TRANSLITERATION AND LATINIZATION OF GREEK WORDS 1

When a Greek word is transliterated its letters are given their exact equivalents. When it is latinized it is given the form which is determined by the usage of classical Latin or, where that differs, of modern scientific Latin. The following Table illustrates the correct procedure.

THE GREEK ALPHABET, ASPIRATED LETTERS, AND DIPHTHONGS, WITH LATIN EQUIVALENTS AND MODE OF LATINIZATION

Alphabet and Aspirated Letters

Greek letter		Name	Latin equivalent	Latin- ized as	Example	Latinized as
\mathbf{A}	\boldsymbol{a}	alpha	a	a	ἄναξ	Anax
'A	å			ha	άβρός	in <i>Ha</i> bro- bracon
\mathbf{B}	β	beta	b	b	βάλανος	Balanus
Γ	γ	gamma	g	g	γλῶσσα	in Glossina
	γγ		gg	ng	ἄγγος	in A <i>ng</i> io- neurilla

¹ Document prepared by L. W. Grensted and J. Chester Bradley, reprinted from *Bull. zool. Nomencl.* 15: 1111-1113, with amendments.

Transliteration and Latinization of Greek Words

Gre lett		Name	Latin equivalent	Latin- ized as	Example	Latinized as
	γκ		gk	nc	ἄγκιστρον	in Ancistrocerus
	γξ		gx	nx	σάλπιγξ	Salpinx
	γχ		gch	nch	ἄγχι	in Anchisaurus
Δ	δ	delta	d	d	δυνάστης	Dynastes
E	ϵ	epsilon	ĕ	c	$\dot{\epsilon}\lambda a au \acute{\eta} ho$	Elater
'E	έ			he	$\He\epsilon\lambda\iota\xi$	Helix
Z	ζ	zeta	Z	Z	$\zeta \hat{\omega}$ o $ u$	in Protozoa
Н	η	eta	ē	e	ηώς	in Eohippus
(final)	η		е	a	a ἴ $\gamma\lambda\eta$	Aegla
Ή	$\acute{\eta}$			he	<i>ἥλος</i>	in He loderma
Θ	θ	theta	th	th	$ heta ho i\psi$	Thrips
I	ι	iota	i	i or j	ιχνεύμον ιωάννης	Ichneumon in J oannisia
ʻI	ί			hi	ἵππος	in Hi ppocampus
K	κ	kappa	k	С	κύπρις	Cypris
Λ	λ	lambda	1	1	$\lambda \epsilon \pi i_S$	${\rm in} L{\rm epidoptera}$
M	μ	mu	m	m	μύρμηξ	Myrmex
N	ν	nu	n	n	ναυτίλος	Nautilus
Ξ	ξ	xi	X	X	ξένος	in X enotoma
O	o	omicron	1 O	O	$\partial ho heta \partial s$	in O rthoptera
'O	်			ho	όμος	in Ho moptera
(final)	ον		on	um	ρυγχίον	Rhynchium
(final)	os			us	βόμβος	Bombus
Π	π	pi	p	P	$\pi a ho cuplpha$	in P arahoplites
P	ρ	rho	r	r	πτερόν	in Hemiptera
'P	င့်			rh	$\dot{ ho} \dot{\epsilon} a$	Rhea
	ρρ		rr	rrh	πυρρός	in Pyrrhomutilla

Transliteration and Latinization of Greek Words

	reek tter	Name	Latin equivalent	Latin- ized as	Example	Latinized as
Σ	σ, ς	sigma	S	S	σφίγξ	Sphinx
T	au	tau	t	t	$ au \dot{\epsilon}$ ττι ξ	Tettix
Υ	υ	upsilon	u	у	βόμβυξ	Bombyx
Ύ	ນ ໌			hy	ΰδρα	Hydra
Φ	ϕ	phi	ph	ph	φύλλον	in Ph ylloxera
X	χ	chi	ch	ch	χιτών	<i>Ch</i> iton
Ψ	ψ	psi	ps	ps	$\psi v \chi \dot{\eta}$	Psyche
Ω	ω	omega	О	О	<i>ὼκύπους</i>	<i>O</i> cypus
'Ω	$\dot{\omega}$			ho	ὥρα	in Ho raeocerus

Diphthongs

AI aı	ai	ae	ταινία	T <i>ae</i> nia
AI' ai		hae	$a l\mu a$	in <i>Hae</i> matopota
ΑΥ αυ	au	au	$a v \lambda a \xi$	in Aulacus
ΕΙ ει	ei	i	χείρ	in Ch i roptera
ΕΥ ευ	eu	eu (or ev)	εὖ εὐαγής	in Eu menes in Ev agetes
ΕΥ' εύ		heu	εύρίσκω	in <i>Heu</i> retes
OI oı	oi	oe	οἴστρος	<i>Oe</i> strus
$O\Upsilon$ ov	ou	u	πούς	in Platypus
Ω ω	o(i)	O	<i></i> ဖွဲဝဴν	in Ootypus

The remaining diphthongs are unimportant in zoological nomenclature.

Notes

2. When $rr(\rho\rho)$ occurs in the middle of a Greek word it becomes rrh on

latinization. Thus πυρρότης becomes Pyrrhotes.

^{1.} The sign ' (rough breathing) placed over a vowel or rho, or before a capital, or after a capitalized diphthong, is represented in Latin by the letter h. The reversed sign ' (smooth breathing), placed over a vowel, is silent and is disregarded.

^{3.} Of the two Greek forms of s, σ is used in the middle of a word and s at the end only.

Latinization of Geographical and Proper Names

4. The three long vowels written with iota subscript, q, η , ω , are in principle diphthongs, but the iota is normally ignored in latinization. The only important case in taxonomy is in the words derived from $\dot{\omega} \acute{o} \nu$, an egg, which are always formed as in Ootypus, Oodes.

5. In Latin, but not in Greek, the vowels u and i are also used as consonants. It has become customary to represent u by v, which appears whenever the Latin u is followed by a vowel, as in "Evander", "evangelize". This principle is varied whenever euphony demands, especially when eu, representing the Greek ϵv , is followed by the vowel o, as in Euomphalus, Euodice. Similarly

in modern Latin an initial I is usually written J.

6. The substitution of "a" for the final η is the substitution of the Latin feminine nominative singular case-ending of the -a stem declension (first declension) for the Greek ending. Similarly in the o-stem declension (second declension) the Latin masculine nominative singular case-ending "us" is substituted for the Greek "os", and the neuter ending "um" for the Greek "ov".

This brings the nouns into better conformity with normal Latin usage. It is advisable to do this in coining new names, but there are many instances in which such Greek words have been taken over into Latin unchanged, e.g., Cyrene, Pelion. Similarly in Neo-Latin we have many such zoological names

as Ennomos from έννομος and Theridion from θηρίδιον.

There are also many cases where the nominative case-endings of Greek nouns of other declensions have been unnecessarily altered, even changing the gender and declension (and therewith the stem) in forming zoological names. Thus words ending in κέρας, a third declension neuter, are normally latinized as "-ceras" (e.g., Calliceras). But in Trichocera, the first declension case-ending -a has been substituted for the Greek ending, changing not only the gender and declension, but also the stem itself, which now ends in -a instead of -at. In Heterocerus, similarly, a second declension masculine ending has been used, and the stem of that word ends in -o. The stems referred to are the grammatical stems used in forming derivative words, not those to be used in forming family-group names [see Art. 29]. Trichocera and Heterocerus are not examples of the latinization of $\kappa \epsilon \rho as$ but the creation of wholly new words, such as, of course, any author has the right to make.

LATINIZATION OF GEOGRAPHICAL AND PROPER NAMES

The geographical and proper names of nations that employ the Latin characters should be written with the orthography of the country in which they originate.

The geographical and proper names of countries that do not employ the Latin alphabet, have no true alphabet, or have no written language, should be in orthographies that take into consideration the following paragraphs. By means of the letters given below, an attempt should be made to represent as exactly as possible the local pronunciation without trying to give a complete representation of all the sounds that are heard.

Latinization of Geographical and Proper Names

- 1. The vowels a, e, i, and o should be used to represent the sounds that they express in French, German, Italian, and Spanish. The e should not be used with the value of a mute vowel.
- 2. The French sound u should be represented by the German \ddot{u} (written as ue).
- 3. The French sound ou should be represented by u, as in German, Italian, Spanish, etc.
- 4. The French sound eu, pronounced as in jeu, should be represented by oe.
- 5. The consonants b, d, f, j, k, l, m, n, p, r, t, v, and z should be used to represent the sounds that they express in French.
- 6. The letters g and s should represent only the hard sounds, as in the French (English) words golfe (gulf) and sirop (syrup).
- 7. The sound expressed in French by ch (as in chambre) and in English by sh (as in shot) should be represented by sh.
- 8. Kh should be used to represent the harsh guttural and gh the soft guttural of Arabic.
- 9. Th and dh should be used to represent respectively the sounds equivalent to the soft th (as in path) and the hard th (as in those) of English.
- 10. Aside from such employment (7, 8, 9) of the letter h modifying the letter that precedes it, h is always aspirated.
- 11. The semivowels w and y should be used to express the phonetic value that they have in the English words will and young.
- 12. Complex sounds should be represented by letters or groups of letters, such as d+j, t+ch, t+sh, which express the basic sounds, as in *Matshim*.
- 13. The sound expressed by the Spanish \tilde{n} should be represented by gn, pronounced as in the French seigneur.
- 14. The letters x and c should not be used, since they are duplicates of other letters representing the same sounds.
- 15. The letter q may be used to represent the Arabic qaf. The combination qu should be used to represent the sound that it expresses in the English word quote and the French word quoi.

RECOMMENDATIONS ON THE FORMATION OF NAMES

I. General

- 1. A new genus- or species-group name should be short and euphonious in Latin.
- 2. A word that has been used as the name of a taxon above the family-group should not be used as a new genus- or species-group name.
- 3. A zoologist should not publish a new genus-group name that differs from other such names only in its termination or in small differences in spelling, e.g., Hygrobia, Hygromia; Leucochile, Leucochilus; Merope, Merops; Odhnerius, Odhneria, Odhnerium; Peroniceras, Peronoceras; Sciurus, Seiurus.
- 4. A Latin adjective or past participle should not be used for a genus-group name, e.g., Prasina, Productus.
 - 5. A zoologist should not publish a new species-group name
 - (a) identical with one already in use in a closely related or associated genus-group taxon, or
 - (b) that differs from such a name only in its termination or in small differences in spelling, e.g., fluvialis, fluviaticus, fluviatilis; furcifera, furcigera; granulatus, granulosus; marginalis, marginatus.
- 6. A zoologist should not base a new species-group name on a personal or geographical name if another name derived from the same word is in use in the same or in an allied or associated genus, e.g., hispanus, hispanicus; moluccensis, moluccanus; sinensis, sinicus, chinensis; ceylonicus, zeylanicus.
- 7. A zoologist should not choose a new species-group name differing from one in the same or in an allied or associated genus in being an adjective instead of a noun or vice versa; this applies also to the terminal element of a compound name, e.g., cauda (noun): caudatus, -a, -um (adjective); crassicosta: crassicostatus, -a, -um.
- 8. The words *typus* and *typicus* should not be used as new names, since they are liable to lead to confusion.
- 9. A zoologist should not propose a name that, when spoken, suggests a bizarre, comical, or otherwise objectionable meaning.

II. Names formed from words of classical origin

(see also Part VI)

- 10. In forming a zoological name from a word of classical origin, the declension of the language of origin should be used.
- 11. In forming a compound name, a zoologist should not choose components of which one is Greek and the other Latin.
- 12. The prefix *sub* should be used in combination only with a Latin noun or adjective. It should not be used with a name based on a personal name, e.g., *subviridis* or *substriatus*, but not *subwilsoni* or *Subdarwinia*.
- 13. The prefix *pseudo* should be used in combination only with a Greek noun or adjective. It should not be used with a name based on a personal name.
- 14. The suffixes -ides and -oides should be used only with Greek or Latin nouns. They should not be used with proper names.

III. Names based on personal names

- 15. The use of personal names in the formation of compound genus-group names is objectionable, e.g., Eugrimmia and Euagassiceras.
- 16. In forming a species-group name from the name of a modern man that is neither Latin, nor latinized, nor of Greek origin, the genitive singular case-ending -i, in preference to the termination -ii, should be added to the entire name, e.g., smithi rather than smithii (from Smith), krupai (from Krupa), bonarellii (from Bonarelli).
 - (a) Such a name may also be formed by adding the adjectival ending -ianus, -iana, -ianum to the entire name, but it is better to use the genitive singular.
 - (b) Latinization by the addition of -ius to a proper name, which would produce the genitive -ii, is not recommended.
 - 17. (a) If the name is based on a Latin or latinized name of a modern man, the nominative singular ending -us should be replaced by the genitive singular ending -i, e.g., fabricii, aurivillii, sartorii.
 - (b) If the name is Greek, the latinized genitive should be used; if the correct latinized genitive cannot be found in either Greek or Latin lexicons, the genitive ending -i should be added to the entire name.
- 18. In forming a species-group name from the name of a woman [Art. 31], a final -a or -e may be elided for euphony, e.g., josephineae or josephinae (Josephine).

- 19. In forming a zoological name from a compound personal name, a zoologist should consider using only one of the components, giving preference to the better known, e.g., bakeri (Bethune Baker), guerini (Guérin Méneville).
- 20. The Greek or Latin declension should be followed in basing a zoological name on the forename of a modern person, if this is of classical origin, e.g., *caroli* (from Charles), *annae* (from Ann, Anna, Anne).
- 21. Personal names bearing prefixes should be treated as follows in forming zoological names.
 - (a) The prefixes "Mac", "Mc", or "M" "should be spelled "mac" and united, as in *maccooki* (McCook), *maccoyi* (M'Coy).
 - (b) The prefix "O" should be united without an apostrophe, as obrieni (O'Brien).
 - (c) A prefix consisting of an article (for example, le, la, l', les, el, il, lo), or containing an article (for example, du, de la, des, del, della), should be united, as *leclerci* (Le Clerc), *dubuyssoni* (Du Buysson), *lafarinai* (La Farina), *logatoi* (Lo Gato).
 - (d) A prefix, abbreviated or not, consisting of a nobiliary particle or indicating Christian sainthood, should be omitted, as in *chellisi* (De Chellis), *remyi* (St. Rémy), *clairi* (St. Clair).
 - (e) A German or Dutch prefix which is normally united with the personal name may be included in a zoological name, as vonhauseni (Vonhausen), vanderhoecki (Vanderhoeck), but should otherwise be omitted, as iheringi (von Ihering), strasseni (zur Strassen), vechti (van der Vecht).
 - (f) All other prefixes should be omitted.

IV. Names formed from geographical names

- 22. A species-group name based on a geographical name should be
 - (a) preferably an adjective derived from the geographical name, and ending in a suitable suffix, such as -ensis or -iensis, e.g., cubensis (Cuba), timorensis (Timor), ohioensis (Ohio), siciliensis (Sicily);
 - (b) or a noun in the genitive case, e.g., neapolis (Naples), ithacae (Ithaca), sanctipauli (St. Paul), romae (Rome), vindobonae (Vienna), burdigalae (Bordeaux).

Recommendations on the Formation of Names

23. Geographical names used by the Romans or by mediaeval writers in Latin should be preferred to more modern forms, e.g., vindobonensis rather than viennensis (Vienna); burdigalensis rather than bordeausiacus (Bordeaux); londiniensis rather than londonensis (London).

V. Other names

- 24. A mythological name that is not of classical origin should be given a Latin termination.
- 25. A word taken from a non-classical language should be given a Latin termination, e.g., Fennecus (fennec), Kobus (kob), Okapia (okapi).
- 26. An arbitrary combination of letters, used as a name in the species-group, should be treated as an indeclinable noun.

VI. Types of words eligible as genus-group names

- 27. Simple Greek nouns, e.g., ἀγκύλος (ancylos), Ancylus; φύσα (phusa), Physa; ὁπλίτης (hoplites), Hoplites; including Greek vernacular names for animals, such as λεπάς (lepas), Lepas.
- 28. Derivative Greek nouns formed from stems by the addition of suffixes that change their meaning. Such words may have been used in Greek or may be coined for zoological use, e.g., $\gamma \alpha \sigma \tau \dot{\eta} \rho$ stomach, $+ -\omega \delta \eta s$ having the form of, Gastrodes; $\ddot{\epsilon} \rho \pi \epsilon \omega$ to creep, $+ -\tau \eta s$ implying the agent, Herpestes.
- 29. Compound Greek nouns used in Greek or coined for zoological use. If the attribute in such a name expresses quality, it should precede the substantive (as *Schistosoma*, split-body); if it expresses activity or an action, it may precede or follow (as *Philopotamus*, lover of rivers, or *Potamophilus*, river-lover). Such compounds are of three principal types:
 - (a) The first element is an inseparable particle, such as the alpha privative (a- before a consonant, aν- before a vowel), e.g., ἀ-πτέρυξ wingless, Αρteryx; ημι half, + μέρος share, Hemimerus.
 - (b) The first element is a preposition or adverb, such as περί, around, + σφιγκτ-, bound, Perisphinctes; ἔπι, towards, + νεφέλη, cloud, Epinephelus; μετά, after, + κρίνον, lily, Metacrinus; εὔ, well, + μάσταξ, mouth, Eumastax.

Recommendations on the Formation of Names

- (c) The first element is the stem of a noun or adjective, such as πολυ-, many, + ὅμμα, eye, Polyomma; ἀρχαῖος, old, + κίδαρις, turban, Archaeocidaris; στενός, narrow, + πέλμα, sole, Stenopelmatus; ὀνύχος, nail, + μορφή, form, Onychomorpha.
- 30. Simple Latin nouns, such as discus, a disc (Discus); tuba, a trumpet (Tuba); including Latin vernacular names for animals, such as canis, a dog (Canis).
- 31. Derivative Latin nouns formed from stems by the addition of suffixes that modify their meaning. These may have been used in Latin or may be coined for zoological use, e.g., Sturnus + diminutive suffix -ella, Sturnella; Buccinulum, a small trumpet; clamare, to shout, + suffix -tor implying the agent, Clamator.
- 32. Latin nouns combined with inseparable particles, ambi-, di-, dis-, in-, por-, re-, se-, ve-, semi-, e.g., Diloba, Reduvius.
- 33. Latin compounds formed by prefixing a preposition or an adverb, e.g., *Bipes*, *Subursus*.
- 34. Latin nouns formed by combining stems, with the addition of suffixes as necessary, e.g., Capricornis, Stiliger, Carinifex.
 - 35. Mythological names, e.g., Danaus, Dardanus, Maja, Venus.
- 36. Proper names used by the ancients, e.g., Cinara, Diogenes, Ligur.
- 37. Names of modern persons with an appropriate suffix, which should be -ius, -ia, -ium if the personal name ends in a consonant (e.g., Selysius, Barbouria, Matthewsium); -ia if it ends in -a (e.g., Danaia); and -us, -a, -um if it ends in a vowel other than -a (e.g., Rudolphius, Fatioa, Milneum).
- 38. Names of ships with an appropriate suffix, e.g., Challengeria, Blakea.
- 39. Words taken from languages neither classical nor modern Indo-European, e.g., Vanikoro, Zua.
- 40. Words formed as arbitrary combinations of letters, e.g., Zirfaea, Velletia.
- 41. Words formed as anagrams of existing names, e.g., Milax (from Limax); Dacelo (from Alcedo).

VII. Tables and explanatory notes compiled as an aid to zoologists ¹

TABLE 1 Connecting Vowels Used in Compounding Classical Words

Part A. Latin compounds

		_	
FIRST MEMBER	Insertion between	SECOND MEMBER	Example of Complete
Last Letter of Stem	Stems	First Letter of Stem	Compound
(1) a vowel, becomes i	none	a consonant	
magno-		fac-	magn-i-ficus
capro-		cornu-	capr-i-cornus
celeri-		pes	celer-i-pes
(2) a vowel, disappears	none	a vowel	
magno-		animo-	magn-animus
(3) a consonant, retained	none	a vowel	
quot		annis	quotannis
(4) a consonant	i	a consonant	
honor-	i	fac-	honor-i-ficus
mont-	i	col-	mont-i-cola

¹ Documents prepared by J. Chester Bradley and reprinted from *Bull. zool.* Nomencl. 14: 231-243, with Table 2 amended.

Part B. Greek compounds

FIRST MEMBER	Insertion between	SECOND MEMBER	Exemplified by
Last Letter of Stem	Stems	First Letter of Stem	the genus
(5) (1st decl.) a becomes o	none	consonant	
θαλασσα-		$\chi \epsilon \lambda v$ -	Thalassochelys
(6) (2nd decl.) o retained	none	consonant	
ποταμο-		φιλο-	Potamophilus
(7) (3rd decl.) consonant	O	consonant	
$\phi \lambda \epsilon \beta$ -	0	τομ-	Phlebotomus
(8) vowel, dropped $\lambda \iota \theta o$ -	none	vowel εδαφο-	Lithedaphus

At the beginning of the last element of a Greek compound, α (a) or ϵ (e) generally becomes η (\bar{e}), while o (\check{o}) becomes ω (\bar{o}) (e.g. no. 8 in the preceding table); $\sigma\tau\rho\alpha\tau-\eta\gamma\delta$ s (Stratēgus) from $\sigma\tau\rho\alpha\tau$ o- + $\check{a}\gamma\omega$ (strat \check{o} + $ag\bar{o}$); $\check{\epsilon}\pi$ - $\check{\omega}\nu\nu\mu$ os (ep- $\bar{o}num\check{o}$ s) from $\check{\epsilon}\pi\acute{\iota}$ + $\check{o}\nu$ o μ a (epi + $\check{o}n\check{o}ma$).

Latin syntactical compounds

In these, entire words instead of stems are combined, often without special connecting vowels. Examples: duodecimpunctatus, quomodolibet.

Words compounded with a prefix

If the first element of the compound is a preposition or indeclinable particle, connecting vowels are not used, but reference should be made to grammars to find the form of the particle before various letters.

The Gender, Declension, Grammatical Stem, and Case-ending of the Genitive of Typical Latin Nouns, Including Those Derived from Greek, and of Greek Nouns

It is not the actual grammatical stem but the genitive without its case-ending that is used in forming names of taxa of the family-group.

The purpose of showing termination of grammatical stem is to aid in proper coining of derivative and compound words that are to serve as names. The proper form of a given suffix to be used depends upon the termination of the stem, easily seen from the table, but not too readily found in classical grammars. Thus, the Latin diminutive suffixes are "-lus", "-la", "-lum", "-ulus", "-ulum", and "-culus", "-cula", "-culum". The suffixes "-lus", "-la", "-lum", are appended to stems terminating in "-a" or in "-o", "-ulus", "-ulus", "-ulum", to stems terminating in a dental or a guttural, "-culus", "-culua", "-culum" to stems terminating in "-e", "-i", "-u", a liquid, or "-s". The proper form of any suffix to follow a given stem is shown in grammars. But further complication arises in the fact that the stem-vowels change in definite ways before the suffixes. Thus, before the suffixes, "-lus", "-lum", "-lum", the stem-vowels a and o become u except that they become (or remain) o after e or i. Before the suffixes "-culus", "-culus", "-culus", a terminal u of a stem becomes i, and a terminal on of a stem becomes un. Rules for the several suffixes will be found in grammars, but the stem to which they are to be attached must be known.

In forming derivatives, the zoologist must recall that it is the actual grammatical stem with which he is working, and not rely upon using the genitive without its case-ending. The stems of pullus and of puer (second declension) for example, are respectively, pullo and puero, notwithstanding the fact that the stem ending o does not appear in either the nominative or the genitive. Only in forming names with the suffixes of the family-group can he safely rely upon the rule to add the suffix to the genitive singular without its case-ending (i.e., the "stem" as the term is used in the Code). In that case he is safe because the selection and application of these suffixes have been standardized [Art. 29, Rec. 29A].

Part A. Latin

singular	Example in nominative singular wn in lexicons)	Gender m, masculine f, feminine c, common n, neuter	Declension	Termination of grammatical stem (for use in forming derivatives)	Example in genitive singular (showing stem for purposes of Code, for guid- ance in forming family-group names) (Shown in lexicons)	Family name based on example
a	talpa, c.,	m. or c.	1	a	talp-ae	TALPIDAE
	damma, c.,					DAMMIDAE
	agricola, m.					AGRICOLIDAE
ā	$al\bar{a}$	f.	1	ā	al-ae	ALIDAE
al	animal	n.	3	i	animal-is	ANIMALIDAE
ar	calcar	n.	3	i	calcar-is	CALCARIDAE
as	(Greek) lampas	f.	3	ad	lampad-os	LAMPADIDAE
					lampa d-i s	
ās	aetas	f.	3	$\bar{a}t$	aetat-is	AETATIDAE
ās	(Greek) Aensas	m.	1	\bar{a}	A ene-ae	AENEIDAE
e	mare, rēte	n.	3	i	mar-is	MARIDAE
e	(Greek) epitomē	f.	1	\bar{a} or \bar{e}	epitom-ēs	EPITOMIDAE
en	carmen	n.	3	in	carmin-is	CARMINIDAE
er	vesper	m.	2	0	vesper-i	VESPERIDAE
er	ager	m.	2	0	agr-ī	AGRIDAE
er	passer	m.	3	er	passer-is	PASSERIDAE
er	pater	m.	3	tr	patr-is	PATRIDAE
es	dies, res	f. or m.	5	e	di-ei	DIIDAE
es	miles	m. or c.	3	it	milit-is	MILITIDAE
ēs	(Greek) pyrītēs	m.	1	a or e	pyrit-ae	PYRITIDAE
ēs	nubēs,	f.	3	b	nub-is	NUBIDAE
	sēdēs					SEDIDAE

Example in nominative singular own in lexicons)	Gender m, masculine f, feminine c, common n, neuter	Declension	Termination of grammatical stem (for use in forming derivatives)	singular (showing stem for purposes of Code, for guid- ance in forming family-group names) (Shown in lexicons)	Family name based on example
rex	m.	3	g	rēg-is	REGIDAE
vir	m.	2	0	vir-ī	VIRIDAE
lapis	m.	3	id	lapid-is	LAPIDIDAE
avis, f.,	m., f.	3	i	av-is	AVIDAE
collis, m.					COLLIDAE
$v\bar{\imath}s$	f.	3	vī in singular	v-īs	VIDAE
radīx	f.		īc	radic-īs	RADICIDAE
nix	f.		nigv (niv)	niv-is	NIVIDAE
virgō	f.		in	virgin-is	VIRGINIDAE
$le\bar{o}$	m.		ōn	leōn-is	LEONIDAE
(Greek) Ilion	n.		0	Ili - $\bar{\imath}$	ILIIDAE
honor	m., f., n.		r	honor-is	HONORIDAE
(Greek) Delos	m., f.		0	del - $\bar{\imath}$	DELIDAE
(Greek) hērös	m.		ō	herō-is	HEROIDAE
flōs	m.	3	ōs, s	flōr-is	FLORIDAE
			becomes r between 2 vowels		
nepōs	m.	3	$\bar{o}t$	nepōt-is	NEPOTIDAE
$b\bar{o}s$	c.	3	ou	bov-is	BOVIDAE
urbs	f.	3	b	urb-is	URBIDAE
hiems	f.	3	m	hiem-is	HIEMIDAE
princeps	c.	3	ip	princip-is	PRINCIPIDAE
praeceps	m.	3	cipit-	praecipit-is	PRAECIPITIDAE
	singular own in lexicons) rex vir lapis avis, f., collis, m. vīs radīx nix virgō leō (Greek) Ilion honor (Greek) Delos (Greek) hērōs flōs nepōs bōs urbs hiems princeps	Example in nominative singular own in lexicons) rex	Example in nominative singular own in lexicons) rex m. 3 vir m. 2 lapis m. 3 avis, f., m., f. 3 collis, m. vīs f. 3 radīx f. 3 nix f. 3 virgō f. 3 leō m. 3 (Greek) Ilion n. 2 honor m., f., n. 3 (Greek) Delos m., f. 2 (Greek) hērōs m. 3 nepōs f. 3 nix f. 3 nix f. 3 nix f. 3 m. 3 nepōs m. 3 nepōs m. 3 hiems f. 3 princeps c. 3	Example in nominative singular own in lexicons) rex vir m $singular$ vir m m m m m m m	Example in nominative singular (showing stem for purposes of Code, for guidance in forming for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Termination of grammatical stem (for use in forming derivatives) Terminatical stem (for use in forming derivatives) Termina

Example in genitive

singular	Example in nominative singular own in lexicons)	Gender m, masculine f, feminine c, common n, neuter	Declension	Termination of grammatical stem (for use in forming derivatives)	Example in genitive singular (showing stem for purposes of Code, for guid- ance in forming family-group names) (Shown in lexicons)	Family name based on example
\bar{u}	cornu, genu and	n.	4	24	corn-ūs	CORNIDAE
	veru only					VERIDAE
ul	consul	m.	3	ul	consul-is	CONSULIDAE
um	ovum	n.	2	0	ov- i	OVIDAE
ur	femur,	n.	3	or	femor-is	FEMORIDAE
	jecur, and					JECORIDAE
	robur only					ROBORIDAE
us	genus, n.,	n., f.	3	os, es, s	gener-is	GENERIDAE
	Venus, f.			changes to r be-		VENERIDAE
	•			tween 2 vowels		
us	pilus	m.	2	0	pil - \bar{i}	PILIDAE
us	alvus, colus,	f.	2	0	alv - $\bar{\imath}$	ALVIDAE
	humus,					HUMIDAE
	vannus, most names					VANNIDAE
	of countries,					
	towns, and trees 1					
	pinus 1	f.	4 or 2	u or o	pin-ūs or pin-ī	PINIDAE
	ficus 1	f.	4 or 2	u or o	fic-ūs or fic-ī	FICIDAE

¹ The names of trees ending in "-us", feminine in gender, are of mixed declension, partly second, partly fourth. The genitive singular of cupressus is cupressi, but that of ficus, laurus, pinus, and quercus may terminate in either "-i" or "-us". However the form pini has been more widely used by zoologists, and the form querci was extremely rare among the Romans. The genitive plural of quercus, however, is quercorum. Both gender and declension of ficus were a matter of dispute among the ancients.

Termination of nominative singular (Sho	Example in nominative singular own in lexicons)	Gender m, masculine f, feminine c, common n, neuter	Declension	Termination of grammatical stem (for use in forming derivatives)	Example in genitive singular (showing stem for purposes of Code, for guid- ance in forming family-group names) (Shown in lexicons)	Family name based on example
us	virus, pelagus, and	n.	2	0	vir-ī	VIRIDAE
	vulgus only					PELAGIDAE
						VULGIDAE
ūs	<i>grūs</i> and	c.	3	\bar{u}	grū-is	GRUIDAE
	sūs only					SUIDAE
ūs	corpus	n.	3	os, s	corpor-is	CORPORIDAE
	pectus			changes to r be- tween 2 vowels		PECTORIDAE
			9		auta is	CDUDIDAD
ūs	crūs, mūs	m.	3	s changes to r be-	crur-is	CRURIDAE
				tween 2 vowels	5.	MURIDAE
us	arcus,	m.	4	и	arc-ūs	ARCIDAE
	lacus	,			_	LACIDAE
us	acus, manus, tribus, and 5 others	f.	4	u	ac-ūs	ACIDAE TRIBIDAE
ūs	virtus	f.	3	ūt	virtūt-is	VIRTUTIDAE
ut	caput	n.	3	it	capit-is	CAPITIDAE
ux	dux	c.	3	ис	duc-is	DUCIDAE
x	arx	f.	3	С	arc-is	ARCIDAE
x	(Greek) Styx	f.	3	g	Styg-is or Styg-os	STYGIDAE

Part B. Greek

In the following table in columns 1, 2, 5, and 6, each numbered entry shows first the Greek example(s), and below the equivalent in the Latin alphabet of the letter(s) of the word(s) used. These equivalents are transliterations, not latinizations such as are given in Appendix B; they are given here merely as an aid to reading the Greek, and it is Appendix B that should be followed in forming zoological names from Greek words.

The nominative endings are alphabetized in the sequence of the Latin, not Greek, alphabet.

The ending of the stem in many Greek nouns, if a vowel, is difficult to discover, because it is often obscured by coalition with the case-ending.

Example in

Termination of nominative singular (Shown in	Example in nominative singular a lexicons)	Gender m. masculine f, feminine c, common n, neuter	Declension	Termination of grammatical stem (for use in forming derivatives)	genitive singular (showing stem for purposes of Code, for guidance in forming family- group names) (Shown in lexicons)	Family name latinized
1. a	οἰκία	f. (ή)	1	α		
а	θάλασσα μνᾶ oikia, thalassa, mna			а	οἰκί-αs oiki-as	OECIIDAE THALASSIDAE MNIDAE
2. a a	σῶμα sōma	n. ($ au \acute{o}$)	3	at	σώματ-os sōmat-os	SOMATIDAE
3. αρ ar	ἡπαρ hēpar	n. (τό)	3	a au	ἥπατ-os hēpat-os	HEPATIDAE
4. as as	ταμίας tamias	m. (6)	1	а <i>а</i>	ταμί-ου tami-οu	TAMIIDAE

non	ination of ninative ngular (Shown in	Example in nominative singular lexicons)	Gender m, masculine f, feminine c, common n, neuter	Declension	Termination of grammatical stem (for use in forming derivatives)	Example in genitive singular (showing stem for purposes of Code, for guidance in forming family- group names) (Shown in lexicons)	Family name latinized
5.	as as	λαμπάς lampas	f. (ή)	3	$\delta \atop d$	λαμπάδ-os lampad-os	LAMPADIDAE
6.	as as	γίγας gigas	m. (δ)	3	u au nt	γίγαντ-os gigant-os	GIGANTIDAE
7.	as as	κέρας keras	n. (τό)	3	$t ag{t}$	κέρατ - os kerat-os	CERATIDAE
8.	aus aus	γραῦς graus	f. (ή)	3	av au	γρα-ός gra-os	GRAIDAE
9.	αξ ax	κόραξ korax	m. (δ)	3	к k	κόρακ-os korak-os	CORACIDAE
10.	$a\xi$ ax	ãναξ anax	m. (ð)	3	κτ kt	ἄνακτ-ος anakt-os	ANACTIDAE
	€us eus	βασιλεύς basileus	m. (ð)	3	€ <i>v</i> eu	βασιλ-έως basil-eōs	BASILIDAE
12.	$\eta_{ar{ar{e}}}$	πέλτη ; συκῆ peltē; sukē	f. (ή)	1	a	πέλτ-ης pelt-ēs	PELTIDAE

non	ination of ninative ngular (Shown in	singular	Gender m, masculine f, feminine c, common n, neuter	Declension	Termination of grammatical stem (for use in forming derivatives)	Example in genitive singular (showing stem for purposes of Code, for guidance in forming family- group names) (Shown in lexicons)	Family name latinized
13.	ην	ποιμήν	m. (ð)	3	ν	ποιμέν-ος	
	ēn	poemēn			n	poemen-os	POEMENIDAE
14.	$\eta \rho$	γαστήρ πατήρ	m., f. (δ, ή)	3	ρ	γαστρ-ός	
	ēr	gastēr, f. patēr, m.			r	gastr-os	GASTRIDAE PATRIDAE
15.	ηρ	ἀνήρ	m. (δ)	3	ρ	ἀνδρ-ός	
	ēr	anēr	(-)		r	andr-os	ANDRIDAE
16.	ης	δεσπότης 'Έρμῆς	m. (ó)	1	а	δεσπότ-ου	
	ēs	despotēs, Hermés			a	despot-ou	DESPOTIDAE HERMIDAE
17.	ns	$\theta \acute{\eta}_S$	m. (6)	3	au	θητ-ός	
	ēs	thēs	(*)		t	thēt-os	THETIDAE
18.	γξ ¹ nx	σάλπιγξ salpinx	f. (ή)	3	$_{g}^{\gamma}$	σάλπιγγ-os salping-os	SALPINGIDAE

¹ The Greek γ in this position (before γ , κ , ξ or χ) was sounded as "n" and was always so transliterated when taken over into classical Latin. E.g. Syrinx from $\Sigma \hat{v}_{\rho} \mu \gamma \xi$ giving genitive Syringis = $\Sigma \hat{v}_{\rho} \mu \gamma \gamma \sigma s$.

Termination of nominative singular (Shown in		Gender m, masculine f, feminine c, common n, neuter	Declension	Termination of grammatical stem (for use in forming derivatives)	Example in genitive singular (showing stem for purposes of Code, for guidance in forming family- group names) (Shown in lexicons)	Family name latinized
19. is is	κρίσις krisis	f. (ή)	3	i	κρίσε-ως krise-ōs	CRISEIDAE
20. is is	λεπίς lepis	f. (ή)	3	$\delta \atop d$	λεπίδ-os lepid-os	LEPIDIDAE
21. is is	ρίς rhis	f. (ή)	3	v n	ρίν-ός rhin-os	RHINIDAE
22. is is	őpvis ornis	c. (ố, ή)	3	heta th	ὄρνιθ-os ornith-os	ORNITHIDAE
23. ιξ ix	ἕλιξ helix	f. (ή)	3	к k	ἕλικ-os helik-os	HELICIDAE
24. ιξ ix	$ heta ho i \xi \ thrix$	f. (η)	3	X ch	τριχ-ός trich-os	TRICHIDAE
25. ον	χόριον κρίνον	n. (τό)	2	o	χόρι-ου	
on	chorion, krinon			o	chori-ou	CHORIIDAE CRINIDAE
Termination of nominative singular (Shown in	Example in nominative singular lexicons)	Gender m, masculine f, feminine c, common n, neuter	Declension	Termination of grammatical stem (for use in forming derivatives)	Example in genitive singular (showing stem for purposes of Code, for guidance in forming family- group names) (Shown in lexicons)	Family name latinized
nominative singular (Shown in 26. os	nominative singular lexicons) βίος νησος	m, masculine f, feminine c, common	Declension 2	grammatical stem (for use in forming derivatives)	genitive singular (showing stem for purposes of Code, for guidance in forming familygroup names) (Shown in lexicons) \(\beta(t) - ov \)	latinized
nominative singular (Shown in	nominative singular lexicons) βίος	m, masculine f, feminine c, common n, neuter		grammatical stem (for use in forming derivatives)	genitive singular (showing stem for purposes of Code, for guidance in forming family- group names) (Shown in lexicons)	
nominative singular (Shown in 26. os	nominative singular lexicons) βίος νῆσος bios, m.,	m, masculine f, feminine c, common n, neuter		grammatical stem (for use in forming derivatives)	genitive singular (showing stem for purposes of Code, for guidance in forming familygroup names) (Shown in lexicons) \(\beta(t) - ov \)	latinized BIIDAE
nominative singular (Shown in 26. os	nominative singular singular lexicons) βίος νῆσος bios, m., nēsos, f.	m, masculine f, feminine c, common n, neuter m., f.	2	grammatical stem (for use in forming derivatives) o	genitive singular (showing stem for purposes of Code, for guidance in forming family-group names) (Shown in lexicons) \(\begin{align*} \beta'-ov \\ bi-ou \end{align*}	latinized BIIDAE
nominative singular (Shown in 26. os os	nominative singular lexicons) βίος νῆσος bios, m., nēsos, f. γένος εἶδος genos,	m, masculine f, feminine c, common n, neuter m., f.	2	grammatical stem (for use in forming derivatives) ο ο ε	genitive singular (showing stem for purposes of Code, for guidance in forming family-group names) (Shown in lexicons) βί-ου bi-ου γένε-ος (-ους) gene-ος	latinized BIIDAE NESIDAE
nominative singular (Shown in 26. os os os 27. os os 28. ovs	nominative singular lexicons) βίος νῆσος bios, m., nēsos, f. γένος είδος genos, eidos	m, masculine f, feminine c, common n, neuter m., f.	3	grammatical stem (for use in forming derivatives) o o e e	genitive singular (showing stem for purposes of Code, for guidance in forming family-group names) (Shown in lexicons) βί-ου bi-ου γένε-ος (-ους) gene-ος (-ους)	BIIDAE NESIDAE GENEIDAE IDEIDAE
nominative singular (Shown in 26. os os os 27. os os 28. ous ous 29. ovs	nominative singular lexicons) βίος νῆσος bios, m., nēsos, f. γένος είδος genos, eidos βοῦς bous πούς	m, masculine f, feminine c, common n, neuter m., f. n. $(\tau \acute{o})$	3	grammatical stem (for use in forming derivatives) ο ο ο ο ο ο ο δ	genitive singular (showing stem for purposes of Code, for guidance in forming family-group names) (Shown in lexicons) βί-ου bi-ου γένε-ος (-ους) gene-ος (-ους) βο-ός bo-ος	BIIDAE NESIDAE GENEIDAE IDEIDAE BOIDAE
nominative singular (Shown in 26. os os 27. os os 28. ovs ous 29. ovs ous 30. ovs	nominative singular lexicons) βίος νῆσος bios, m., nēsos, f. γένος είδος genos, eidos βοῦς bous πούς pous	m, masculine f, feminine c, common n, neuter m., f. n. $(\tau \acute{o})$ c. $(\acute{o}, \acute{\eta})$ m. (\acute{o})	3 3 3	grammatical stem (for use in forming derivatives) ο ο ο ο ο ντ	genitive singular (showing stem for purposes of Code, for guidance in forming family-group names) (Shown in lexicons) βί-ου bi-ου γένε-ος (-ους) gene-ος (-ους) βο-ός bo-ος νοδ-ός pod-ος δόόντ-ος	BIIDAE NESIDAE GENEIDAE IDEIDAE BOIDAE

noi		Example in nominative singular xicons)	Gender m, maculine f, feminine c, common n, neutre	Declension	Termination of grammatical stem (for use in forming derivatives)	(showing stem for purposes of Code, for guidance in forming family- group names) (Shown in lexicons)	Family name latinized
33.	ων ōn	λέων leōn	m. (<i>ó</i>)	3	t	λέοντ-os leont-os	LEONTIDAE
34.	ωρ ōr	ρήτωρ rhētōr	m. (ð)	3	ρ r	ρήτορ-os rhētor-os	RHETORIDAE
35.	ωs ōs	ηώς ēōs	f. (ή)	2	0	η̈́-ου̂ς ē-ous	EIDAE
36.	ωs ōs	λαγώς lagōs, m.	m. (δ) f. (ή)	2	0	λαγ-ὼ lag-ō	LAGIDAE
37.	ψ ps	φλέψ phleps	f. (ή)	3	$_{b}^{eta}$	φλεβ-ός phleb-os	PHLEBIDAE
38.	u	ἄστυ astu	n. (τό)	3	v u	ἄστε-os aste-os	ASTEIDAE
39.	υρ ur	πῦρ pur	n. (τό)	3	$\stackrel{ ho}{r}$	πυρ-ός pur-os	PYRIDAE
40.	us us	πῆχυς pēchus	n. (τό)	3	υ u	πήχε-ως (-os) pēche-ōs (ŏs)	PECHEIDAE
41.	us us	ἰχθύς ichthus	m. (6)	3	υ u	ἰχθύ-os ichthu-os	ICHTHYIDAE

Example in genitive singular

TABLE 3

Method of Forming Nominative and Genitive Singular from Grammatical Stem of Greek Nouns

		Masculine		Feminine		Neuter			
Declension	Case	Termination ¹	Case- ending	Termination 1	Case- ending	Termination ¹	Case- ending	Stem ending in:	
1	nom.	ας, ης (as, ēs)	s	a, η (a, \bar{e})		no neut	ers	(a, η)	
2	nom.	ος, ως (os, ōs)	s	ος, ως	s	ον, ων (on, ōn)	ν (n)	ο, ω (ο, ο)	
	latinized as	us	S		S	um	m		
3	nom. latinized as	s s	s s	s s	s s			$\begin{cases} \text{consonant, } \iota, \ \upsilon \\ \text{or diphthong} \end{cases}$	
1	gen.	ov from ao 2	o	ας, ης (as, ēs)	s	no neut	ers	α, η	
2	gen.	ov from	o	ov from	0	ov from	0	ο, ω	

¹ The termination, if the stem ends in a vowel, is that vowel united with the case-ending, if any; if there is no case-ending, it is the final vowel of the stem.

² In masculines of the first declension the final α of the stem combines with the case-ending of the genitive to form α 0 which

² In masculines of the first declension the final a of the stem combines with the case-ending of the genitive to form ao which becomes ov.

³ In masculines of the second declension the final o of the stem combines with the case-ending o to form oo which becomes ov.

GENERAL RECOMMENDATIONS

- 1. A zoologist, when drawing up the description of a new taxon, should include comparisons with related taxa such as will assist later identification of the taxon.
- 2. The scientific names for taxa of the genus- and species-groups should be printed in a type-face different from that used in the text. *Italics* are usual, e.g., "Rana esculenta Linnaeus, 1758, lives in Europe."
- 3. Vowels should not be linked together in printing diphthongs, since to do so risks errors in later transcription, e.g., ae and oe should be used, not ae and ae.
- 4. When the description of a new taxon is not written in English, French, German, Italian, or Latin, it should be accompanied by a translation into one of those languages.
- 5. In publications issued in any other language than English, French, German, Italian, or Latin, the explanations of figures should be translated into one of these languages.
- 6. An author should clearly state the class, order, and family (if the order is currently divided into families) to which his new taxon is referred.
- 7. A new name should be followed immediately by an appropriate statement in abbreviated form, such as "gen. n.", "sp. n.", etc.
- 8. A new species-group name should be cited in full, that is, preceded by the unabbreviated generic name in the case of a species, and by the unabbreviated generic and specific names in the case of a subspecies.
- 9. The author of the name of any taxon above generic rank need not be cited, except where useful for historical or bibliographic purposes, or in discussing the relationships between names in different usages.
- 10. A zoologist who cites the name of a genus or a taxon of lower rank should cite the name of the author and the date at least once in each publication.
- 11. The name of an author should not be abbreviated except, optionally, the name of an author who will be recognized by the importance of his work and by his abbreviated name. An author's name should never be so abbreviated that confusion with other authors' names will be caused.