professional expertise. Taxonomy is therefore a strategic enabling capacity for biodiversity governance.

Europe's biodiversity ambitions also require more than isolated excellence. They require coordinated systems able to generate, validate, share and apply biodiversity knowledge across institutions, countries and sectors.

Image courtesy of ARCADE

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THE PROBLEM: EUROPE LACKS TAXONOMIC CAPACITY

Europe faces a structural taxonomic capacity gap. Expertise is declining, training remains fragmented, many taxa are still poorly covered, and capacity is unevenly distributed, including in biodiversity hotspots and protected areas.

This is not only a shortage of experts. It is also a systemic weakness: taxonomy remains under-recognised in funding, education, infrastructures and career pathways. Without coordinated action, Europe will continue to lose capacity precisely when biodiversity policy needs it most.

PRACTICAL RESPONSES VALIDATED THROUGH TETTRIS

TETTRIs has tested practical responses through courses, digital tools, reference systems, collaborative platforms and engagement formats. The core lesson is clear: taxonomic capacity grows when learning, infrastructures and real biodiversity practice are built together.

These validated responses are brought together in the Blueprint. As a strategic document, it turns project experience into a common vision, targeted recommendations and a practical Cookbook of Recipes that others can adapt and use.

Casino, A., Evans, K., Leon, M., Růžková, P., Margetousaki, A., Mirallesi, A., Noriega Ortega, B., Paleco, C., Gillett, C., Fichtmueller, D., Stathi, I., Tilley, L., Dillen, M., Magee, M., Meeus, S., & Kalkman, V. (2026).

Taxonomy for Transformation: A Blueprint for Bridging Science, Capacity, and Biodiversity Action.

CETAF, Brussels. Developed in the Horizon Europe project TETTRIs.

Three recommended programmes

↘ Programme for Training and Skills

Europe needs stronger, better connected and more inclusive pathways into taxonomy. Expert-led practical training, field and collection-based learning, modular university teaching and professional upskilling all need to be expanded and aligned. Digital learning can widen access, but it must complement, not replace, hands-on taxonomic practice.

Mentorship, train-the-trainers models and communities of practice should become a central feature of European taxonomic capacity building. Citizen scientists should also be involved through structured roles, clear quality assurance mechanisms and accessible pathways for learning and contribution.

↘ Programme for Tools and Infrastructure

Taxonomy needs robust, interoperable and user-oriented infrastructures. High-quality digitisation, stable identifier systems, virtual collections, interoperable architectures and shared platforms are essential to make taxonomic data FAIR and reusable across Europe.

Europe should also invest in smart tools and AI-assisted workflows for identification and analysis. These tools offer major opportunities, but only when combined with expert validation, clear governance and reliable reference data. Accessibility, multilingualism and inclusion should be built into these systems from the start.

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↘ Programme for Policy and Community Integration

Taxonomy must be more firmly anchored in biodiversity policy, funding and public engagement. It needs to be recognised not only as a scientific field, but as a public good that underpins biodiversity governance, conservation action and environmental accountability.

This requires more explicit references to taxonomy in European and national policy frameworks, more targeted funding opportunities, and stronger mechanisms for demonstrating impact. It also requires a more diverse and inclusive taxonomic community, stronger links between science and society, and continued public-facing initiatives that make taxonomy visible and relevant.

Policy Recommendations:

KNOWLEDGE CREATION

1 Develop stronger training pathways in taxonomy:

Support expert-led, practical training in specimen collection, analysis, and identification, while embedding taxonomy more firmly in university curricula and vocational training.

2 Support mentorship, networks, and inclusive participation:

Build mentorship programmes and communities of practice that link early-career and senior taxonomists, while also creating structured ways for citizen scientists to contribute and improve data quality.

3 Make learning more accessible across settings:

Use a mix of field, museum, and digital training, supported by open-access platforms, virtual collections, and taxonomic databases, to widen access to skills development.

DEVELOPMENT OF SYSTEMS

4 Build a robust, interoperable digital infrastructure for taxonomy:

Support high-quality digitisation, stable identifier systems, consolidated (virtual) reference collections and libraries, and interoperable architectures to ensure taxonomic FAIR data are connected and reusable across platforms.

5 Advance smart tools, automation, and AI integration:

Develop user-friendly integration tools (as SpartExplorer) and AI-assisted workflows for species identification and analysis, combining automated data ingestion and algorithm development with expert validation and clear data governance to enhance efficiency and scientific rigor.

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SUSTAINABLE IMPACT

6 Strengthen access, community services, and global inclusion:

Support the development and maintenance of shared platforms such as the marketplace for expertise and e-services, while promoting accessibility through multilingual tools, training, and inclusive design to ensure broad, equitable participation across regions and communities, and efficient use, mobilisation and exploitation of taxonomic resources.

7 Enable inclusive funding, capacity building, and ethical practice:

Expand cascade funding to support decentralized innovation (e.g., SMEs, local groups), while embedding ethics, gender sensitivity, and inclusive capacity-building into training, funding, and research practices.

8 Strengthen open science, engagement, and societal uptake:

Facilitate open-access taxonomic publishing with practical and clear identification tools (such as keys, barcodes) to support broader learning, expand citizen contributions to conservation activities and foster co-creation of knowledge by linking science and society.

9 Mainstream taxonomy into policy frameworks and demonstrate impact:

Strengthen position of taxonomy within broader biodiversity strategies, at national and European level, by using the emerging capacity-building TETTRIX system as a long-term anchor for taxonomy in EU policy and funding.

10 Demonstrate impact across actors and actions:

Leverage narratives like #NameItToSaveIt (under the umbrella of the CETAF Taxonomy Recognition Day) and promote sustained public engagement initiatives (e.g., bioblitzes, awareness campaigns) while developing transparent impact tracking mechanisms to evidence value and inform policy and funding decisions.

Final Statement

The Blueprint offers that strategic pathway: a shared vision, a set of recommendations and a practical Cookbook for actors who want to join and strengthen Europe's emerging system for integrative taxonomy.

TETTRIs

Transforming European Taxonomy through training, research and innovations

Funded by the European Union

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