## 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 alpha | Latin equivalent a | Latinized as a | Example ${ }^{\prime}{ }^{\prime} \nu a \xi$ | Latinized as <br> $A$ nax |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | $\alpha$ |  |  |  |  |  |
| ${ }^{\prime} \mathrm{A}$ | $\stackrel{\text { a }}{ }$ |  |  | ha | áßpós | in Habrobracon |
| B | $\beta$ | beta | b | b | $\beta a ́ \lambda a \nu o s$ | $B$ alanus |
| $\Gamma$ | $\gamma$ | gamma | g | g | $\gamma \lambda \omega \hat{\omega} \sigma \alpha$ | in Glossina |
|  | $\gamma \gamma$ |  | gg | ng | ${ }^{\text {a }}$ 人\%os | in Angioneurilla |

[^0]Transliteration and Latinization of Greek Words

| Greek letter | Name | Latin equivalent | Latinized as | Example | $\begin{aligned} & \text { Latinized } \\ & \text { as } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\gamma \kappa$ |  | gk | nc | ä $\gamma \kappa \iota \sigma \tau \rho \circ \nu$ | in Ancistrocerus |
| $\gamma \xi$ |  | gx | nx | $\sigma \alpha \dot{\lambda} \pi \tau \gamma \xi$ | Salpinx |
| $\gamma \chi$ |  | gch | nch | ${ }^{\text {a }} \gamma \chi \chi \iota$ | in Anchisaurus |
| $\Delta \quad \delta$ | delta | d | d | $\delta v \nu a ́ \sigma \tau \eta S$ | Dynastes |
| $\mathrm{E} \quad \epsilon$ | epsilon | ě | c | ${ }^{\epsilon} \lambda \lambda \alpha \tau \eta \rho$ | Elater |
| ${ }^{\prime} \mathrm{E}$ ¢ |  |  | he | ${ }_{\epsilon}^{\prime \prime} \lambda \iota \xi$ | Helix |
| Z $\zeta$ | zeta | Z | Z | $\zeta \omega 0 \nu$ | in Protozoa |
| H $\eta$ | eta | ē | e |  | in Eohippus |
| (final) $\eta$ |  | e | a | $\alpha i \prime \gamma \lambda \eta$ | Aegla |
| ${ }^{\prime} \mathrm{H} \quad \dot{\eta}$ |  |  | he | ${ }_{\eta}^{\prime \prime} \lambda$ os | in Heloderma |
| $\Theta \quad \theta$ | theta | th | th | $\theta \rho i \psi$ | Thrips |
| I $\quad$ | iota | i | $\text { or } \mathrm{j}$ | i $\chi \nu \in \cup ́ \mu о \nu$ iఉávvךs | I chneumon in Joannisia |
| 'I i |  |  | hi | $i \pi \pi 0$ S | in Hippocampus |
| K $\kappa$ | kappa | k | c | $\kappa v$ ки́т $¢ \varsigma$ | Cypris |
| $\Lambda \lambda$ | lambda | 1 | 1 | $\lambda \in \pi i^{\prime}$ | in Lepidoptera |
| M $\mu$ | mu | m | m | $\mu v ́ \rho \mu \eta \xi$ | Myrmex |
| N $\nu$ | nu | n | n | vavtìios | $N a u t i l u s$ |
| $\Xi \quad \xi$ | xi | X | X | $\xi \epsilon$ 'vos | in Xenotoma |
| $0 \quad 0$ | omicron | o | 0 | ó $\rho \theta$ òs | in Orthoptera |
| 'O |  |  | ho | óros | in Homoptera |
| (final) $o \nu$ |  | on | um | ¢ $v \gamma \chi{ }^{i o v}$ | Rhynchium |
| (final) os |  |  | us | $\beta o ́ \mu \beta$ оя | Bombus |
| $\Pi \quad \pi$ | pi | p | p | $\pi a \rho a ́$ | in Parahoplites |
| P $\quad \rho$ | rho | r | r | $\pi \tau \epsilon \rho o ́ v$ | in Hemiptera |
| ${ }^{\prime} \mathrm{P} \quad \dot{\rho}$ |  |  | rh | ¢¢́ $\alpha$ | Rhea |
| $\rho \rho$ |  | rr | rrh | тup ós | in Pyrrhomutilla |

Transliteration and Latinization of Greek Words

| Greek letter | Name | Latin equivalent | Latinized as | Example | $\begin{aligned} & \text { Latinized } \\ & \text { as } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\Sigma \sigma, s$ | sigma | s | s | $\sigma \phi i \gamma \xi$ | Sphinx |
| T $\tau$ | tau | t | t | $\tau \epsilon \in \tau \tau \iota \xi$ | Tettix |
| $\bigcirc \quad v$ | upsilon | u | y | $\beta o ́ \mu \beta v \xi$ | Bombyx |
| ${ }^{\prime} \times$ v |  |  | hy | v̌ठ ${ }^{\text {a }}$ | Hydra |
| $\Phi \quad \phi$ | phi | ph | ph | фúd入ov | in Phylloxera |
| X $\chi$ | chi | ch | ch | $\chi \iota \tau \omega \dot{\nu}$ | Chiton |
| $\Psi \quad \psi$ | psi | ps | ps | $\psi v \chi \eta$ | Psyche |
| $\Omega \quad \omega$ | omega | o | 0 |  | Ocypus |
| $' \Omega \dot{\omega}$ |  |  | ho | $\check{\omega} \rho \square$ | in Horaeocerus |

## Diphthongs

| AI ${ }_{\text {a }}$ | ai | ae | тaıvía | Taenia |
| :---: | :---: | :---: | :---: | :---: |
| $\mathrm{AI}^{6} a{ }^{\text {e }}$ |  | hae | aipa | in Haematopota |
| AY ${ }^{\text {v }}$ | au | au | aû $\lambda a \xi$ | in Aulacus |
| EI $\epsilon \iota$ | ei | i | $\chi$ ¢ ${ }^{\prime} \rho$ | in Chiroptera |
| Er $\epsilon v$ | eu | $\begin{aligned} & \mathrm{eu} \\ & \text { (or } \mathrm{ev} \text { ) } \end{aligned}$ | $\epsilon \hat{v}$ $\epsilon \dot{\jmath} a \gamma \eta{ }^{\prime} s$ | in Eumenes in Evagetes |
| $E Y^{*} \epsilon \dot{v}$ |  | heu |  | in Heuretes |
| OI ou | oi | oe | oilotoos | Oestrus |
| Or ov | ou | u | mov's | in Platypus |
| $\Omega \quad \omega$ | o(i) | o | ¢̛óv | in Ootypus |

The remaining diphthongs are unimportant in zoological nomenclature.

## Notes

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.
2. When rr ( $\rho \rho$ ) occurs in the middle of a Greek word it becomes rrh on latinization. Thus $\pi v \rho \rho o ́ t \eta s$ becomes Pyrrhotes.
3. Of the two Greek forms of $s, \sigma$ 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, $q, \eta, \omega$, are in principle diphthongs, but the iota is normally ignored in latinization. The only important case in taxonomy is in the words derived from $\neq 0$ óv, 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 $\epsilon v$, 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 $\eta$ 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 $\check{\epsilon} \nu \nu o \mu o s$ and Theridion from $\theta \eta \rho i ́ \delta o v$.

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 кє́ $\rho a s$, 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 кє́pas 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.

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 $i u$ (written as $u e$ ).
3. The French sound ou should be represented by $u$, as in German, Italian, Spanish, etc.
4. The French sound $e u$, pronounced as in $j e u$, 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. $K h$ should be used to represent the harsh guttural and $g h$ the soft guttural of Arabic.
9. $T h$ and $d h$ 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 $d+j, t+c h, t+s h$, which express the basic sounds, as in Matshim.
13. The sound expressed by the Spanish $\tilde{n}$ should be represented by $g n$, 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 $q u$ 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, $-a,-u m$.
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 <br> (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 genusgroup names is cojectionable, 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 $-i i$, 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 $-i i$, 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).
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., á $\gamma \kappa$ úخos (ancylos), Ancylus; фv́ба (phusa), Physa; ó $\pi \lambda i ́ \tau \eta s$ (hoplites), Hoplites; including Greek vernacular names for animals, such as $\lambda \epsilon \pi a ́ s ~(l e p a s), ~ L e p a s . ~$
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., yaoqńp stomach, $+-\omega \delta \eta \varsigma$ having the form of, Gastrodes; ${ }^{\epsilon} \rho \pi \epsilon \iota \nu$ to creep, $+-\tau \eta \varsigma$ 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 ( $\alpha$ - before a consonant, $\alpha \nu$ - before a vowel), e.g.,
 merus.
(b) The first element is a preposition or adverb, such as $\pi \epsilon \rho i$, around, $+\sigma \phi \iota \gamma \kappa \tau$-, bound, Perisphinctes; $\stackrel{\epsilon}{\epsilon} \pi \iota$, towards, + $\nu \epsilon \phi \in ́ \lambda \eta$, cloud, Epinephelus; $\mu \epsilon \tau \alpha ́$, after, $+\kappa \rho_{i}^{\prime} \nu o \nu, ~ l i l y$, Metacrinus; $\epsilon v ้$, well, $+\mu a ́ \sigma \tau a \xi$, mouth, Eumastax.
(c) The first element is the stem of a noun or adjective, such as
 turban, Archaeocidaris; $\sigma \tau \epsilon \nu o ́ s$, narrow, $+\pi \epsilon \bar{\epsilon} \lambda \mu a$, sole, Stenopelmatus; obvóxos, nail, $+\mu \circ \rho \phi \dot{\eta}$, 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-, $d i$-, 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, $-a,-u m$ 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 Last Letter of Stem | Insertion between Stems | SECOND Member First Letter of Stem | Example of Complete 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- | 2 | fac- | honor-i-ficus |
| mont- | i | col- | mont-i-cola |


|  | Part B. | Greek compounds |  |
| :---: | :---: | :---: | :---: |
| FIRST MEMBER <br> Last Letter of Stem | Insertion between Stems | SECOND MEMBER First Letter of Stem | Exemplified by the genus |
| (5) (lst decl.) a becomes o | none | consonant |  |
| $\theta \alpha \lambda \alpha \sigma \sigma \alpha-$ |  | $\chi \epsilon \lambda v-$ | Thalassochelys |
| (6) (2nd decl.) o retained | none | consonant |  |
| тотано- |  | $\phi \iota \lambda o-$ | Potamophilus |
| (7) (3rd decl.) consonant | 0 | consonant |  |
| $\phi \lambda \epsilon \beta-$ | 0 | $\tau о \mu-$ | Phlebotomus |
| (8) vowel, dropped | none | vowel |  |
| $\lambda_{\iota} \theta_{0-}$ |  | $\epsilon \delta a ф о-$ | Lithedaphus |

At the beginning of the last element of a Greek compound, $a$ (a) or $\epsilon$ (e) generally becomes $\eta(\overline{\mathrm{e}}$ ), while $o$ (ŏ) becomes $\omega$ ( $\overline{\mathrm{o}}$ ) (e.g. no. 8 in the preceding table); $\sigma \tau \rho \alpha \tau-\eta \gamma$ ós (Stratēgus) from $\sigma \tau \rho a \tau o-+{ }^{\alpha} \gamma \omega$
 ŏпŏта).

## 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.

TABLE 2
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", "-ula", "-ulum", and "-culus", "-cula", "-culum". The suffixes "-lus", "-la", "-lum", are appended to stems terminating in "-a" or in "-o", "-ulus", "-ula", "-ulum", to stems terminating in a dental or a guttural, "-culus", "-cula", "-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", "- $l a$ ", "- $l u m$ ", the stem-vowels $a$ and $o$ become $u$ except that they become (or remain) o after $e$ or $i$. Before the suffixes "-culus", "-cula", "-culum", a terminal $u$ of a stem becomes $i$, and a terminal on of a stem becomes $u n$. 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. 29A7.


| Termination of nominative singular (Sho | Example in nominative singular own in lexicons) | Gender <br> m , masculine <br> f, feminine <br> c, common <br> 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 based on example |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ex | rex | m. | 3 | $g$ | reg-is | REGIDAE |
| $i r$ | vir | m. | 2 | $o$ | vir- $\bar{l}$ | VIridaE |
| is | lapis | m. | 3 | id | lapid-is | LAPIDIDAE |
| is | avis, $f$., collis, $m$. | m., f. | 3 | $i$ | $a v-i s$ | AVIDAE <br> COLLIDAE |
| is | vis | f. | 3 | $v \bar{u}$ in singular | $v$-is | VIDAE |
| $\bar{i} x$ | radix | f. | 3 | $\bar{i} c$ | radic-is | RADICIDAE |
| $i x$ | nix | f. | 3 | nigv (niv) | niv-is | NIVIDAE |
| $\bar{o}$ | virgō | f. | 3 | in | virgin-is | VIRGINIDAE |
| $\bar{o}$ | leō | m. | 3 | ōn | leon-is | LEONIDAE |
| on | (Greek) Ilion | n . | 2 | $o$ | Ili- $\bar{i}$ | ILIIDAE |
| or | honor | m., f., n. | 3 | $r$ | honor-is | HONORIDAE |
| $\overline{o s}$, os | (Greek) Delos | m., f. | 2 | $o$ | del-i | DELIDAE |
| $\overline{o s}$ | (Greek) hērōs | m. | 3 | $\bar{o}$ | hero-is | HEROIDAE |
| $\overline{o s}$ | flōs | m. | 3 | ```ōs,s becomes r}\mathrm{ be- tween 2 vowels``` | flor-is | FLORIDAE |
| $\bar{o} s$ | nepōs | m. | 3 | òt | nepōt-is | NEPOTIDAE |
| os | bōs | c. | 3 | ou | bov-is | BOVIDAE |
| $s$ | urbs | f. | 3 | $b$ | urb-is | URBIDAE |
| $s$ | hiems | f. | 3 | $m$ | hiem-is | HIEMIDAE |
| \$ | princeps | c. | 3 | ip | princip-is | PRINCIPIDAE |
| $s$ | praeceps | m. | 3 | cipit | praecipit-is | PRAECIPITIDAE |


| Termination of nominative singular (Sho | 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 guidance in forming family-group names) (Shown in lexicons) | Family name based on example |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\bar{u}$ | cornu, genu and veru only | n. | 4 | $u$ | corn-ūs | CORNIDAE VERIDAE |
| ul | consul | m. | 3 | $u l$ | consul-is | CONSULIDAE |
| um | ovum | n. | 2 | $o$ | $\mathrm{ov-i}$ | OVIDAE |
| $u r$ | femur, jecur, and robur only | n. | 3 | or | femor-is | FEMORIDAE <br> JEGORIDAE <br> ROBORIDAE |
| $u s$ | genus, $n$., Venus, $f$. | n., f. | 3 | $o s, e s, s$ <br> changes to $r$ between 2 vowels | gener-is | GENERIDAE VENERIDAE |
| us | pilus | m. | 2 | $o$ | pil-i | PILIDAE |
| $u s$ | alvus, colus, | f. | 2 | o | alv-i | ALVIDAE |
|  | humus, |  |  |  |  | HUMIDAE |
|  | vannus, most names of countries, towns, and trees ${ }^{1}$ |  |  |  |  | VANNIDAE |
|  | pinus ${ }^{1}$ | f. | 4 or 2 | $u$ or o | pin-ūs or pin-i | PINIDAE |
|  | ficus ${ }^{1}$ | f. | 4 or 2 | $u$ or $o$ | $f i c-\bar{u} s$ or fic-i | FICIDAE |

[^1]| Termination of nominative singular (Sho | Example in nominative singular <br> wn in lexicons) | Gender <br> m , masculine <br> f, feminine <br> c, common <br> 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 based on example |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| us | virus, pelagus, and vulgus only | n. | 2 | $\bigcirc$ | vir-i | VIRIDAE <br> PELAGIDAE <br> VULGIDAE |
| us | grūs and sūs only | c. | 3 | $\bar{u}$ | $g r u$-is | GRUIDAE SUIDAE |
| $\bar{u}$ | corpus pectus | n. | 3 | $o s, s$ <br> changes to $r$ between 2 vowels | corpor-is | CORPORIDAE PECTORIDAE |
| $\bar{u} s$ | crūs, mūs | m. | 3 | $s$ changes to $r$ between 2 vowels | crur-is | CRURIDAE MURIDAE |
| $u s$ | arcus, lacus | m. | 4 | $u$ | $\operatorname{arc}-\bar{u} s$ | ARCIDAE <br> LACIDAE |
| $u s$ | acus, manus, tribus, and 5 others | f. | 4 | $u$ | $a c-\bar{u} \mathrm{~s}$ | ACIDAE <br> TRIBIDAE |
| $\bar{u} s$ | virtus | f. | 3 | ùt | virtut-is | VIRTUTIDAE |
| $u t$ | caput | n. | 3 | it | capit-is | CAPITIDAE |
| $u x$ | dux | c. | 3 | uc | duc-is | DUCIDAE |
| $x$ | arx | f. | 3 | $c$ | 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.


| 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 familygroup names) (Shown in lexicons) | Family name latinized |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{r} \text { 5. as } \\ \text { as } \end{array}$ | $\lambda \alpha \mu \pi a ́ s$ lampas | f. $(\stackrel{\bullet}{\eta})$ | 3 | $\begin{aligned} & \delta \\ & d \end{aligned}$ | $\lambda \alpha \mu \pi a ́ \delta-o s$ lampad-os | LAMPADIDAE |
| $\text { 6. } a_{S}$ as | ríras <br> gigas | m. (o) | 3 | $\begin{aligned} & \nu \tau \\ & n t \end{aligned}$ | रi'үavt-os <br> gigant-os | GIGANTIDAE |
| $\begin{array}{r} \text { 7. as } \\ \text { as } \end{array}$ | кє́ $\rho a_{s}$ <br> keras | n. ( $\tau$ ó) | 3 | $\begin{aligned} & \tau \\ & t \end{aligned}$ | ке́рат-os <br> kerat-os | CERATIDAE |
| 8. $\alpha v_{S}$ aus | रpavs <br> graus | f. ( ${ }^{*}$ ) | 3 | $\begin{aligned} & a v \\ & a u \end{aligned}$ | $\begin{aligned} & \text { रoa-ós } \\ & \text { gra-os } \end{aligned}$ | GRAIDAE |
| $\begin{array}{r} \text { 9. } a \xi \\ a x \end{array}$ | ко́рає <br> korax | m. (o) | 3 | $\begin{aligned} & \kappa \\ & k \end{aligned}$ | ко́рак-оs <br> korak-os | CORACIDAE |
| $\text { 10. } a \xi$ | ${ }^{a} \nu \alpha \xi$ anax | m. (o) | 3 | $\begin{aligned} & \kappa \tau \\ & k t \end{aligned}$ | ä $\nu$ акт-оs anakt-os | ANACTIDAE |
| 11. $\epsilon \operatorname{cus}^{2}$ eus | Baoıitev́s basileus | m. ( ${ }^{*}$ ) | 3 | $\begin{aligned} & \epsilon v \\ & e u \end{aligned}$ | Baol入-є́ $\omega$ s basil-eōs | BASILIDAE |
| $\text { 12. } \frac{\eta}{\bar{e}}$ | $\pi \epsilon \lambda \tau \eta ; \sigma v \kappa \hat{\eta}$ pelte;; sukē | f. ( $\left.{ }^{( }\right)$ | 1 | $\begin{aligned} & a \\ & a \end{aligned}$ | $\pi \epsilon \quad \lambda \tau-\eta S$ pelt-es | PELTIDAE |


| Termination of nominative singular (Shown | 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 familygroup names) (Shown in lexicons) | Family name latinized |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13. $\eta \nu$ èn | $\pi \circ \iota \mu \eta \nu$ <br> poemēn | m. (o) | 3 | $\begin{aligned} & v \\ & n \end{aligned}$ | $\pi о \mu \epsilon \in \nu=o s$ <br> poemen-os | POEMENIDAE |
| 14. $\eta \rho$ $\bar{e} r$ | रa $\alpha \tau \eta ́ \rho$ <br> $\pi \alpha \pi \eta{ }^{\prime} \rho$ <br> gastēr, $f$. <br> patēr, $m$. | m., f. $(\dot{\delta}, \dot{\eta})$ | 3 | $\rho$ $r$ | रagto-ós gastr-os | GASTRIDAE <br> PATRIDAE |
| 15. $\eta \rho$ $\bar{e} r$ | d. $v \eta{ }^{\prime} \rho$ anèr | m. (o) | 3 | $\begin{aligned} & \rho \\ & \gamma \end{aligned}$ | ả $\nu \delta \rho-o ́ s$ andr-os | ANDRIDAE |
| 16. $\eta s$ ess | $\delta є \sigma \pi o ́ т \eta S$ ${ }^{'} \mathrm{E} \rho \mu \tilde{\eta} s$ despotēs, Hermés | m. (ó) | 1 | $a$ $a$ | Sє $\sigma$ то́t-ov despot-ou | DESPOTIDAE <br> HERMIDAE |
| 17. $\eta \mathrm{F}$ es | $\theta \eta{ }^{\prime} s$ <br> thès | m. (o) | 3 | $\begin{aligned} & \tau \\ & t \end{aligned}$ | $\theta \eta \tau$-ós thët-os | THETIDAE |
| 18. $\gamma \xi^{1}$ $n x$ | $\sigma \alpha ́ \lambda \pi \iota \gamma \xi$ <br> salpinx | f. ( $\eta$ ) | 3 | $\begin{aligned} & \gamma \\ & g \end{aligned}$ | $\sigma \alpha ́ \lambda \pi l \gamma \gamma=o s$ salping-os | SALPINGIDAE |

${ }^{1}$ The Greek $\gamma$ in this position (before $\gamma, \kappa, \xi$ or $\chi$ ) was sounded as " n " and was always so transliterated when taken over into classical Latin. E.g. Syrinx from $\Sigma \hat{v} \rho u \xi \xi$ giving genitive Syringis $=\Sigma v v^{\prime} \nmid \gamma \gamma o s$.

| 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 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { 19. is } \\ & \text { is } \end{aligned}$ | кри́бıs krisis |  | 3 | $i$ | $\kappa р і ́ \sigma \epsilon-\omega s$ <br> krise－ōs | CRISEIDAE |
| $\begin{array}{r} \text { 20. ts } \\ \text { is } \end{array}$ | $\lambda \epsilon \pi i_{S}$ lepis | f．（ $\left.{ }^{( }\right)^{\prime}$ ） | 3 | $\begin{aligned} & \delta \\ & d \end{aligned}$ | $\lambda \epsilon \pi i \delta-o s$ <br> lepid－os | LEPIDIDAE |
| $\text { 21. } 15$ is | ${ }^{\rho}{ }^{\prime \prime}{ }^{\prime}{ }^{\prime}$ <br> rhis | f．（ $\left.{ }^{( }\right)$ | 3 | $\begin{aligned} & \nu \\ & n \end{aligned}$ | $\dot{\rho} \ell \nu$－ós <br> rhin－os | RHINIDAE |
| $\begin{aligned} & \text { 22. } 15 \\ & \text { is } \end{aligned}$ | ópuls ornis | c．$(\dot{\delta}, \dot{\eta})$ | 3 | $\theta$ <br> th | oै $\rho \nu t \theta$－os <br> ornith－os | ORNITHIDAE |
| $\begin{aligned} & \text { 23. } \iota \xi \\ & i x \end{aligned}$ | $\ddot{\epsilon} \lambda \iota \xi$ helix | f．（ ${ }^{(1)}$ ） | 3 | $\begin{aligned} & \kappa \\ & k \end{aligned}$ | ${ }^{\prime \prime} \lambda \iota \kappa$－os <br> helik－os | HELICIDAE |
| $\begin{aligned} & \text { 24. } \iota \xi \\ & i x \end{aligned}$ | $\theta \rho i \xi$ thrix | f．（ $\left.{ }^{( }\right)$ | 3 | $\begin{aligned} & \chi \\ & c h \end{aligned}$ | $\tau \rho \iota \chi$－ós trich－os | TRICHIDAE |
| 25．ov on | Хо́pıо крі́го⿱ chorion， krinon | n．（tó） | 2 | 0 0 | Xópı－ov chori－ou | CHORIIDAE <br> CRINIDAE |
| Termination of nominative singular <br> （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 |
| 26．os os | Bios <br> $\nu$ ท̂̃os <br> bios，$m$ ．， <br> $n e \overline{s o s}, f$ ． | m．，f． | 2 | 0 0 | $\beta i-o v$ bi－ou | BIIDAE <br> NESIDAE |
| 27．os os | 白ขos <br> $\epsilon i \delta o s$ <br> genos， <br> eidos | n．（ ó）$^{\prime}$ | 3 | $\epsilon$ $e$ | $\begin{aligned} & \text { rє́vє-os (-ovs) } \\ & \text { gene-os } \\ & (-o u s) \end{aligned}$ | GENEIDAE IDEIDAE |
| 28．ovs ous | Bovs bous | c．$\left(\hat{\delta},{ }^{\prime}\right)$ | 3 | $\begin{aligned} & \text { ov } \\ & \text { ou } \end{aligned}$ | $\beta o-o ́ s$ bo-os | BOIDAE |
| $\begin{aligned} & \text { 29. ovs } \\ & \text { ous } \end{aligned}$ | moús pous | m．（ ${ }^{\circ}$ ） | 3 | $\begin{aligned} & \delta \\ & d \end{aligned}$ | $\pi o \delta \text {-ós }$ <br> pod－os | PODIDAE |
| 30．ous ous | oboús odous | m．（o） | 3 | $\begin{aligned} & \nu \tau \\ & n t \end{aligned}$ | ó óóvт－os <br> odont－os | ODONTIDAE |
| $\begin{gathered} \text { 31. } \omega, \omega s \\ \bar{o}, \bar{o} s \end{gathered}$ | ai $\delta \omega^{\prime} s, ~ \eta 犭 \chi \omega$ aidōs，èchō | f．$\left(\begin{array}{r}\text {（ }\end{array}\right)$ | 3 | $\begin{aligned} & o \\ & o \end{aligned}$ | aio-ovs aid-ous | AEDIDAE |
| 32．$\omega \nu$ ōn | єік $\omega$ у <br> eikōn | f．$(\dot{\eta})$ | 3 | $\begin{aligned} & \nu \\ & n \end{aligned}$ | $\begin{aligned} & \text { €iкóv-os-(ovs) } \\ & \text { eikon-os }(-o u s) \end{aligned}$ | ICONIDAE |


| $\begin{array}{r} \text { Terminat } \\ \text { nomina } \\ \text { singul } \\ \text { (S) } \end{array}$ | Example in nominative singular exicons) | Gender m , maculine f, feminine c, common n, neutre | Declension | Termination of grammatical stem (for use in forming derivatives) | Example in genitive singular (showing stem for purposes of Code, for guidance in forming familygroup names) (Shown in lexicons) | Family name latinized |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 33. $\omega \nu$ | $\lambda \epsilon ́ \omega \nu$ | m. (o) | 3 | $\tau$ | $\lambda \epsilon$ о́о -os |  |
| $\bar{o} n$ | leōn |  |  | $t$ | leont-os | LEONTIDAE |
| 34. $\omega \rho$ | $\rho \chi^{\prime} \tau \omega \rho$ | m. (o) | 3 | $\rho$ | $\rho$ ¢́ $\quad$ 'тор-os |  |
| $\bar{o} r$ | rhētōr |  |  | $r$ | $r$ hētor-os | RHETORIDAE |
| 35. $\omega s$ | $\eta{ }^{\prime} \omega^{\prime}$ | f. $(\stackrel{\square}{\eta})$ | 2 | o | $\hat{\eta}$-oûs |  |
| ös | ēos |  |  | 0 | $\bar{e}$-ous | EIDAE |
| 36. $\omega s$ | $\lambda \alpha \gamma \omega \prime s$ | m. (o) | 2 | o | $\lambda a \gamma-\omega$ |  |
| ōs | $l a g o ̄ s, m$. | f. $\left({ }^{( }\right)$ |  | 0 | lag-ö | LAGIDAE |
| 37. $\psi$ | $\phi \lambda \epsilon \bar{\psi}$ | f. ( ${ }^{(1)}$ | 3 | $\beta$ | $\phi \lambda \epsilon \beta$-ós |  |
| $p s$ | phleps |  |  | $b$ | phleb-os | PHLEBIDAE |
| $38 . v$ | ã $\sigma \tau v$ | n. ( $\tau$ ó) | 3 | $v$ |  |  |
| $u$ | astu |  |  | $u$ | aste-os | ASTEIDAE |
| 39.vp | $\pi \hat{\nu} \rho$ | n. ( $\tau$ ó) | 3 | $\rho$ | $\pi v \rho$-ós |  |
| $u r$ | pur |  |  | $r$ | pur-os | PYRIDAE |
| 40.vs | $\pi \hat{\eta} \chi$ vs | n. ( $\tau$ ó) | 3 | $v$ | $\pi \eta \chi^{\prime} \epsilon-\omega_{s}\left(-\sigma_{s}\right)$ |  |
| $u s$ | рёchus |  |  | $u$ | pēche-ōs (ŏs) | PECHEIDAE |
| 41. vs | ix ${ }^{\prime}$ vis | m. (o) | 3 | $v$ | i $\chi$ Oú-os |  |
| $u s$ | ichthus |  |  | u | ichthu-os | ICHTHYIDAE |

TABLE 3
Method of Forming Nominative and Genitive Singular from Grammatical Stem of Greek Nouns


[^2]
## 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 $a$ and $\propto$.
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.

[^0]:    ${ }^{1}$ Document prepared by L. W. Grensted and J. Chester Bradley, reprinted from Bull. zool. Nomencl. 15: 1111-1113, with amendments.

[^1]:    ${ }^{1}$ The names of trees ending in " $-u s$ ", 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.

[^2]:    ${ }^{1}$ 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 $a$ 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.

