

# IAU DIVISION III

Committee on Small Body Nomenclature  
Comité pour la nomenclature des petit corps célestes

A committee of IAU Division III

## Guidelines for Cometary Names

### Introduction

Comets did not become routinely named for their discoverers until the 20th century. In the 19th century, names were generally used for short-period comets only after their second apparition; single-apparition short-period comets and long-period comets were generally referred to by designations (with names sometimes, though not with much consistency, given parenthetically).

In recent years, the comet-naming process has been impacted by several wide-field CCD surveys conducted by professional teams. It is therefore appropriate to write down guidelines for the naming of comets to make the process as simple and fair as possible. Though guidelines have been drafted previously by IAU Commission 20 members in recent years, this aims to replace those guidelines by starting anew, by creating guidelines that are even simpler and more fair. These guidelines may need to be revised by the Central Bureau for Astronomical Telegrams (CBAT) and the Committee on Small Body Nomenclature (CSBN), as special circumstances warrant.

The CBAT works closely with the Minor Planet Center (MPC) in many cases regarding the astrometry, identifications, orbit computing, and collection of observations. In recent practice, comet names are announced on *IAU Circulars (IAUC)* after a reasonable orbit has been determined, in an effort to prevent re-naming of lost comets. The CBAT consults with the CSBN on non-routine naming matters, in which some interpretation of the following guidelines is deemed appropriate.

### Guidelines

#### 1 Regarding proper reporting of discoveries.

- 1.1 Comets normally receive their names on the basis of information available to the CBAT at the time of first official announcement of the discovery. The discovery observation (and thus the discoverer) is taken to be that which permits the CBAT to issue reasonable requests for confirming observations (directly to individual observers or sometimes via “The NEO Confirmation Page” at the CBAT/MPC website) or to issue an announcement *Circular*.
- 1.2 Comets are generally considered no longer available for additional recognized discovery claims once the call for confirmation has been widely issued (e.g., e-mail or World Wide Web posting) by the CBAT or MPC.
- 1.3 Independent discoveries of a comet that are reported to the CBAT after the issuance of the announcement *IAUC* are usually not considered in the naming process, unless:
  - (a) it can be shown unambiguously that the discovery claim in question was made before any outside knowledge could have been available to the claimant; and

- (b) that the comet has not yet been named; and
  - (c) there are not already more than two names to be given to the comet in question.
- 1.4 The time of comet discovery is taken to be the time of the first detection visually or the time that the image was taken upon which the discovery was made.

## **2 Regarding discoverers.**

- 2.1 Comets are to be named for their individual discoverer(s) if at all possible. This means using the last (family) name of the discoverer(s).
- 2.2 Sometimes, however, team names are more appropriate.
- (a) A discoverer is defined here as the person(s) who first detect(s) the comet (visually, or on a photograph or electronic image). He or she is responsible for obtaining and communicating to the CBAT (possibly via a responsible third party) accurate information on the comet's positions and physical appearance.
  - (b) Although past comets have borne the names of three (and, on rare occasions, more) discoverers, it is preferable to keep the limit to two names if at all possible; more than three names are to be avoided except in rare cases where named lost comets are identified with a rediscovery that has already received a new name.
  - (c) When there are two (or more) independent discoveries of a comet,
    - (1) the discoverers' (or their teams') names are to be listed in the chronological order in which each discoverer (or team) found the comet,
    - (2) each individual name is to be separated by a hyphen (but family surnames with two or more words separated by either spaces or hyphens are to be distinguished in comet names by single spaces only between each surname word -- although, for simplicity, the discoverer shall in such cases also be given the option to choose one main word from his or her name to represent the surname on the comet, with such choosing strongly encouraged), and
    - (3) there is to be no more than one name on that comet from a single observing location or program (excepting the possibility of lost comets being rediscovered, as noted in Guideline 5, below).
  - (d) Observers and observing programs (or their representatives) cannot require the IAU to use any specific name. The final naming process is the sole discretion of the CBAT and the CSBN in accordance with these guidelines. For observing programs consisting of more than two people, the established team/program name will generally be used for the comet name unless Guideline 3.4(a)(2), below, is satisfied.
- 2.3 Occasionally a very bright comet (usually near the sun) suddenly becomes visible to many observers worldwide nearly simultaneously as a naked-eye object. In some of these situations, comets do not receive the name(s) of any

discoverer(s) but rather a “generic” name such as “Great Comet” or “Eclipse Comet”.

- 2.4 [Examples: C/1997 J2 (Meunier-Dupouy), 57P/du Toit-Neujmin-Delporte, 76P/West-Kohoutek-Ikemura, 105P/Singer Brewster, C/1882 R1 (Great September Comet), C/1910 A1 (Great January Comet), C/1947 V1 (Southern Comet), C/1948 V1 (Eclipse Comet)]

### **3 Regarding teams of discoverers.**

- 3.1 Nowadays, there are very frequently teams of professional, and even amateur, astronomers (as opposed to individuals) who find comets in the course of their observing. It is required and presumed that full and truthful details concerning discovery circumstances from teams of discoverers will be given in the initial discovery report.
- 3.2 Since most discoveries involve teamwork (in the broad sense that confirmation and necessary orbit work is generally done by people not even at the same location as the discoverer), a team is here more narrowly defined as a group of astronomers who are formally organized with certain instrumentation to seek and find celestial objects including comets.
- 3.3 If an acceptable one-word team name (including an acronym for a longer team name that is acceptable to the CSBN) is submitted for the observing program, this name can be used for the comet.
- 3.4 If there is no team name, either the comet shall be named for the person who actually found the comet or the comet may receive no name at all.
- (a) Individual names of team members.
- (1) In no case shall a comet contain the name of more than two people from the same observing program. If there is no other independent discovery, it is acceptable to have the names of two people from the same program on a comet, if and only if:
    - (A) there are only two team members,
    - (B) both were directly involved in the discovery (that is, involved in making the discovery observation and/or first identifying the comet's image), and
    - (C) their last (family) names are not identical.
  - (2) If a team (with more than two members) supplies satisfactory written testimony that a single team observer did the work to find the comet and note its cometary activity, measure its position and magnitude (or monitor an automatic computer program that does so), and report this information, then it is acceptable for a comet so discovered by a team program to have that single individual's name on the comet instead of the program name.
  - (3) The same name is not to be used twice on the same comet, even if two discoverers share the same last name.
- (b) Comets that are discovered from data or images made public through printed publication or electronic posting (e.g., World Wide Web) are not

eligible for individual names of people and generally will not be named unless there is an established program name for the origin of the images. Such discoverers are considered members of the “team”.

- 3.5 [Examples: C/1977 V1 (Tsuchinshan), C/1997 B3 (SOHO), C/1999 S4 (LINEAR), C/1999 T1 (McNaught-Hartley), P/2000 C1 (Hergenrother), P/2000 Y3 (Scotti), C/1992 U1 (Shoemaker)]

#### **4 Regarding cometary nature that is not immediately noticed.**

- 4.1 It frequently happens that a comet is found by (a) discoverer(s) — whether a single individual, two individuals working together, or a team — who cannot detect cometary activity with the equipment that he/she/they possess. Such an object may therefore be assumed to be a minor planet and so designated when two or more nights' worth of observations are available to the Minor Planet Center (or posted, for example — prior to being designated — on the MPC's NEO Confirmation webpage, if unusual motion is detected).
- 4.2 If an observer (whether an individual or a team) who is not the original discoverer of the “minor planet” finds that an “asteroidal” object has a cometary appearance, and if such cometary appearance is confirmed, both the original discoverer of the “minor planet” and the identifier of the cometary nature may be credited in the name of the comet, subject to the following prerequisites:
- (a) This dual recognition in the name will occur only when there has been no prior suspicion of the unusual nature of the object; if the object was listed on the “NEO Confirmation Page” or had an unusual orbit published prior to identification of cometary appearance, the identifier of the cometary nature will not be eligible for inclusion in the name.
  - (b) If no prior suspicion of unusual nature is suspected, the name of the newly recognized comet can consist of two parts: one part derived from the name of the original discoverer of the “minor planet”, and the other part derived from the name of the discoverer of the cometary nature. EACH PART of the name would, however, be subject to the following conditions:
    - (1) Only one name (either individual or team) is permitted. If the “minor planet” was credited jointly to two individuals, only one of these names can be used.
    - (2) If the original discoverer of the “minor planet” is a team, the team cannot suggest that an individual team-member's name be used.
- 4.3 If follow-up observations performed by (an) observer(s) other than the original discoverer of a reportedly “asteroidal” object show the object to be a comet (that is, showing a coma and/or tail), — and the provisos of 4.2 do not apply — the comet may receive a single name of the original discoverer (individual or team).
- 4.4 If the minor-planet designation was published before the realization is made that the object is a comet, the comet will retain the minor-planet designation. Otherwise, a new comet designation will be assigned.

- 4.5 If the object receives a permanent minor-planet number prior to its recognition as a comet, it shall be accorded “dual status”. As such, it both retains the permanent minor-planet number and receives a new periodic-comet number.
- (a) If the numbered “minor planet” has already received a name, the comet should inherit this name.
  - (b) If the “minor planet” has not yet received a name, a new name for the comet will be assigned according to these guidelines. The same new name will also be used for the “minor-planet” numbering, noting that minor-planet names must be unique.
- 4.6 [Examples: P/1997 B1 (Kobayashi), P/1999 DN<sub>3</sub> (Korlević-Jurić), C/2000 WM<sub>1</sub> (LINEAR); 95P = (2060) Chiron, 107P = (4015) Wilson-Harrington, 133P = (7968) Elst-Pizarro; P/2001 BB<sub>50</sub> (LINEAR-NEAT)]

## 5 Regarding changes in comet names.

- 5.1 The CBAT/CSBN has the option occasionally, in the interest of fairness and/or simplicity, to change the name of a rediscovered lost comet or in other complicated cases involving comet names (such as names found later to be spelled incorrectly or be missing diacritical marks, etc.). However, such changes will be made only rarely.
- 5.2 Numerous one- or multi-apparition short-period comets remain lost due to highly uncertain orbital elements (from poor sets of observations). Sometimes such “lost” comets are rediscovered, and occasionally the identification of the past apparition(s) is not made until after a new name is assigned; though efforts are made to search for identifications before naming of a new comet is made, this is not always immediately possible, in practice.
- (a) Comet names are generally announced on *IAU Circulars* by the CBAT at the time of publication of a first set of orbital elements. The hope is to maintain stability by preventing previously observed comets (particularly lost comets) from getting new names.
  - (b) Occasionally this is not possible, and when a lost comet has been given a new name(s) before it is shown to be the same comet, the new name(s) is (are) to be added to the original name(s).
- 5.3 New comets later identified with observations of “asteroidal” objects (or previously unidentified cometary images) in previous months or years do not get names added due to such findings after the initial comet name is published.
- 5.4 Prior to the publication of a name for a new comet, if the comet can be identified with an object reported as asteroidal at the same apparition on two or more nights by a single or team discoverer, so that a minor-planet designation has already been given, it can also have a name for that individual or team discoverer added, provided that there is only one other name for the comet (for a total of two names).
- 5.5 Also in the stated interest of simplicity, comet names will not be changed by adding numerals after names (where multiple comets carry the same discoverers’ names), as was done during much of the twentieth century, as this merely complicates matters. Officially, there is no need to retain numerals on

short-period comets that have routinely carried them in the past, because the robust designation system obviates their necessity and because the historical facts belie any logic associated with using numerals (different numerals were used in different places, and there are gaps in the numerals used even recently).

5.6 [Examples: C/1955 N1 (Bakharev-Macfarlane-Krienke), C/1980 O1 (Černis-Petrauskas), C/1997 L1 (Zhu-Balam), 2P/Encke, 27P/Crommelin, 97P/Metcalf-Brewington, 146P/Shoemaker-LINEAR]

## **6 Regarding unnamed comets.**

6.1 The CSBN and CBAT reserve the right to delay naming, possibly indefinitely. Reasons for such delay may include:

- (a) A comet is found months or years after observation and is no longer observable. Exceptions have been made in connection with team names for sungrazing comets observed by space-based coronagraphs.
- (b) A comet's orbit is not determinable due to poor observations or short arc of observation; in such cases, an object will usually be given an "X/" designation.
- (c) There is no agreement among team members for (an) observing program(s) claiming the discovery.

6.2 [Examples: C/1931 AN, C/1996 R3, C/1997 K2, P/1997 T3 (Lagerkvist-Carsenty), C/2001 HT<sub>50</sub> (LINEAR-NEAT)]