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Original research

Analysis of scientific publications on Algerian orchids (2000–2025) and prospects for future research

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Abstract

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This study analysed 107 scientific articles on Algerian orchids published between 2000 and 2025. Publication output increased from 5 articles in 2000–2004 to 37 in 2020–2024. Most articles appeared in journals without a 2025 SCImago Journal Rank (SJR) quartile (65.4%) or in Q4 journals (14.0%), and 59 were published in journals not indexed in Scopus. Multiple correspondence analysis identified associations between research themes and journal quartiles but did not explain these associations. All five articles published in Q1 journals addressed taxonomy, whereas inventory, the most frequent theme, was represented mainly in journals without a 2025 quartile (27 of 36 articles). Algerian authors accounted for 60.2% of the citations received by the corpus; the principal foreign citing countries were Morocco, Italy, France, Spain and Tunisia. Taxon records were unevenly distributed across provinces and often derived from publications by the same authors. All provinces with entries of their own were in northern Algeria. The gaps identified in the corpus suggest priorities for future research: molecular systematics and population genetics of recently described, rediscovered or re-evaluated taxa (e.g. *Serapias stenopetala* Maire & T.Stephenson.), monitoring of orchid populations, and complementary inventories in Tell Atlas and High Plateaux provinces without a single-province entry in the corpus. These priorities are based on bibliographic metadata and do not replace field surveys.

Keywords: bibliometrics, citation network, journal quartile, multiple correspondence analysis, Orchidaceae.

INTRODUCTION

This study continues two previous studies on the bibliography of orchids in Algeria (Haddad, 2024; Haddad et al., 2024). The first work compiled publications related to Algeria that dealt, in whole or in part, with orchids. It aimed to inventory all relevant publications, including books, short or long articles, doctoral theses, and notes published in specialised scientific journals covering a period from before colonisation through independence and extending to 2023 (Haddad, 2024). The second study created a database enriched with statistical analysis, considering criteria such as year of publication, type of publication (books, journal articles, academic theses), and language used (Haddad et al., 2024).

However, the present study distinguishes itself by focusing exclusively on scientific articles published between 2000 and 2025. This temporal choice reflects that nearly 50% of studies on Algerian or-

chids were published from 2000 onward (Haddad et al., 2024). Thus, our database includes 107 scientific articles that address Algeria's orchids, either directly or indirectly.

This study examines the scientific literature on Algerian orchids, a plant family whose flowers are remarkable for their diversity and complexity, and in which some taxa are threatened (e.g., the critically endangered *Serapias lingua* L. subsp. *stenopetala* (Maire & T.Stephenson) Maire & Weiller; De Bélair, 2010). This botanical family is widely recognised by many authors for its ornamental, medicinal and socio-economic importance (Tiwari et al., 2023). In this article, we focus specifically on scientific articles to reach a wider audience, particularly young researchers, and to guide them in their future research. This includes recommendations on priority botanical and ecological research topics, based on gaps observed in the corpus. These priorities reflect the thematic and geographic coverage of the 107 articles.

Moreover, this study explores current trends in orchid research in Algeria and the international visibility of the articles, measured by the countries of the authors who cite them (Andrei et al., 2016). It also aims to identify potential priorities for future research in this field to guide upcoming scientific efforts (Khalil et al., 2025).

For the same corpus of 107 articles, this study brings together descriptions that are usually presented separately: the journals in which the articles appeared (SCImago Journal Rank quartile, indexing, H-index; Leite & Pinho, 2016), their research themes, the citations received by country and the number of orchid taxon records reported per province (documentary coverage).

MATERIALS AND METHODS

Bibliography organisation

We collected the articles for our database while preparing two previous works on the bibliography of Algerian orchids (Haddad, 2024; Haddad et al., 2024). To conduct our systematic literature review, we consulted several publicly accessible scientific databases as well as specialised databases from botanical journal publishers. Subsequently, we examined the bibliographies of existing studies on Algerian orchids, along with general references and content from botanical and orchidological journals. Furthermore, we used online search engines and social media platforms as complementary sources of information. This methodological approach enabled us to identify and analyse the available resources on this subject comprehensively (Haddad et al., 2024; James et al., 2016).

However, in this study, we considered only scientific journal articles (including society bulletins) published from 2000 to 2025. We organised the bibliographic references in an Excel spreadsheet and added information beyond what had already been collected. Specifically, we enriched the data by including information on the indexing status of journals that published the articles. This includes whether the journals are listed in databases such as Scopus and Web of Science, their 2025 SCImago Journal Rank (SJR) quartile (Q1–Q4; Q0 denotes journals without a 2025 SJR quartile, namely journals not indexed in Scopus and three Scopus-indexed journals without a 2025 quartile) and their H-index, retrieved in 2025 from the SCImago Journal & Country Rank platform (Ayoub et al., 2023). Because SCImago Journal Rank quartiles are assigned within subject categories, they partly correct for differences between disciplines. The H-index, which depends on a journal's age and size, was used only as a complementary descriptor. For two journals not covered by SCImago (Brazilian Applied Science Review and Anales de Biología), the H-index was taken from the journals themselves. Journals without an available H-index were treated as missing values and excluded from H-index calculations.

In addition, using Google Scholar, we recorded the number of citations for each article in our database and identified the origins of these citations (Harzing & Alakangas, 2016). Finally, by analysing the titles, abstracts, and keywords of the articles, we identified and classified the main research themes addressed in the publications (Table 1) (Pech et al., 2022). The theme "Conservation" therefore denotes articles whose titles, abstracts or keywords address conservation issues; it does not reflect any analysis of conservation data (threat status, population trends, effectiveness of protected areas), which lies outside the scope of this study.

We did not overlook the information collected in

Table 1. Key research topics and related articles on orchids in Algeria

Research themes	Scientific articles on Algerian orchids (2000–2025)
Conservation	Ait Medjber et al., 2023; Aouadj et al., 2020a, b, c, 2023b; Bouazza et al., 2001; Boukehili et al., 2018; Dechir et al., 2019; Djebbouri & Terras, 2019; Hamel et al., 2013; Maamar et al., 2023; Medjahdi et al., 2009; Sakhraoui et al., 2020; Schatz et al., 2020; Touati et al., 2021; Véla & Benhouhou, 2007; Yahi et al., 2012
Finding	Ailam & Rebbas, 2024; Babali et al., 2018a; Ben Si Said & Rebbas, 2022; Bougaham & Rebbas, 2020; Bougaham et al., 2020; Haddad et al., 2020, 2021a, b, 2023; Hadji & Rebbas, 2013, 2014; Hamel et al., 2018; Kreutz et al., 2014; Madoui, 2019; Nemer et al., 2019; Nouar et al., 2023; Rebbas & Véla, 2008
Diversity	Babali et al., 2013b, 2019; Boulaacheb et al., 2011; Bounar et al., 2018, 2021; Chalane et al., 2019; Chemouri et al., 2015; Djebbouri & Terras, 2019; Gharzouli & Djellouli, 2005a, b; Letreuch-Belarouci et al., 2009; Miara et al., 2018b; Nouar et al., 2020, 2021; Pillon et al., 2006; Véla & Benhouhou, 2007
Dynamic	De Bélair, 2005
Ecology	Ait Medjber et al., 2023; Aouadj et al., 2020a, 2023b; Babali et al., 2013b; Beghami et al., 2015; Boukehili et al., 2018; Bounar et al., 2018; Ghezlaoui & Benabadji, 2018; Kreutz et al., 2013, 2014; Miara et al., 2018c
Ethnobotany	Meddour & Meddour-Sahar, 2015; Rebbas & Bounar, 2014
Iconography	De Bélair, 2000
Inventory	Ait Medjber et al., 2023; Aouadj et al., 2023a, b; Babali et al., 2013a, 2018b; Baumann & Baumann, 2005; Beghami et al., 2015; Ben Si Said et al., 2024; Bouchibane et al., 2017, 2021; Bougaham et al., 2015; Boukehili et al., 2018; Boulaacheb et al., 2010; Boutabia et al., 2019; De Bélair et al., 2005; Dechir et al., 2019; Durbin, 2010; El Bouhissi et al., 2024; Hamel & Boulemtafes, 2017; Hamel & Meddad-Hamza, 2016; Hamel et al., 2017; Madoui & Véla, 2020; Madoui et al., 2017; Martin et al., 2021; Meddour & Meddour-Sahar, 2021; Medjahdi et al., 2009; Miara et al., 2017, 2018a, c; Nouar et al., 2021; Ouadeh & Rebbas, 2024; Rebbas & Véla, 2013; Rebbas et al., 2012, 2021, 2023; Sakhraoui et al., 2020
Mapping	Ait Medjber et al., 2023; Beghami et al., 2015
Medicinal	Gaamoune & Nouioua, 2018; Meddour & Meddour-Sahar, 2015; Miara et al., 2013; Nouar et al., 2021
Phytogeographic	Bouchibane et al., 2017; Boukehili et al., 2018; Gourari et al., 2023; Miara et al., 2018c; Ouadeh & Rebbas, 2024; Rebbas et al., 2023
Review	Haddad et al., 2024
Taxonomy	Applequist, 2016; Babali et al., 2013c; Beghami et al., 2015; Calevo et al., 2021, 2023; De Bélair, 2000; De Bélair & Boussouak, 2002; Devillers & Devillers-Terschuren, 2000a, b; El Bouhissi et al., 2024; El Mokni et al., 2013, 2021; Hamel et al., 2022; Kreutz, 2016; Kreutz & Lewis, 2014, 2015, 2017, 2019; Kreutz et al., 2014; Miara et al., 2012, 2018c; Ouadeh & Rebbas, 2024; Pedersen, 2006; Pillon et al., 2006; Rebbas & Bounar, 2012; Rebbas & Véla, 2013; Rebbas et al., 2011, 2023; Véla et al., 2015

the previous two studies. This includes the language of the articles, the taxa covered, and the study sites mentioned in most bibliographic references on Algerian orchids, which form the basis of our database (Haddad, 2024; Haddad et al., 2024).

Descriptive analysis

Publications were described by year of publication (five-year periods), by 2025 SCImago Journal Rank quartile (Q0–Q4), by indexing in Scopus and Web of Science, and by journal H-index. We report counts and percentages for quartiles and indexing; quartiles by journal (journals identified as for the H-index, below). We analysed the H-index at the journal level (one value per journal, identified by its International Standard Serial Number (ISSN), with name variants of the same journal merged) and reported its median, range and interquartile range. We compared coverage in Scopus and Web of Science for the 107 articles (paired binary data) using a two-sided exact McNemar test.

Multiple correspondence analysis

We analysed the relationships between journal quartiles and research themes (Shi, 2019; Shi et al., 2024) using multiple correspondence analysis (MCA), implemented with the Python library Prince (Alvarez-Garcia et al., 2024). MCA is suited to si-

multaneously handling qualitative variables, here the journal quartile levels (Q0 to Q4, with Q0 being journals without a SCImago Journal Rank quartile in 2025) and the research themes (Suárez-Balseiro et al., 2009). We ran the analysis on a list of the 107 articles described by 14 categorical variables: the journal quartile and, for each of the 13 themes (Table 1), its presence or absence (31 modalities); an article could carry several themes. We extracted two dimensions and calculated the factorial coordinates of the modalities (Dumka et al., 2022). The percentage of inertia of each dimension is its eigenvalue divided by the total inertia. Results are reported only for the quartile categories and for the presence of each theme. The contribution of a modality to a dimension is the share (%) of that dimension's inertia it accounts for. Each theme was assigned to the journal quartile (Q0–Q4) whose point was closest to it.

Citation network analysis

We analysed the citations received by the articles in the corpus as a network built with the NetworkX library (Zinoviev, 2018). Nodes are countries. Each link joins the country of the first author of an article in the corpus to the countries of the authors of the articles citing it (citations counted by author nationality; both directions summed), and its weight is the cumulative number of citations (Aria & Cuccurullo, 2017; Gui et al., 2019). Only the links for which at least one article-level value exceeded the 75th percentile of the non-zero values (> 4.0 citations) were retained (Johnson & Bhattacharyya, 2019).

Spatial mapping of orchid taxon citations

To provide a spatialised overview of documentary coverage of Algerian orchids in the literature, we create a thematic map based on the cumulative number of orchid taxa cited across all retained articles, regardless of taxonomic redundancy. In this context, each citation of a taxon within a given article was counted, including multiple occurrences of the same species in different articles. This methodological choice reflects how much each region is documented in the corpus, not its floristic richness.

The data were organised in a spreadsheet, associating each region or province with the cumulative number of taxon citations (Haddad et al., 2024). The map is based on 48 publication–area entries of the corpus (publications that report orchid taxa for a given area). For each entry, we recorded the number of taxa listed and summed the values by province; we therefore counted a taxon each time it appeared in multiple publications. Entries covering several provinces (Numidia, Kabylia–Numidia–Aurès and the whole country) were added to each province within the area concerned. We grouped the resulting values into unequal-width classes (0, 1–10, 11–40, 41–100, 101–130, 131–160 and 161–212 records). We produced the cartographic representation using a geographic information system (GIS) and applied a graduated colour scale from light yellow to dark brown. The map therefore shows the cumulative number of taxon records reported in the literature, that is, documentary coverage. It does not measure floristic richness, sampling effort or ecological data density, and it can be inflated where several publications, sometimes by the same authors, list the same widespread taxa.

To provide a biogeographical context, the map includes the main phytogeographical sectors of Algeria, as defined by Quézel & Santa (1962–1963), thus allowing documentary coverage to be compared with biogeographical structures. The sectors are: Oranais (O1–O3), Algérois(A1–A2), Kabylies and Numidies (K1–K3), Constantinois (C1), High Plateaux (H1, H2, HD) and Saharan Atlas (AS1–AS3).

RESULTS

Preliminary descriptive analysis of scientific production on orchids in Algeria

The 107 articles were published between 2000 and 2024: 5 in 2000–2004, 11 in 2005–2009, 21 in 2010–2014, 33 in 2015–2019 and 37 in 2020–2024.

Of the 107 articles, 70 (65.4%) are in journals without a SCImago Journal Rank quartile in 2025 (Q0) and 37 (34.6%) are in journals with a quartile (Table 2).

Forty-eight articles (44.9%) were published in Scopus-indexed journals, and 38 (35.5%) in Web of Science-indexed journals; 36 were covered by both databases, 12 by Scopus only and 2 by Web of Science only (exact McNemar test, $p = 0.013$).

An H-index was available for 28 of the 54 jour-

nals, which published 50 of the 107 articles; for the other 26 journals (57 articles), no H-index was available. Among these 28 journals, the median H-index was 15 (interquartile range 9.75–44.5; range 4–235), and six journals exceeded 80, whereas 18 of the 28 journals (64.3%) had an H-index below 25 (Fig. 1).

Research themes across journal quartiles

Themes and quartiles contributing most to the variation among articles

The first two dimensions of the multiple correspondence analysis explain 11.4% and 10.1% of the total inertia, respectively (21.5% together; Fig. 2).

Table 2. Number of articles and journals by 2025 SCImago Journal Rank (SJR) quartile (Q0: no 2025 SJR quartile)

Quartile	Articles	% of the 107 articles	Journals
Q0	70	65.4	31
not indexed in Scopus	59	55.1	28
indexed in Scopus, no quartile in 2025	11	10.3	3
Q1	5	4.7	4
Q2	4	3.7	3
Q3	13	12.1	9
Q4	15	14.0	7
Total	107	100.0	54

Among the modalities plotted in Fig. 2, the largest contributions to Dimension 1 came from ecology (21.0% of the inertia of the dimension), mapping (16.1%), inventory (11.9%) and Q4 (9.9%), and the largest contributions to Dimension 2 from taxonomy (19.9%), ethnobotany (12.4%), medicinal (11.4%) and Q3 (7.3%). Mapping, which has the largest coordinate on Dimension 1 (4.09), is represented by two articles.

Closest journal quartile for each research theme

Closeness in the first plane of the multiple correspondence analysis (Fig. 3) describes a statistical association within this corpus of 107 articles, and the plane represents only 21.5% of the total inertia.

Iconography is closest to Q1, but the only iconography article (De Bélair, 2000) was published in a journal without a 2025 quartile; its position reflects the taxonomy label it shares with all five Q1 articles. Taxonomy lies almost equidistant from Q0 and Q1 (0.88 and 0.97). Ethnobotany, medicinal and diversity are closest to Q3; finding and review to Q2; and conservation, dynamic, ecology, and mapping to Q4. Inventory, the most frequent theme, and phytogeography are closest to Q0, the group of journals without a 2025 quartile. Closeness in this plane does not reproduce the distribution of the articles: no article coded as finding was published in a Q2 journal (14 of 17 appeared in Q0 journals), the only review is

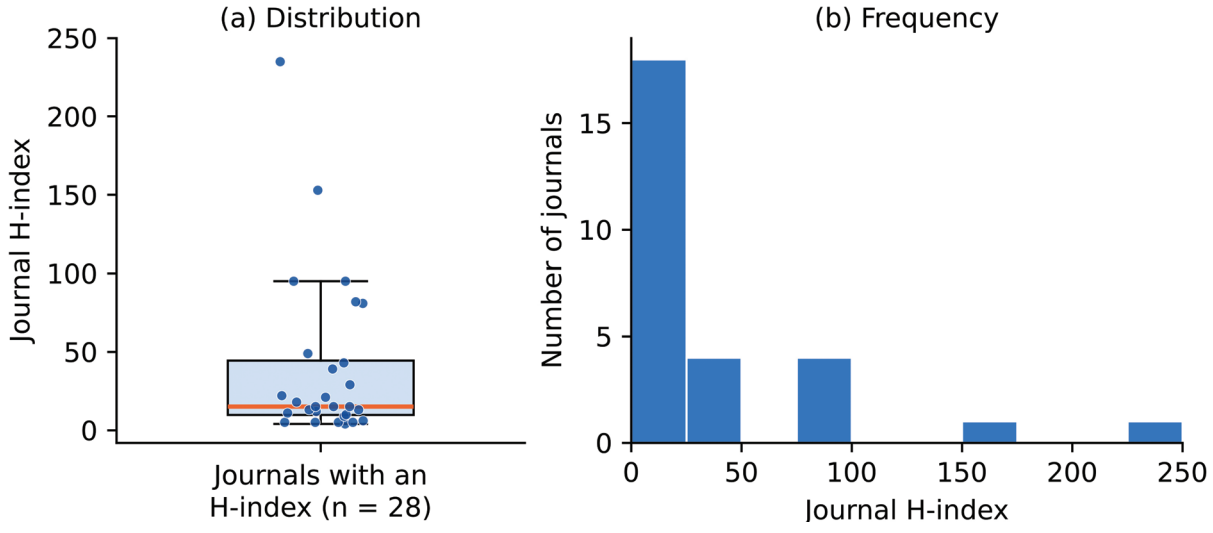


Fig. 1. Distribution of journal H-index. (a) Boxplot with individual values and (b) frequency histogram for the 28 journals with an available H-index. Journals without an H-index (26 journals, 57 articles) are not shown.

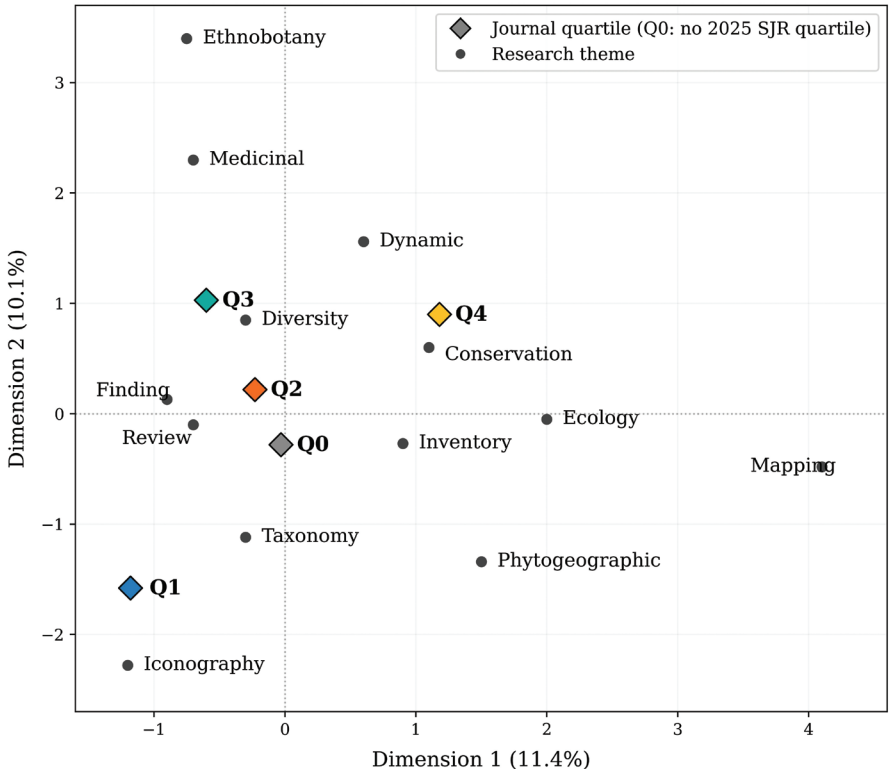


Fig. 2. Multiple correspondence analysis of journal quartiles (Q0–Q4) and research themes: first plane (Dimensions 1 and 2).

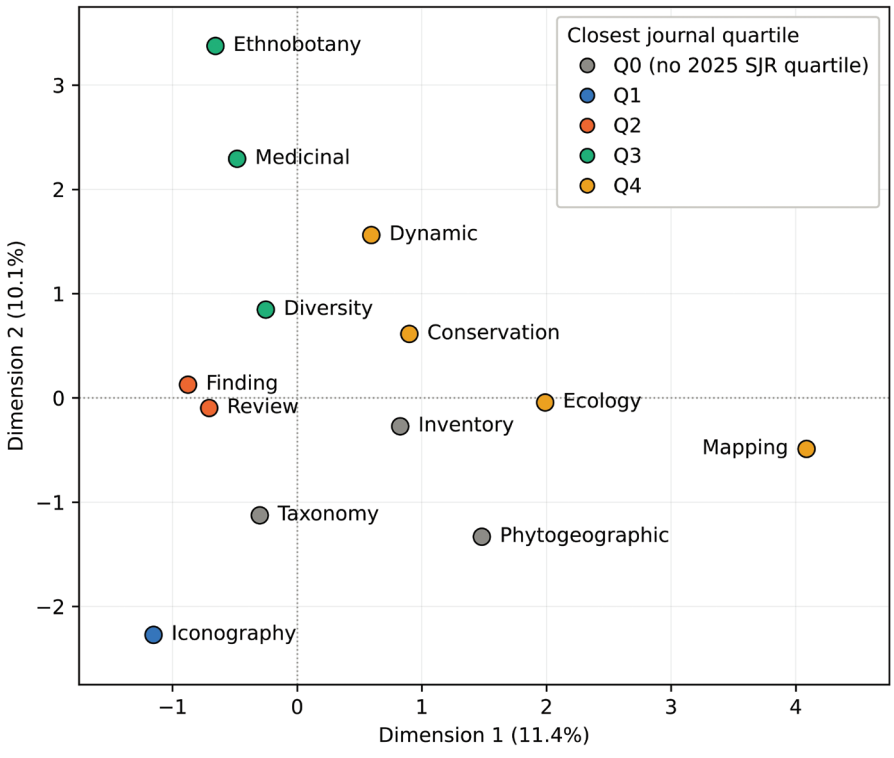


Fig. 3. Research themes in the first multiple correspondence analysis plane, coloured by the closest journal quartile (Q0: no 2025 SJR quartile).

in a Q0 journal, and conservation is closest to Q4, although 9 of its 17 articles appeared in Q0 journals and 3 in Q4 journals.

In the coding itself, all five articles published in Q1 journals (Taxon, 2; Botanical Journal of the Linnean Society; Biodiversity and Conservation; Biological Conservation) are coded as taxonomy, and the nine articles in Q1 and Q2 journals carry the themes taxonomy (6 articles), diversity (2), inventory (1) and conservation (1). The two ethnobotany articles appeared in Q3 and Q4 journals, and the only iconography article appeared in a Q0 journal. Ecology articles appeared only in Q0 (6 articles) and Q4 (5) journals. Inventory, the most frequent theme, appears mostly in Q0 journals (27 of 36 articles, 75%).

These associations rest on small numbers for several themes: one article each for iconography and dynamics, and two each for ethnobotany and mapping (Table 1). The quartile used is 2025, not the publication year.

International citation network of Algerian orchid research

Authors from 75 countries cited the corpus (Fig. 4); after filtering, 23 countries remain in the citation network (Fig. 5). Algerian authors account for 1249 of the 2076 citations (60.2%). The main foreign citing countries were Morocco (97), Italy (82), France (77), Spain (65) and Tunisia (64). Among the links shown, the strongest were Algeria–France (157 citations: 114 of French-led articles by Algerian authors and 43 of Algerian-led articles by French authors), Algeria–Morocco (89), Algeria–Netherlands (39), Algeria–Spain (28), Algeria–Tunisia (28) and Algeria–Italy (22); the loop on Algeria represents 1080 domestic citations.

Each link connects the country of an article's first author to the countries of the authors of the articles citing it; line thickness is proportional to the logarithm of the cumulative number of citations (both directions summed). Only links for which at least one article-level value exceeded the 75th percentile (> 4.0) are shown.

Documentary coverage of orchid taxa by region

The cumulative number of orchid taxon records per province (Fig. 6) is based on 48 publication–area entries (854 records) of the corpus. Forty-three entries concern a single province (720 records in 15 provinces); five cover larger areas (Numidia, Kabylia–Numidia–Aurès and the whole country; 134 records) and were added to each province within the area concerned. Among single-province entries, Sétif (135), Tlemcen (133), El Tarf (78), Bouira (65) and Béjaïa (59) had the largest numbers of records. Records are not independent of one another: within a province, most come from publications with the same first author, for example, Babali in Tlemcen (100 of 133 records, 75%), Boutabia in El Tarf (57 of 78, 73%), Miara in Tiaret (39 of 43, 91%) and Hamel in Annaba (all 36 records).

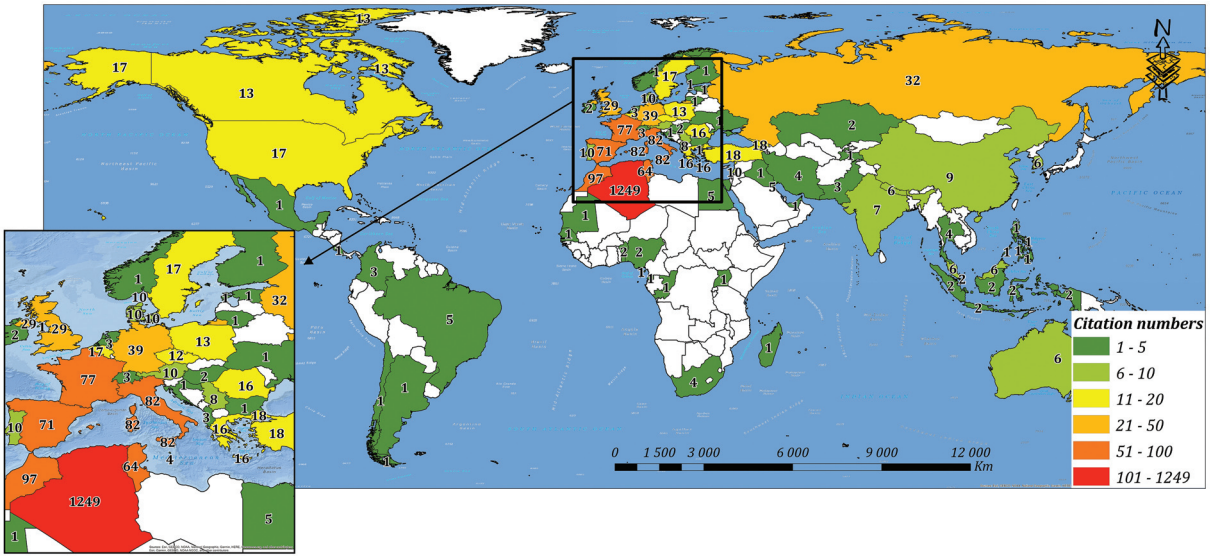


Fig. 4. Number of citations received by the corpus, by country of the citing authors.

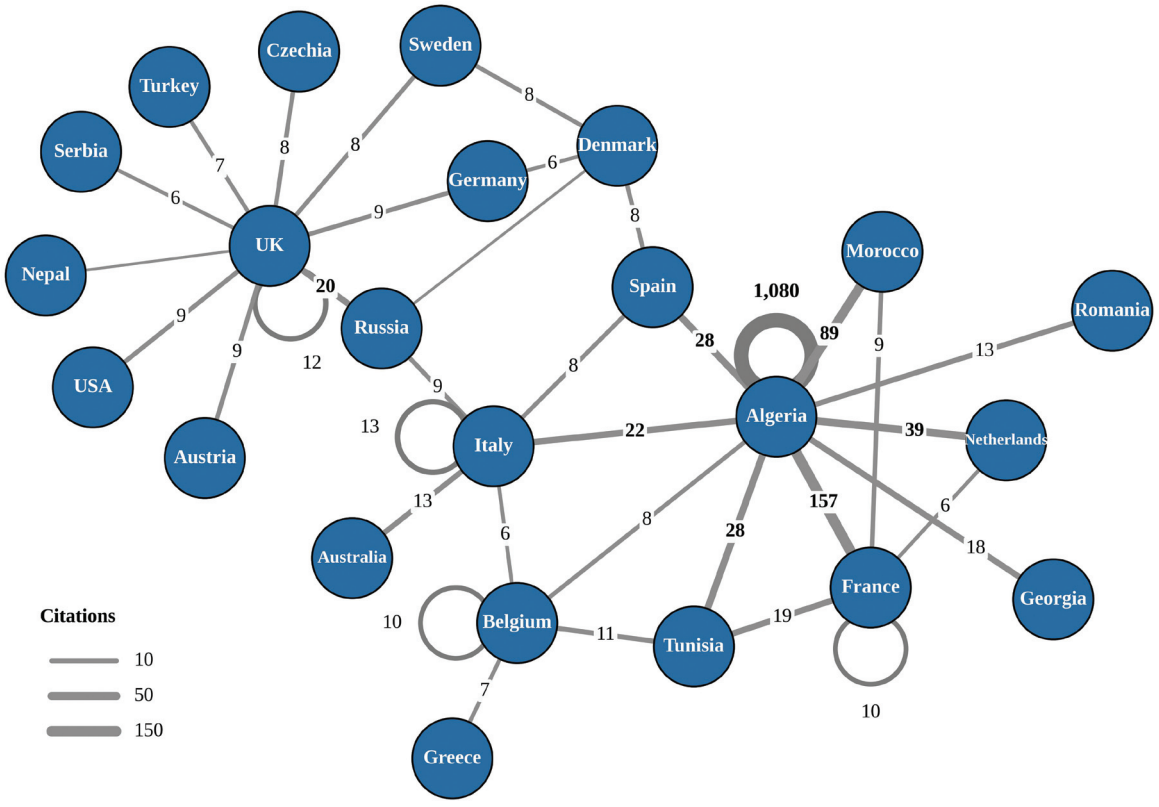


Fig. 5. International citation network of Algerian orchid research.

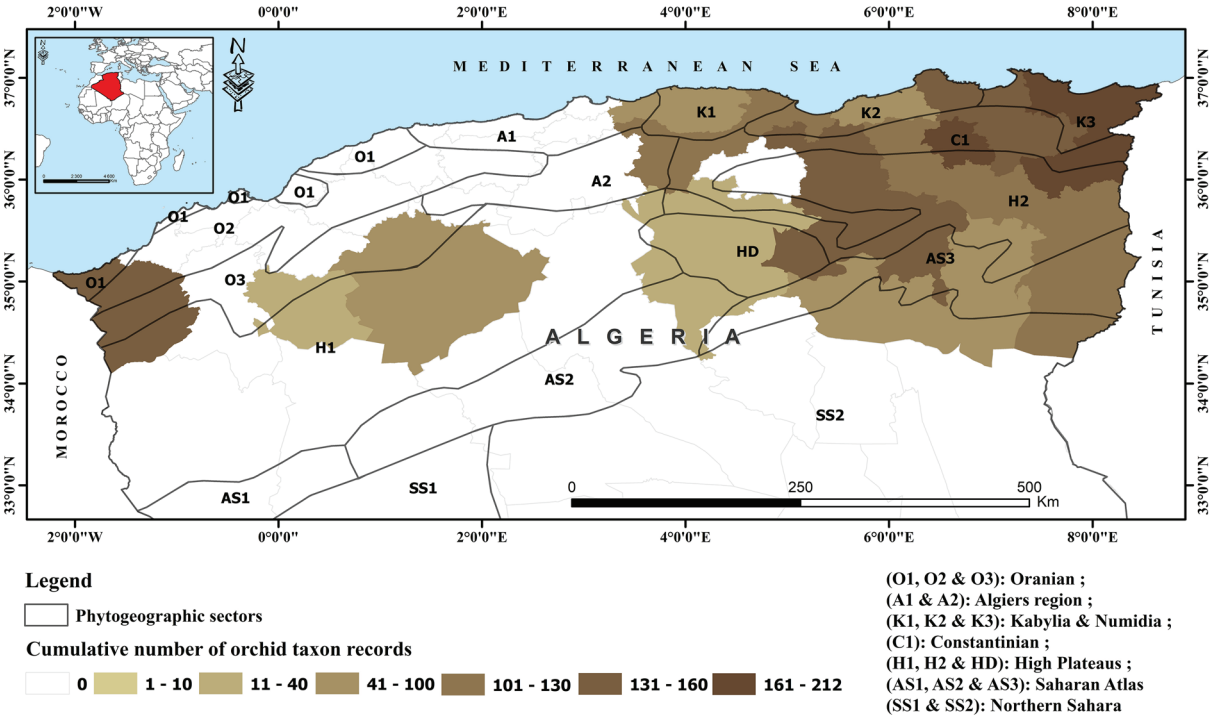


Fig. 6. Documentary coverage of orchid taxa in Algeria: cumulative number of taxon records per province from the corpus publications that report taxa for a given area.

DISCUSSION

Most articles appeared in journals without a 2025 quartile (Q0) or in Q4 journals, and more than half (59 of 107) in journals not indexed in Scopus, which limits their visibility in international databases (Orbay et al., 2020; Pranckutė, 2021). Scopus covered more articles than Web of Science (48 *vs* 38), consistent with the more selective coverage of Web of Science reported in a comparison of oncological journals (López-Illescas et al., 2008); this comparison is exploratory, as it concerns all identified articles, and not a sample. By contrast, five articles (4.7%) were published in Q1 journals, all of them taxonomic.

Among journals with an available H-index, values varied widely (4–235). Still, because a journal's H-index depends on its age and size, we rely on SCImago Journal Rank quartiles for comparisons.

Multiple correspondence analysis (MCA) describes associations between research themes and journal quartiles within this corpus (Greenacre, 2017); it cannot show why articles were published in particular journals. The association of Q1 journals with taxonomy, and the concentration of ecology articles in Q0 and Q4 journals, may reflect journal scope (the Q1 journals here include taxonomic and conservation journals) rather than a preference for particular themes. Still, our data cannot distinguish between these explanations. The small numbers for several themes (Table 1) and the use of the 2025 quartile instead of the quartile at the time of publication further limit any generalisation. For the same reasons, these associations give no basis for advising authors which themes to choose, and they say nothing about the prospects of other kinds of study, such as ecological surveys, in journals of higher quartiles.

Algerian authors cite the literature on Algerian orchids mainly; the most frequent foreign citing countries are neighbouring and Mediterranean countries, but foreign citations come from many countries (Fig. 4). This network measures citations, not co-authorship, and cannot document collaboration.

The corpus also points to concrete research priorities. (i) Molecular systematics and population genetics. Few articles in the corpus use molecular data (Pillon et al., 2006; Calevo et al., 2021, both in Q1 journals); with so few cases, this is an observation rather than a trend. Taxa that the corpus itself documents as recently described, rediscovered or re-evaluated are logical candidates: *Serapias stenopetala* (described by Maire & Stephenson in 1930, regarded as forgotten by De Bélair & Boussouak, 2002, and re-evaluated, with new sites, by Haddad et al., 2023), listed as Critically Endangered on the IUCN Red List under the name *Serapias lingua* subsp. *stenopetala* (De Bélair, 2010); *Ophrys algeriensis* (Batt. & Trab.) Schltr. (described by Kreutz & Lewis, 2019); and *Dactylorhiza markusii* Tineo and *Ophrys omegaifera* subsp. *hayekii* (rediscovered in Great Kabylia by Ben Si Said & Rebbas, 2022). No article in the corpus is dedicated to the molecular study of these taxa. (ii) Monitoring of orchid populations. No title in the corpus refers to the monitoring or demography of orchid populations; the only article coded "Dynamic" (Table 1) concerns the vegetation of temporary ponds. Conservation, coded from titles, abstracts and keywords, appears in 17 of the 107 articles. Still, this coding does not show whether they include threat assessments or population data, which would require reading the full texts. (iii) Complementary inventories. Tell Atlas and High Plateaux provinces with no single-province entry in our corpus (Mila, Oum El Bouaghi, Khenchela, Tébessa, Médéa, Chlef) could be targeted; the absence of records is not evidence that these areas are unexplored. (iv) Underrepresented themes: ethnobotany (2 articles), mapping (2) and iconography (1). These priorities rest on field knowledge that is still being built: 17 articles of the corpus report discoveries, such as new stations or rediscoveries (theme "Finding"; Table 1), and several taxa have been described or rediscovered only recently (Kreutz & Lewis, 2019; Ben Si Said & Rebbas, 2022). The corpus thus provides a compiled and coded basis (107 articles, 13 research themes, 15 provinces with entries of their own) from which gaps in the literature can be identified and followed over time.

However, this study has limitations. The exclusive focus on indexed articles may underrepresent a portion of the national scientific output, especially work disseminated through regional journals that, while less visible globally, may still be highly relevant to the Algerian context (Rebbas et al., 2012). Additionally, a more detailed temporal analysis could offer deeper insights into the evolving dynamics of orchid research over the past two decades (Lu, 2025). Finally, these data do not capture external factors such as national research policies, institutional priorities, and funding mechanisms, which

have not been examined and cannot be assessed from these data. However, they may influence the disparities observed across the dataset (Bertuol-Garcia et al., 2018). Conservation was analysed only as a thematic category: the study did not examine threat status, population trends, or the effectiveness of protected areas, so these bibliometric data alone cannot support inferences about the conservation status of Algerian orchids, their habitats or the pressures acting on them.

The map shows documentary coverage across the country, not floristic diversity: it quantifies the cumulative number of taxon records per province. All 15 provinces with entries of their own lie in the north of the country, and the southern provinces have few or no records in our corpus. This is not in itself a gap in documentation: the corpus cannot distinguish between a lack of surveys and a natural scarcity of orchids in arid areas. The most documented provinces have several publications, often by the same authors (Results), so a high value can reflect the activity of one research group listing the same widespread taxa rather than an exhaustive floristic survey. In the north, provinces with few records point to gaps in documentation, which can help orient complementary inventories, but they do not show that these areas are unexplored, and the map cannot show where orchids are absent.

CONCLUSIONS

This study of 107 articles on Algerian orchids (2000–2025) shows that the literature is dominated by floristic inventories and taxonomic work (59 of the 107 articles), concerns provinces in the north of the country, and appeared mostly in journals without a 2025 SCImago Journal Rank quartile (65.4%). The gaps observed (few molecular studies, no title on the monitoring of orchid populations, provinces without a single-province entry) indicate where documentation is thin and where future botanical work could start, with *Serapias stenopetala* (Critically Endangered; De Bélair, 2010) as a first candidate for molecular study; they do not replace field surveys or taxonomic revision.

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