

NOMENCLATURAL AND TAXONOMIC STATUS OF BIRDS DESCRIBED BY MATHIAS PILLER AND LUDWIG MITTERPACHER IN THEIR *ITER PER POSEGANAM SCLAVONIAE PROVINCIAM* (1783)

JIŘÍ MLÍKOVSKÝ

Department of Zoology, National Museum, Václavské náměstí 68, CZ-115 79
Praha 1, Czech Republic (e-mail: jiri_mlikovsky@nm.cz)

Mlíkovský, J.: Nomenclatural and taxonomic status of birds described by Mathias Piller and Ludwig Mitterpacher in their *Iter per Poseganam Sclavoniae provinciam* (1783). *Nat. Croat.*, Vol. 19, No. 2, 451–458, 2010, Zagreb.

In 1783 Mathias Piller (1733–1788) and Ludwig Mitterpacher (1734–1814) described six species of birds from the Osijek region in today's north-eastern Croatia as being new for science. A revision of the nomenclatural and taxonomic status of these nominal species revealed that five of them are junior subjective synonyms. They include *Ardea obscura* (= *Nycticorax nycticorax*), *Charadrius illyricus* (= *Burhinus oedicephalus*), *Falco cinereus* (= *Circus macrourus*), *Falco rubiginosus* (= *Circus aeruginosus*), and *Rallus dubius* (= *Gallinula chloropus*). The sixth form (*Falco marginatus*) is sometimes recognized as a valid subspecies of *Accipiter gentilis*, but its taxonomic identity within the latter species is uncertain. The type locality of all of these species is restricted herein to Korod, Croatia, where the type specimens were collected during 21–23 June 1782.

Key words: Mathias Piller, Ludwig Mitterpacher, Aves, taxonomy, nomenclature, Croatia, 18th century

Mlíkovský, J.: Nomenklaturalni i teksonomski status ptica opisanih u *Iter per Poseganam Sclavoniae provinciam* (1783) Mathiasa Pillera i Ludwiga Mitterpachera. *Nat. Croat.*, Vol. 19, No. 2, 451–458, 2010, Zagreb.

Godine 1783. Mathias Piller (1733–1788) i Ludwig Mitterpacher (1734–1814) opisali su šest vrsta ptica s osječkog područja (sjeveroistočna Hrvatska) kao nove za znanost. Revizijom nomenklaturalnog i taksonomskog statusa ovih nominalnih vrsta utvrđeno je da su pet od njih mlađi subjektivni sinonimi. To su *Ardea obscura* (= *Nycticorax nycticorax*), *Charadrius illyricus* (= *Burhinus oedicephalus*), *Falco cinereus* (= *Circus macrourus*), *Falco rubiginosus* (= *Circus aeruginosus*) i *Rallus dubius* (= *Gallinula chloropus*). Šesti oblik (*Falco marginatus*) se ponekad priznaje kao validna podvrsta vrste *Accipiter gentilis*, ali njen taksonomski identitet unutar te vrste je nesiguran. Tipički lokalitet svih ovih vrsta je ovdje ograničen na Korod, gdje su tipički primjerci prikupljeni u razdoblju 21.–23. lipnja 1782.

Ključne riječi: Mathias Piller, Ludwig Mitterpacher, Aves, taksonomija, nomenklatura, Hrvatska, 18. stoljeće

INTRODUCTION

Mathias Piller (1733–1788) and Ludwig Mitterpacher (1734–1814) were educated Jesuit naturalists, who worked in various places in the then Austrian Monarchy (PAUŠEK-BAŽDAR, 1995a,b). On 17 June – 12 August 1772 (see SRŠAN, 1995, for the recalculated dates used throughout this paper) they undertook a trip from Buda (now Budapest, Hungary) to the province of Slavonia (now in north-eastern Croatia) and back. The resulting travel book, published in 1783 in Buda (PILLER & MITTERPACHER, 1783) contained valid descriptions of various plant and animal species, including six species of birds. LATHAM (1790) excerpted the book for his *Index ornithologicus*, but its extreme rarity caused the Piller and Mitterpacher (1783) nominal bird species to be insufficiently known to subsequent ornithologists, who seem to have adopted references to the latter book from Latham (1790) or even attributed the authorship of the Piller and Mitterpacher new bird species to Latham himself (see below). The authoritative treatise *Die Vögel der Paläarktischen Fauna* listed only three of these species (HARTERT, 1903–1922; HARTERT & STEINBACHER, 1932–1938). DOMBROWSKI (1912) and RICHMOND (s.d.) probably consulted directly the PILLER & MITTERPACHER (1783) book, listing all their new bird species, but did not consider their status in any detail. Below, I discuss the nomenclatural and taxonomic status of the bird species described by PILLER & MITTERPACHER (1783).

PILLER and MITTERPACHER (1783) seem to have been primarily interested in entomology, botany and geology, because notes on these natural history objects are scattered throughout their book. On the other hand, their description of birds is limited to pp. 23–29 of their largely chronologically arranged book. According to relevant remarks surrounding these pages (PILLER & MITTERPACHER, 1783; SRŠAN, 1995) they reached Osijek [45.56°N, 18.70°E] on 20 June and left the region for Požega [45.33°N, 17.68°E] on 24 June. In the meantime they visited »Kolosvár« [= Koločvar = Korođ; 45.41°N, 18.75°E]. This settlement is located in the center of the Palača wetlands, which once extended from Osijek in the north to Vinkovci [45.29°N, 18.80°E] in the south. These wetlands had been drained at their northern end near Čepin [45.52°, 18.58°E] and Osijek by the early 1780s (PILLER & MITTERPACHER, 1783: 20; SRŠAN, 1986), but marshes and lakes were still present at Korođ (PILLER & MITTERPACHER, 1783: 22–23). The description of the Korođ area directly precedes PILLER's and MITTERPACHER's (1783) list of local birds (pp. 23–29), which indicates that all birds were collected in wetlands in the vicinity of Korođ, Osijek-Baranja County (Osječko-baranjska županija), Croatia. The type locality of all bird species described by PILLER & MITTERPACHER (1783) thus is restricted here to this area, which is hereafter briefly referred to as »Korođ«. Since Piller and Mitterpacher arrived in the area on 20 June and left it on 24 June (see above), they had to collect all birds at Korođ during 21–23 June 1782.

Piller, who was a professor of natural sciences at the University in Buda (later in Pest) in 1877–1888 (PAUŠEK-BAŽDAR, 1995a; BUDA *et al.*, 2004), had a large collection of natural history specimens (see PILLER 1792) and it is probable that at least some of the birds collected at Korođ were deposited there (cf. PILLER & MITTERPACHER 1783: 23). However, none of these specimens have survived (cf. STEINHEIMER 2005).

It is unclear which literature served Piller and Mitterpacher as a basis for their ornithological studies. In the ornithological part of their book they referred only to

KRAMER (1756), PALLAS (1773, 1776), and S. G. GMELIN (1774), but it follows from references given elsewhere, that their knowledge of scientific literature was much broader.

SYSTEMATIC LIST

The following list is arranged alphabetically according to the original names given to the bird species by PILLER & MITTERPACHER (1783). Current nomenclature follows DICKINSON (2003). All species listed below still inhabit Croatia (LUKAČ, 2007).

Ardea obscura Piller & Mitterpacher

Ardea obscura Piller & Mitterpacher, 1783: 24, pl. 2.

Nomenclature: Some authors (e.g. VIEILLOT, 1817: 435; DUMONT, 1821: 94; MACGILLIVRAY, 1852: 433; MORRIS, 1855: 127; REICHENOW, 1877: 237) attributed this species to LATHAM (1790: 679). However, the latter author adopted the name from PILLER & MITTERPACHER (1783), referring explicitly to »It. Poseg. p. 24. t. ii.« The name is thus available for nomenclatural purposes with PILLER & MITTERPACHER (1783) as its authors.

Type series: Not specified, but probably a single specimen collected by Piller and Mitterpacher during 21–23 June 1782 at Korod, Croatia.

Now: *Nycticorax nycticorax nycticorax* (Linné, 1758).

Remarks: Early authors listed *Ardea obscura* as a valid species (e.g. LATHAM, 1790: 679), as a dubious species (e.g. VIEILLOT, 1817: 435), or as a synonym of the European Night Heron, which is currently known as *Nycticorax nycticorax* (Linné, 1758) (e.g. MACGILLIVRAY, 1852: 433; MORRIS, 1855: 127; REICHENOW, 1877: 237; DOMBROWSKI, 1912: 692). HARTERT (1920a: 1233) tentatively and inexplicably synonymized *Ardea obscura* Piller & Mitterpacher with *Ardea purpurea* Linné, 1758. *Ardea obscura* Piller & Mitterpacher, 1783, even if synonymized with *Nycticorax nycticorax* (Linné, 1758), does not preoccupy *Nycticorax obscurus* Bonaparte, 1857 (note that *Nycticorax obscurus* Lichtenstein, 1854: 90, is a nomen nudum), because the species-group name *obscura* of PILLER & MITTERPACHER (1783) has never been combined with the genus *Nycticorax* Forster, 1817.

Charadrius illyricus Piller & Mitterpacher

Charadrius illyricus Piller & Mitterpacher, 1783: 26, pl. 3.

Type series: Not specified, but probably a single specimen collected by Piller and Mitterpacher during 21–23 July 1782 at Korod, Croatia.

Now: *Burhinus oedicnemus* (Linné, 1758).

Remarks: HARTING (1882: 255) observed that *Charadrius illyricus* Piller & Mitterpacher, 1783 antedates *Oedicnemus crepitans* of TEMMINCK (1815: 332), a name then widely used for the European Thick-Knee, and suggested that the former name should be used for the latter species. However, SHARPE (1896: 4) correctly showed that both *Charadrius scolopax* of S. G. GMELIN (1774: 87) and *Charadrius oedicnemus* of LINNÉ (1766: 255) antedate Piller's & Mitterpacher's *Charadrius illyricus* and that

Linné's (1766) *oedincnemus* should be used for the European Thick-knee (see also HARTERT, 1920b: 1518).

***Falco cinereus* Piller & Mitterpacher**

Falco cinereus Piller & Mitterpacher, 1783: 27.

Type series: Not specified, but probably a single specimen collected by Piller and Mitterpacher during 21–23 June 1782 at Korod, Croatia.

Now: *Circus macrourus* (Gmelin, 1770).

Remarks: PILLER & MITTERPACHER (1783: 28) identified this bird with *Laniarius cinereus* of BRISSON (1763: 106). The latter species was listed as a pre-Linnean synonym of *Falco* (= *Circus*) *cinereus* Gmelin, 1788 by J. F. GMELIN (1788: 276), which probably led subsequent authors to synonymize *Falco cinereus* Piller & Mitterpacher with the broadly understood *Falco* (= *Circus*) *cyaneus* Linné, 1766 (e.g. BONAPARTE, 1828: 30; WILSON & BONAPARTE, 1831: 222, 1832: 390; GRAY, 1848: 79, 1850: 20; COUES, 1874: 327; DOMBROWSKI, 1912: 588; STRESEMANN, 1925: 92).

However, PILLER & MITTERPACHER (1783: 27) said that »remiges primores sex supra atrae apicis limbo cinereo«, i.e. »six primaries are above black with gray tips«, which allows the identification of *Falco cinereus* Piller & Mitterpacher, 1783 with *Falco* (= *Circus*) *macrourus* Gmelin, 1770. The species was unknown to HARTERT (1903–1922; HARTERT & STEINBACHER, 1932–1938).

Falco cinereus Piller & Mitterpacher, 1783 is senior primary homonym of *Falco cinereus* Gmelin, 1788 (see J. F. GMELIN, 1788: 267).

***Falco marginatus* Piller & Mitterpacher**

Falco marginatus Piller & Mitterpacher, 1783: 28.

Nomenclature: *Falco marginatus* was attributed to LATHAM (1790: 26) by some authors (e.g. SONNINI, 1803: 562; DUMONT, 1817: 460; GIEBEL, 1872: 441). However, LATHAM (1790: 26) adopted this name from PILLER & MITTERPACHER (1783) explicitly referring to »It. per Posegan. p. 28«.

Type series: Not specified, but probably a single specimen collected by Piller and Mitterpacher during 21–23 June 1782 at Korod, Croatia (see also KEVE & PÁTKAI, 1961: 550). STRESEMANN (1925: 92) stated that the type was collected in the vicinity of Vukovar, Croatia [45.34°N, 19.00°E], which is correct, because Korod lies ca. 20 km from Vukovar in a bee line. However, some subsequent authors (e.g. PEETERS, 1931: 207; VAURIE, 1965: 160; STRESEMANN & AMADON, 1979: 346–347) incorrectly listed just Vukovar as the type locality.

Now: *Accipiter gentilis* (Linné, 1758).

Remarks: Early authors considered *Falco marginatus* Piller & Mitterpacher as a valid raptor or, more specifically, buzzard species (e.g. LATHAM, 1790: 26; DAUDIN, 1800: 167; SONNINI, 1803: 562; DUMONT, 1817: 460). GIEBEL (1872: 441, 1875: 165) interpreted the bird as a Northern Goshawk, now known as *Accipiter gentilis* (Linné, 1758) (see also DOMBROWSKI 1912: 571). LÖNNBERG (1925) separated Northern Goshawks from the Balkans as *Astur* (= *Accipiter*) *gentilis balcanicus* (p. 105). STRESEMANN (1925: 92) suggested that this subspecies should bear the name *marginatus*

following PILLER & MITTERPACHER (1783). The description of *Falco marginatus* given by PILLER & MITTERPACHER (1783: 28) shows that the species was based on a juvenile bird (see also HARTERT, 1914: 1146; STRESEMANN, 1925: 92); no measurements are given. If goshawks from the Balkans and most of continental Europe are united in a single subspecies, as e.g. suggested by GLADKOV (1941), VAURIE (1965: 160), WATTEL (1973), ORTA (1994: 162) and FERGUSON-LEES & CHRISTIE (2001: 599), then *Falco marginatus* Piller & Mitterpacher, 1783 falls into the synonymy of *Falco* (= *Accipiter*) *gentilis gentilis* Linné, 1758. However, if the birds from the Balkans are separated at the subspecies level, as it has been suggested or accepted e.g. by LÖNNBERG (1925), PETERS (1931: 207), MATVEJEV (1950: 249), KEVE & PÁTKAI (1961), MATVEJEV & VASIĆ (1973: 29), STRESEMANN & AMADON (1979: 346) and DICKINSON (2003: 108), then the name of this subspecies is uncertain, because the holotype of *Falco marginatus* Piller & Mitterpacher is lost and its original description does not permit any decision as to whether the bird belonged to the Central European or Balkan form.

Falco rubiginosus Piller & Mitterpacher

Falco rubiginosus Piller & Mitterpacher, 1783: 29.

Nomenclature: *Falco rubiginosus* was attributed to LATHAM (1790: 27) by some authors (e.g. SONNINI, 1803: 562; EYTON, 1836: 5). However, LATHAM (1790: 27) adopted this name from PILLER & MITTERPACHER (1783) explicably referring to »It. Poseg. p. 29«.

Type series: Not specified, but probably a single specimen collected by Piller and Mitterpacher during 21–23 June 1782 at Korod, Croatia.

Now: *Circus aeruginosus* (Linné, 1758).

Remarks: This species was listed as valid by some early authors (e.g. LATHAM, 1790: 26; DAUDIN, 1800: 167; SONNINI, 1803: 562; DUMONT, 1817: 461). Later, it was considered a synonym of the broadly understood *Circus cyaneus* (LINNÉ, 1766), e.g. by BONAPARTE (1828: 30), WILOSN & BONAPARTE (1831: 222, 390), SELBY (1833: 66), MALHERBE (1843: 38), GRAY (1848: 79, 1850: 20), GIEBEL (1872: 704, 1875: 168), and COUES (1874: 327). DOMBROWSKI (1912: 580) synonymized the species with *Circus aeruginosus* (Linné, 1758). HARTERT (1903–1922; HARTERT & STEINBACHER, 1932–1938) did not list this species, and STRESEMANN (1925: 92) left it unidentified. The description by PILLER & MITTERPACHER (1783: 29) best agrees with the female or juvenile plumage of *Circus aeruginosus* as suggested by DOMBROWSKI (1912).

Rallus dubius Piller & Mitterpacher

Rallus dubius Piller a Mitterpacher, 1783: 26.

Nomenclature: GIEBEL (1877: 407) attributed this species to VIEILLOT (1823: 1069), but the latter author referred to »Latham, Index, n. 19« [= LATHAM 1790: 760], who in turn explicitly referred to »It. Poseg. p. 26«. Thus, PILLER & MITTERPACHER (1783) are the authors of this name.

Type series: Not specified, but probably a single specimen collected by Piller and Mitterpacher during 21–23 June 1782 at Korod, Croatia.

Now: *Gallinula chloropus* (Linné, 1758).

Remarks: This species was listed as valid by some early authors (e.g. LATHAM, 1790: 760; VIEILLOT, 1803: 193; SONNINI, 1819: 562; VIEILLOT, 1923: 1069), but most subsequent authors (incl. HARTERT, 1903–1922; HARTERT & STEINBACHER, 1932–1938) neglected its existence. It was clearly based on a juvenile *Gallinula chloropus* (Linné, 1758), as correctly recognized e.g. by DOMBROWSKI (1912: 835). *Rallus dubius* Piller & Mitterpacher, 1783 is a senior primary homonym of *Rallus dubius* Portis, 1877, a fossil bird of doubtful affinities from the Miocene of Italy (PORTIS, 1877: 183; OLSON, 1977: 349; MLÍKOVSKÝ, 2002: 271–272). OLSON (1977: 349) replaced the latter name with *Rallus richmondi* Olson, 1977.

ACKNOWLEDGMENTS

The preparation of this paper was supported by grants MK 00002327201 and MK 06P04OMG008 from the Ministry of Culture of the Czech Republic.

Received May 3, 2009

REFERENCES

- BONAPARTE, C. L., 1828: American ornithology; or the natural history of birds inhabiting the United States, not given by Wilson. Philadelphia: Carey, Lea & Carey, vi + 95 pp.
- BRISSON, M.-J., 1763: Ornithologia. Vol. 1. 2nd abridged ed. Lugduni Batavorum [= Leiden]: Theodor Haak, [24] + 500 pp.
- BUDA, GY., G. PAPP & T. G. WEISZBURG, 2004: Short history of teaching mineralogy at the Eötvös Loránd University, Budapest. Acta Mineralogica-Petrographica (Szeged) 45: 5–20.
- COUES, E., 1874: Birds of the northwest: a handbook of the ornithology of the region drained by the Missouri River and its tributaries. Washington, DC: US Department of Interior, xi + 791 pp.
- DAUDIN, F. M., 1800: Traité élémentaire et complet d'ornithologie, ou histoire naturelle des oiseaux. Vol. 2. Paris: Buisson, Dupray, Deroy, Fuchs, Treuttel et Wurtz, & Villier, 473 pp.
- DICKINSON, E. C. (ed.), 2003: The Howard and Moore Complete checklist of the birds of the world. 3rd rev. ed. London: Christopher Helm, 1039 pp.
- DOMBROWSKI, R. von, 1912: Ornis Romaniae. Bukarest [= București]: Staatsdruckerei, 872 + liv pp.
- DUMONT, C., 1817: Buse. In: CUVIER F. (ed.): Dictionnaire des sciences naturelles. Vol. 5. Strasbourg: F. G. Levrault; & Paris: Le Normant, pp. 448–470.
- DUMONT, C., 1821: HÉRON, *Ardea*. In: CUVIER F. (ed.): Dictionnaire des sciences naturelles. Vol. 21. Strasbourg: F. G. Levrault; & Paris: Le Normant, pp. 77–97.
- EYTON, T. C., 1836: A catalogue of British birds. London: Longman, Rees, Orme, Brown, Green, and Longman, & Houlston and Son, iv + 67 pp.
- FERGUSON-LEES, J. & D. A. CHRISTIE, 2001: Raptors of the world. London: Christopher Helm, 992 pp.
- GIEBEL, C. G., 1872: Thesaurus ornithologiae. Vol. 1. Leipzig: F. A. Brockhaus, xi + 868 pp.
- GIEBEL, C. G., 1875: Thesaurus ornithologiae. Vol. 2. Leipzig: F. A. Brockhaus, vi + 787 pp.
- GIEBEL, C. G., 1877: Thesaurus ornithologiae. Vol. 3. Leipzig: F. A. Brockhaus, vi + 861 pp.
- GLADKOV, N. A., 1941: Taxonomy of Palaearctic goshawks. Auk 58, 80–90.
- GMELIN, J. F., 1788: Systema naturae. Vol. 1 (Part 1). 13th ed. Lipsiae [= Leipzig]: Georg Emanuel Beer, pp. [12] + 1–500.
- GMELIN, S. G., 1774. Reise durch Rußland zur Untersuchung der drey Natur-Reiche. Vol. 3. Reise durch das nordliche Persien, in den Jahren 1770, 1771. bis im April 1772. St. Petersburg [= Sankt-Peterburg]: Kayserliche Academie der Wissenschaften, 508 pp.

- GRAY, J. E., 1848: List of the specimens of birds in the collection of the British Museum. Part 1. Accipitres. 2nd ed. London: British Museum, viii + 120 pp.
- GRAY, J. E., 1850: List of the specimens of British animals in the collection of the British Museum. Part 3: Birds. London: British Museum (Natural History), xvi + 275 pp.
- HARTERT, E., 1903–1922: Die Vögel der paläarktischen Fauna. Vol. 1–3. Berlin: R. Friedländer und Sohn, xi + 2328 + xii pp.
- HARTERT, E., 1914: Die Vögel der paläarktischen Fauna. Vol. 2 (Part 9). Berlin: R. Friedländer und Sohn, pp. 1089–1216.
- HARTERT, E., 1920a: Die Vögel der paläarktischen Fauna. Vol. 2 (Part 10). Berlin: R. Friedländer und Sohn, pp. 1217–1344.
- HARTERT, E., 1920b: Die Vögel der paläarktischen Fauna. Vol. 2 (Part 11–12). Berlin: R. Friedländer und Sohn, pp. 1345–1600.
- HARTERT, E. & F. STEINBACHER, 1932–1938: Die Vögel der paläarktischen Fauna. Ergänzungsband. Berlin: R. Friedländer & Sohn, v + 602 pp.
- HARTING, J. E., 1882: The scientific name of the European Thick-Knee. *Zoologist* 7, 255.
- KEVE, A. & I. PÁTKAI, 1961: Die taxonomische Stellung der Habichte in Ungarn. *Annales Historico-Naturales Musei Nationalis Hungarici* 53, 545–556.
- KRAMER, W. H. [G. H.], 1756: *Elenchus vegetabilium et animalium per Austriam inferiorem observatorium*. Vienna [= Wien]: Thoma Trattner, [10] + 424 pp.
- LATHAM, J., 1790: *Index ornithologicus, sive Systema ornithologiae*. London: Leigh & Sotheby, xviii + 920 pp.
- LINNÉ, K. [Linnaeus, C.], 1766: *Systema naturae*. Vol. 1. 12th ed. Holmiae [= Stockholm]: Laurentius Salvius, 1327 + [36] pp.
- LÖNNBERG, E., 1925: Zur Kenntnis der Hühnerhabicht (*Astur gentilis*) Südost-Europas. *Journal für Ornithologie* 73, 99–105.
- LUKAČ, G., 2007: Popis ptica Hrvatske. *Natura Croatica* 16, Supplement 1: 1–148.
- MACGILLIVRAY, W., 1852: *History of British birds, indigenous and migratory*. Vol. 4. London: William S. Orr and Co., xxviii + 700 pp.
- MALHERBE, A., 1843: Faune ornithologique de la Sicile. *Mémoires de l'Académie Royale de Metz* 24(2), 1–241.
- MATVEJEV, S. D., 1950: Rasprostrnjenje i život ptica u Srbiji. Beograd: Srpska akademija nauka, xiv + 363 pp.
- MATVEJEV, S. D. & V. F. VASIĆ, 1973: *Catalogus faunae Jugoslaviae*. Vol. 4(3): Aves. – Ljubljana: Slovenska akademija znanosti i umetnosti, 119 pp.
- MLÍKOVSKÝ, J., 2002: *Cenozoic birds of the world*. Part 1: Europe. Praha: Ninox Press, 406 pp.
- MORRIS, F. O., 1855: *A history of British birds*. Vol. 4. London: Groombridge and Sons, iv + 330 pp.
- OLSON, S. L., 1977: A synopsis of the fossil Rallidae. In: RIPLEY S. D. (ed.): *Rails of the world*. Boston: David R. Godine, pp. 339–373.
- ORTA, J., 1994: Northern Goshawk *Accipiter gentilis*. – In: DEL HOYO, J., A. ELLIOTT & J. SARGATAL (eds.): *handbook of the birds of the world*. Vol. 2. Barcelona: Lynx Edicions, pp. 162–163.
- PALLAS, P. S., 1773: *Reise durch verschiedene Provinzen des Rußischen Reichs*. Vol. 2: *Erstes Buch vom Jahr 1770*. St. Petersburg [= Sankt-Peterburg]: Kayserliche Academie der Wissenschaften, [4] + 750 pp.
- PALLAS, P. S., 1776: *Reise durch verschiedene Provinzen des Rußischen Reichs*. Vol. 3: *Vom Jahr 1772. und 1773*. St. Petersburg [= Sankt-Peterburg]: Kayserliche Academie der Wissenschaften, [20] + 786 pp.
- PAUŠEK-BAŽDAR, S., 1995a: Mathias Piller (1733.–1788.). – In: SRŠAN, S. (ed.): *Matija Piller i Ljudevit Mitterpacher, Putovanje po Požeškoj županiji u Slavoniji 1782. god*. Osijek: Matica hrvatska Požega & Povijesni arhiv u Osijeku, pp. 200–203.
- PAUŠEK-BAŽDAR, S., 1995b: Ludvig Mitterpacher (1734.–1814.). – In: SRŠAN, S. (ed.): *Matija Piller i Ljudevit Mitterpacher, Putovanje po Požeškoj županiji u Slavoniji 1782. god*. Osijek: Matica hrvatska Požega & Povijesni arhiv u Osijeku, pp. 204–210.

- PETERS, J. L., 1931: Check-list of birds of the world. Vol. 1. Cambridge: Harvard University Press, xviii + 345 pp.
- PILLER, M. 1792: *Collectio naturalium, quae e triplici regno minerali, animali et vegetabili undique completa.* – Gracii [= Graz]. [Not seen.]
- PILLER, M. & L. MITTERPACHER, 1783: *Iter per Poseganam Sclavoniae provinciam mensibus junio, et julio anno MDCCLXXXII.* – Buda: J. M. WEINGAND & J. G. KÖPF, 147 pp. + 16 pls.
- PORTIS, A., 1887: *Contribuzioni alla ornitologia italiana. Parte II. Memorie Regia Accademia Scienze (Torino)* (2)38, 181–203.
- REICHENOW, A., 1877: *Systematische Uebersicht der Schreitvögel (Gressores), einer natürlichen, die Irididae, Ciconiidae, Phoenicopteridae, Scopidae, Balaenicipitidae und Ardeidae umfassenden Ordnung.* *Journal für Ornithologie* 25, 113–171, 225–277.
- RICHMOND, C. W., s.d.: Images of the cards in the Richmond Index, Bird Division, National Museum of Natural History, Washington, D.C. Available from <http://www.zoonomen.net> (last accessed 18 April 2009)
- SELBY, P. J., 1833: *Illustrations of British ornithology. Vol. 1. Land birds.* Edinburgh: W. H. Lizars; London: Longman, Rees, Orme, Brown, Green and Longman; & Dublin: W. Curry Jun. & Co., xxxvii + 450 pp.
- SHARPE, R. B., 1896: *Catalogue of the Limicolae in the collection of the British Museum.* In: *Catalogue of the birds in the British Museum. Vol. 24. London: British Museum (Natural History)*, xii + 795 pp.
- SONNINI, [C. N. S.], 1803: *Busard.* – In: *Nouveau dictionnaire d'histoire naturelle. Vol. 3. Paris: Deterville*, pp. 560–563.
- SONNINI, [C. N. S.], 1819: *Ralle, Rallus.* – In: *Nouveau dictionnaire d'histoire naturelle. Vol. 28. Paris: Deterville*, pp. 546–570.
- SRŠAN, S., 1986: *Počeci isušivanja močvara u Slavoniji.* – Đakovo: Đakovački vezovi.
- SRŠAN, S. (ed.), 1995: *Matija Piller i Ljudevit Mitterpacher, Putovanje po Požeškoj županiji u Slavoniji 1782. god. Osijek: Matica hrvatska Požega & Povijesni arhiv u Osijeku*, 227 pp. [This is a reprint and a commented Croatian translation of Piller & Mitterpacher 1783.]
- STEINHEIMER, F. D., 2005: *The whereabouts of pre-nineteenth century bird specimens. Zoologische Mededelingen* 79(3), 45–67.
- STRESEMANN, E., 1925: *Der älteste Name des mitteleuropäischen Hühnerhabichts. Ornithologische Monatsberichte* 33, 92.
- STRESEMANN, E. & D. AMADON, 1979: *Order Falconiformes.* – In: MAYR, E. & G. W. COTRELL (eds.): *Check-list of birds of the world. 2nd ed. Vol. 1. Cambridge, MA: Museum of Comparative Zoology*, pp. 271–425.
- TEMMINCK, C. J., 1815: *Manuel d'ornithologie ou Tableau systématique des oiseaux qui se trouvent en Europe.* Amsterdam: J. C. Sepp et Fils; & Paris: G. Dufour, xxxviii + 618 pp.
- VAURIE, C., 1965: *The birds of the Palearctic fauna. Non-Passeriformes.* London: H. F. & G. Witherby, xxi + 763 pp.
- VIEILLOT, [L. P.], 1803: *Rale (Rallus).* – In: *Nouveau dictionnaire d'histoire naturelle. Vol. 3. Paris: Deterville*, pp. 185–194.
- VIEILLOT, [L. P.], 1817: *Héron, Ardea.* – In: *Nouveau dictionnaire d'histoire naturelle. Vol. 1. Paris: Deterville*, pp. 399–442.
- VIEILLOT, L. P., 1823: *Tableau encyclopédique et méthodique des trois règnes de la nature: Ornithologie. Vol. 3. Paris: Mme veuve Agasse*, pp. 903–1460.
- WATTEL, J., 1973: *Geographic differentiation in the genus Accipiter.* *Publications of the Nuttall Ornithological Club*, 13: 1–231.
- WILSON, A. & C. L. BONAPARTE, 1831: *American ornithology; or the natural history of the birds of the United States. Vol. 4.* Edinburgh: Constable and Co.; and London: Hurst, Chance, and Co., 362 pp.
- WILSON, A. & C. L. BONAPARTE, 1832: *American ornithology; or the natural history of the birds of the United States. Vol. 3.* London: Whittaker, Treacher & Arnot; and Edinburgh: Stirling & Kenney, viii + 523 pp.