A new genus for the tiny hawk *Accipiter superciliosus* and semicollared hawk *A. collaris* (Aves: Accipitridae), with comments on the generic name for the crested goshawk *A. trivirgatus* and Sulawesi goshawk *A. griseiceps*

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**Abstract**

Multiple molecular phylogenetic studies have demonstrated that two Neotropical raptors, tiny hawk *Accipiter superciliosus* and its sister species semicollared hawk *A. collaris*, are not closely related to core *Accipiter*, and that *A. superciliosus*, at least, possesses osteological characters not replicated in the remainder of the genus. Based on these data, there is a need to recognise their distinctiveness at generic level. However, as recently noted in two global bird checklists, no name is available to accommodate them, so we provide a new *nomen* here. Furthermore, two Asian accipitrids, crested goshawk *A. trivirgatus* and its presumed closest relative Sulawesi goshawk *A. griseiceps*, are also phylogenetically distinctive; in this case the genus-group name *Lophospiza* is applicable. We also designate type species for two genus-group names (*Hieraspiza* and *Eusparvius*) currently in the synonymy of *Accipiter*, and, as an aid to future workers, we provide a synonymy of the genus *Accipiter* and a list of species currently included in *Accipiter* for which published molecular phylogenetic data are apparently lacking.

**Key words**

Accipitriformes, *Eusparvius*, *Hieraspiza*, nomenclature, phylogeny
**Introduction**

*Accipiter* Brisson, 1760, is a large, virtually cosmopolitan and morphologically variable genus. Recent studies based on mitochondrial and nuclear DNA sequences have shown that *Accipiter* (sensu Dickinson and Remsen 2013) is not monophyletic. These studies provide strong evidence that the harriers (genus *Circus* Lacépède, 1799) form part of the *Accipiter* clade (Kocum 2006, 2008; Griffiths et al. 2007; Lerner et al. 2008; Hughall and Stuart-Fox 2012; Nagy and Tököly 2014; Jiang et al. 2015; Oatley et al. 2015; Mindell et al. 2018). The genera *Erythrotriorchis* Sharpe, 1875, and *Megatriorchis* Salvadori & D’Albertis, 1876, have also been recovered within the *Accipiter* clade (Mindell et al. 2018). Conversely, several studies have shown that the Neotropical tiny hawk *A. superciliosus* (Linnaeus, 1766) occupies a position outside the *Accipiter* clade (Kocum 2006, 2008; Hughall and Stuart-Fox 2012; Oatley et al. 2015; Mindell et al. 2018). Another Neotropical species, semicoloured hawk *A. col- laris* P. L. Sclater, 1860, was found to be its sister species (Mindell et al. 2018). In all studies, the precise position of *A. superciliosus* and *A. collaris* proved unclear, due to low nodal support, but these species are clearly not part of the *Accipiter* mega-clade (including *Circus* + *Erythrotiorchis* + *Megatriorchis*), which itself was supported by high posterior probability (Kocum 2006, 2008; Hughall and Stuart-Fox 2012; Oatley et al. 2015; Mindell et al. 2018). Even more distantly related to *Accipiter* is crested goshawk *A. trivirgatus* (and presumably Sulawesi goshawk *A. griseiceps*), which is sister to a clade comprising all other species of Accipitrinae and Buteoninae (Mindell et al. 2018; Choi et al. 2021). For an overview of these relationships, see Fig. 1.

**Genus-group name of *A. superciliosus* and *A. collaris***

Olson (2006) pointed out that *A. superciliosus* shows several unique osteological characters in the context of *Accipiter* and recommended that it be placed in a separate genus, *Hieraspiza* Kaup, 1844. Olson (2006) based himself on Hellmayr and Conover (1949: 48, footnote), who reported that ‘*Hieraspiza* Kaup was originally created for several “East Indian species” to which, the author says, *virgatus* might possibly belong. A few years later (in *Oken’s Isis*, 1847, col. 169) Kaup specifically listed *A. tinus*, *A. minullus*, and *A. virgatus* as pertaining to the genus, among which Gray, in 1855, selected *Falco tinus* as genotype. *Falco tinus* Latham, 1790, is a junior synonym of *A. superciliosus* (Stresemann and Amadon 1979). Subsequently, Mindell et al. (2018) considered that genetic and morphological data indeed support the recognition of a separate genus for *A. superciliosus* and *A. collalis*, and followed Olson (2006) by using *Hieraspiza*.

In contrast, Mathews (1920: 67) erroneously considered *Falco caerulescens* Linnaeus, 1758 (= collared falconet *Microhierax caerulescens*) to be the type species of *Hieraspiza*, whereas Friedmann (1950: 141) listed *Falco virgatus* Temminck, 1822 (now *Accipiter virgatus*) as its type species. Wolters (1975) used *Hieraspiza* as a subgenus name for *A. nanus*, *A. gularis* and *A. virgatus*, and grouped *A. superciliosus* and *A. collalis* in an unnamed subgenus. From this, it is clear that Wolters did not consider *A. superciliosus* the type species of *Hieraspiza*.

Dickinson and Remsen (2013: 248, footnote 7) and del Hoyo and Collar (2014) stated that *A. virgatus* is the type species of *Hieraspiza* and that either a new genus must be erected for *A. superciliosus* or an existing genus name must be discovered.

The name *Hieraspiza* was first used by Kaup (1844: 116), where it is a *nomen nudum*, because there is no description and no valid ‘indication’ (ICZN 1999, Art. 12). The relevant text, in its entirety, reads: ‘Falkenweihesper, die ich Hierspiza nenne, scheinen einige ostindische Arten zu bilden, zu welchen vielleicht virgatus gehört.’ In other words, Kaup stated that some East Indian species *Hieraspiza* to this group. As the inclusion of *virgatus* is only tentative, this species is deemed not to have been originally included (Art. 67.2.5) in 1844, contra Friedmann (1950) and others, so it cannot serve as an indication. Subsequently, Kaup (1845) listed this genus again, this time explicitly including just two species, *virgatus* and “*Dussumier*” (= *Accipiter badius dussumieri*), thus providing a valid indication (Art. 12.2.5). As a result of its exclusion from the originally included species, the possible case for *superciliosus* as the type species is unsustainable (Art. 67.2) because Kaup did not link it with this genus until 1847. This makes G. R. Gray’s (1855) subsequent selection of “*Falco tinus*” as the type for *Hieraspiza* irrelevant. To stabilize this name, we hereby select *Falco virgatus* Temminck, 1822 (= *Accipiter virga- tus*) as type species of the genus-group name *Hieraspiza*.

In searching for an existing name to accommodate *A. collalis* and *A. superciliosus*, we assembled a list of synonyms of *Accipiter* (sensu Dickinson and Remsen 2013), which is based on multiple sources but principally Friedmann (1950) (see Appendix 1). Although only 33 of the 49 species of *Accipiter*, *Erythrotriorchis* and *Megatriorchis* (sensu Dickinson and Remsen 2013) were included in the most comprehensive phylogenetic study to date (Mindell et al. 2018), these represent all but one of the type species of the available genus-group names current-
ly listed within the synonymy of *Accipiter*. The exception is spot-tailed goshawk *Accipiter trinotatus* (Bonaparte, 1850), the type species of *Erythrosziza* Kaup, 1867, a name unavailable due to its being a junior homonym (see Appendix 1), but also, automatically, the type of its three derivatives: *Chirospizias* Sundevall, 1874, a replacement name; *Erythrosziza* Gurney, 1875, an unjustified emendation but nonetheless an available genus-group name (Art. 33.2.3); and *Spilospiza* Salvadori, 1875, another replacement name. Nevertheless, the earlier name *Eusparvius* Bonaparte, 1854, is also available and can be used for this species. Bonaparte (1854: 538) having included *A. trinotatus*, *A. griseiceps*, *A. hiogaster*, and *A. rufitortues* within the original grouping (note that none of these has been screened molecularly; see Appendix 2). All four of these available genus-group names (*Eusparvius*, *Chirospizias*, *Erythrosziza* and *Spilospiza*) might be considered *nomina obliterata* as they have barely been mentioned, never mind used, since being introduced. No type species for *Eusparvius* Bonaparte, 1854, was originally designated or appears to have been subsequently fixed, and Art. 68 cannot be used to select one, so we hereby fix the type of *Eusparvius* as *A. trinotatus*, the first of the four species originally listed by Bonaparte for the oldest available genus-group name applicable to this species.

*A. trinotatus* is endemic to Sulawesi. It shares no diagnostic character state with *A. superciliosus* and *A. collaris*, and differs strongly from these two Neotropical species in various characters, including: tail pattern (large spots on the central rectrices in *A. trinotatus*, barred in *A. superciliosus* and *A. collaris*); tertiary pattern (large white spots in *A. trinotatus*, plain in *A. superciliosus* and *A. collaris*); and the pattern of the underparts (plain in *A. trinotatus*, barred in *A. superciliosus* and *A. collaris*) (del Hoyo et al. 1994; Ferguson-Lees and Christie 2001). Despite the lack of phylogenetic evidence for the placement of *A. trinotatus*, we believe its morphology and biogeography provide no reason to suspect a close relationship with *A. superciliosus* and *A. collaris*.

We conclude that *A. superciliosus* and *A. collaris* cannot be isolated in any existing genus and that there are no available genus-group names applicable to these species. Thus, it is necessary to provide a new genus-group name. We propose:

**Microspizias gen. nov.**

http://zoobank.org/B93BCE1C-F9B4-4C65-BD76-923F372621D0

**Type species.** *Falco superciliosus* Linnaeus, 1766 (currently *Accipiter superciliosus*).

**Included species.** *Microspizias superciliosus* (Linnaeus, 1766), new combination, and *M. collaris* (P. L. Sclater, 1860), new combination.

**Diagnosis.** *Microspizias* differs from all species of *Accipiter* by a combination of (i) small size (total length <30 cm), (ii) white vent barred grey (in adult *M. collaris*) or chocolate-brown (in adult *M. superciliosus*), and (iii) juveniles dimorphic, rufous morph with distinct rufous fringes to feathers of upperparts (Ferguson-Lees and Christie 2001). In addition, Olson (2006) noted that in *M. superciliosus* the procococoid process has a very distinct foramen. This foramen is invariably absent in *Accipiter* (Olson 1987). Olson (2006) further pointed out that the configuration of the skull, sternum and pelvis of *M. superciliosus* are very different from *Accipiter*, and that the hind-limb bones of *M. superciliosus* are much more robust than the extremely gracile elements of *Accipiter*.

*Microspizias* differs from *Kaupifalco monogrammicus* by (i) absence of black and white throat stripes (black central throat stripe bordered on each side by a white stripe in *Kaupifalco*), (ii) absence of a solid grey breast-band (present in *Kaupifalco*), (iii) presence of three grey tail bands (one white band in *Kaupifalco*), and (iv) yellow cere, tibia and toes (orange in *Kaupifalco*) (Ferguson-Lees and Christie 2001).

*Microspizias* differs from *Melierax* in (i) much smaller size (total length <30 cm; >42 cm in *Melierax*), (ii) much shorter legs (tarsus <50 mm; >81 mm in *Melierax*), and (iii) juveniles dimorphic, rufous morph with rufous feather fringes on upperparts (monomorphic, with brown upperparts in *Melierax*) (Ferguson-Lees and Christie 2001).

*Microspizias* differs from *Micronisus gobar* in (i) shorter tail (males <117 mm; >150 mm in *Micronisus*), (ii) tail square-ended or notched (rounded in *Micronisus*), (iii) yellow cere, tibia and toes (orange in adult *Micronisus*), (iv) dark grey rump (white in *Micronisus*), and (v) juveniles dimorphic, rufous morph with rufous feather fringes on upperparts (monomorphic, with brown upperparts in *Micronisus*) (Ferguson-Lees and Christie 2001).

*Microspizias* differs from *Harpagus* in (i) presence of three grey tail bands (two or three white or grey bands in *Harpagus*), (ii) adult male without dark mesial throat stripe (present in *Harpagus*), (iii) greyish-barred underparts (plain grey or rufous, or rufous-barred in adult *Harpagus*), and (iv) juveniles dimorphic, rufous morph with rufous feather fringes on upperparts (monomorphic,
with brown to black-brown upperparts in Harpagus) (Friedmann 1950; Ferguson-Lees and Christie 2001).

Microspizias differs from Urotriorchis macrourus in (i) much shorter tail (males <117 mm; >305 mm in Urotriorchis), (ii) tail squared or notched (strongly graduated in Urotriorchis), (iii) underparts with greyish bars (in M. collaris) or chocolate-brown bars (in M. superciliosus) (plain grey or rufous in Urotriorchis), (iv) dark grey rump (white in Urotriorchis), and (v) juveniles dimorphic, rufous morph with rufous feather fringes on upperparts (monomorphic, with black-brown upperparts in Urotriorchis) (Ferguson-Lees and Christie 2001).

**Etymology.** The name is derived from the Greek words μικρός (small, tiny) and σπιζιας (hawk). Its gender is masculine. The name refers to the small size of both species, especially that of M. superciliosus.

**Genus-group name of A. trivirgatus and A. griseiceps**

Placement of crested goshawk A. trivirgatus in a separate genus from Accipiter is warranted based on its phylogenetic distinctiveness (Mindell et al. 2018; Choi et al. 2021). Lophospiza Kaup, 1844, is available as a genus-group name for this species and its presumed closest relative, Sulawesi goshawk A. griseiceps. Its gender is feminine. Crested goshawk and Sulawesi goshawk thus become Lophospiza trivirgata and Lophospiza griseiceps, respectively. Morphologically, they differ from all species of Accipiter by their well-developed crest (Ferguson-Lees and Christie 2001).

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Appendix 1

Synonymy of Accipiter (sensu Dickinson and Remsen 2013). Incorrect subsequent spellings and (unjustified) emendations are mostly omitted for the purposes of this list. The list is based on Sharpe (1874), Peters (1931), Hellmayr and Conover (1949), Friedmann (1950), Wolters (1975), Stresemann and Amadon (1979), and the Richmond Index made available at http://www.zoonomen.net/cit/RI/Genera/RIGen.html (accessed 19 March 2021).

Accipiter Brisson, 1760. Type species “Accipiter” Brisson = Falco nisus Linnaeus, 1758 (now Accipiter nisus).

Astur Lacépède, 1799. Type species, by subsequent designation (Vigors 1824), Falco palumbarius Linnaeus, 1758 = Falco gentilis Linnaeus, 1758 (now Accipiter gentilis).

Nisus Lacépède, 1799. Type species “Épervier” = Falco nisus Linnaeus, 1758 (now Accipiter nisus).

Daedalion Savigny, 1809. Type species, by subsequent designation (G. R. Gray 1840), Falco palumbarius Linnaeus, 1758 = Falco gentilis Linnaeus, 1758 (now Accipiter gentilis).

Ierax Leach, 1816. Type species I. fringillarius Savigny, 1809 = Falco nisus Linnaeus, 1758 (now Accipiter nisus).

Sparvius Vieillot, 1816. Type species, by subsequent designation (G. R. Gray 1840), Falco nisus Linnaeus, 1758 (now Accipiter nisus).

Aesalon F. O. Morris, 1837. Type species A. fringillarius = Falco nisus Linnaeus, 1758 (now Accipiter nisus). Preoccupied by Aesalon Kaup, 1829 [Falconidae].

Asterias F. O. Morris, 1837. Type species A. palumbarius = Falco gentilis Linnaeus, 1758 (now Accipiter gentilis). Preoccupied by Asterias Linnaeus, 1758 [Echinderma].

Fringillarias Jameson, 1840. New name for Accipiter Brisson, 1760, and Daedalian Savigny, 1809.

Phabotypus Gloger, 1842. New name for Astur Lacépède, 1799.

Tachyspiza Kaup, 1844. Type species Falco soloensis Horsfield, 1821 (now Accipiter soloensis).

Lophospiza Kaup, 1844. Type species, by monotypy, Astur trirvirgatus = Falco trirvirgatus Temminck, 1824 (hitherto Accipiter trirvirgatus).

Leucospiza Kaup, 1844. Type species Astur novaehollandiae = Falco novaehollandiae J. F. Gmelin, 1788 (now Accipiter novaehollandiae).

Nisastur Blyth, 1844. Type species Falco badius J. F. Gmelin, 1788 (now Accipiter badius).

Hieraspiza Kaup, 1845. Type species, by designation herein, Falco virgatus Temminck, 1822 (now Accipiter virgatus). See main text.

Uropsiza Kaup, 1845. Type species Nisus radiatus Temminck, 1822 nec Latham, 1801 = Astur fasciatus Vigors and Horsfield, 1827 (now Accipiter fasciatus).

Scolospiza Kaup, 1847. Type species Nisus francesii [sic] = Accipiter Francesii A. Smith, 1834 (now Accipiter francesiae).

Cooperastur Bonaparte, 1854. Type species, by subsequent designation (G. R. Gray 1855), Falco cooperii Bonaparte, 1828 (now Accipiter cooperii).

Eunisus Bonaparte, 1854. Type species, by subsequent designation (Richmond 1917), Falco (Nisus) sphenurus Rüppell, 1836 (now Accipiter sphenurus).

Eusparvius Bonaparte, 1854. Type species, by designation herein, Accipiter trinotatus Bonaparte, 1850.

Nisuoides Pollen, 1866. Type species, by monotypy, Nisuoides morelii Pollen, 1866 = Accipiter Francesii A. Smith, 1834 (now Accipiter francesiae).

Erythropsia Kaup, 1867. Type species Falco trinotatus Temminck = Accipiter trinotatus Bonaparte, 1850. Preoccupied by Erythropsia Bonaparte, 1831 [Fringillidae].

Leptohierax Sundevall, 1874. New name for Cooperastur Bonaparte, 1854.

Chirospiza Sundevall, 1874, New name for Erythropsia Kaup, 1867, preoccupied by Erythropsia Bonaparte, 1831 [Fringillidae].

Dinospiza Cabanis, 1874. Type species Astur pectoralis Bonaparte, 1850 = Falco poliogaster Temminck, 1824 (now Accipiter poliogaster).

Erythropsicidae Gurney, 1875. Unjustified emendation of Erythropsia Kaup, 1867.

Spilospiza Salvadori, 1875. New name for Erythropsia Kaup, 1867 (preoccupied by Erythropsia Bonaparte, 1831 [Fringillidae]).

Paraspinus Mathews, 1915. Type species Sparvius cirrocephalus Vieillot, 1817 (now Accipiter cirrocephalus).

Aerospiza Roberts, 1922. Type species Astur tachiro = Falco tachiro Daudin, 1800 (now Accipiter tachiro).

Neonisus Roberts, 1922. Type species Accipiter melanoleucus = Accipiter melanoleucus [sic] A. Smith, 1830 (now A. melanoleucus).

Appendix 2

Species taxa of Accipiter (sensu Dickinson and Remsen 2013) not screened by the Mindell et al. (2018) phylogeny. * = sampled by Breman et al. (2013). All three species of Erythrotriorchis and Megatriorchis were sampled by Mindell et al.

Accipiter griseiceps Sulawesi goshawk; A. butleri Nicobar sparrowhawk; A. trinotatus spot-tailed goshawk; A. hiogaster variable goshawk; A. princeps New Britain goshawk; A. fasciatus* brown goshawk; A. albogularis pied goshawk; A. rufitorques Fiji goshawk; A. henicogrammus Moluccan goshawk; A. luteochistaceus slaty-backed sparrowhawk; A. nanus dwarf sparrowhawk; A. erythrauchen rufous-necked sparrowhawk; A. brachyrus New Britain sparrowhawk; A. rhodogaster vinous-breasted sparrowhawk; A. gundlachi* Gundlach’s hawk; and A. meyerianus Meyer’s goshawk.